

Monday A.M.

Union

U11A Moscone South: Poster Hall Monday 0800h **Sustainable Development: Long-Term Science and Policy Challenges I Posters**

Presiding: **R Fishman**, Columbia University; **J K Anttila-Hughes**, Columbia University

0800h **U11A-0001 POSTER** Trends in Agricultural Growing Seasons Due to Climatic Shifts in Africa: Implications for Food Security: **M E Brown**, K de Beurs, A Vrieling

0800h **U11A-0002 POSTER** Harmonization of Global Land-Use Scenarios for the Period 1500-2100 for the 5th IPCC Assessment:

L P Chini, G C Hurtt, S E Frolking, R Betts, J J Feddema, G Fisher, K Klein Goldewijk, K A Hibbard, A C Janetos, C Jones, G Kindermann, T Kinoshita, K Riahi, E Shevliakova, S Smith, E Stehfest, A M Thomson, P E Thornton, D van Vuuren, Y Wang

0800h **U11A-0003** WITHDRAWN

0800h **U11A-0004 POSTER** Integrating interannual climate variability forecasts into weather-indexed crop insurance. The case of Malawi, Kenya and Tanzania: **M Vicarelli**, A Giannini, D Osgood

0800h **U11A-0005 POSTER** WHO WOULD EAT IN A WORLD WITHOUT PHOSPHORUS? A GLOBAL DYNAMIC MODEL: **M Dumas**

0800h **U11A-0006** WITHDRAWN

0800h **U11A-0007 POSTER** Economic costs of extratropical storms under climate change: An application of FUND: **D Narita**, R Tol, D Anthoff

0800h **U11A-0008 POSTER** Higher Resolution for Water Resources Studies: **L Dumenil-Gates**

0800h **U11A-0009 POSTER** Analysis of Water Conflicts across Natural and Societal Boundaries: Integration of Quantitative Modeling and Qualitative Reasoning: **Y Gao**, P Balam, S Islam

0800h **U11A-0010 POSTER** ENSO influences the onset of violent conflicts: **K C Meng**, S M Hsiang

0800h **U11A-0011 POSTER** When is a natural disaster a development disaster; when is a natural disaster not a disaster?:

J C Mutter, B Archibong, D Pi

0800h **U11A-0012 POSTER** The USAID Office of U.S. Foreign Disaster Assistance: Using Disaster Risk Reduction Programs to Increase Community Resiliency to Geologic Hazards and Promote Sustained Development: **G C Mayberry**

0800h **U11A-0013 POSTER** Sequestering CO₂ in the Built Environment: **B R Constantz**

0800h **U11A-0014 POSTER** Problems Associated with Declining National Oil Production: **J S Jackson**

0800h **U11A-0015 POSTER** Outsourcing CO₂ Emissions: **S J Davis**, K G Caldeira

0800h **U11A-0016 POSTER** Anthropogenic Cycles of Rare Earth Elements: **X Du**, T E Graedel

0800h **U11A-0017 POSTER** Sustainable Oceanographic Vessels - Setting an Example: **J C Van Leer**

U11B Moscone South: Poster Hall Monday 0800h **The Fruits of International Year of Planet Earth: Implementing Long-Term Activities Posters**

Presiding: **J U Fucugauchi**, Universidad Nacional A de Mexico; **J W Hess**, Geological Society of America; **P Manning**, University of Manchester

0800h **U11B-0018** WITHDRAWN

0800h **U11B-0019 POSTER** Via GeoAlpina – an international project of IYPE (*Invited*): **W E Pillar**

0800h **U11B-0020 POSTER** OneGeology: Making the World's Geological Map Data Accessible Online: **H Broome**, I Jackson, F Robida, H Thorleifson

0800h **U11B-0021 POSTER** The Y.E.S. Network: An IYPE legacy for engaging future generations of early-career geoscientists:

L M Gonzales, D Govoni, L Micucci, S M Gaines, J Venus, W Meng

0800h **U11B-0022 POSTER** International Collaboration on Groundwater Research in Benin, West Africa: Lessons from an IYPE Groundwater Project: **S E Silliman**, M Boukari, N Yalo

0800h **U11B-0023 POSTER** UNESCO's New Earth Science Education Initiative for Africa: **R Missotten**, S M Gaines, E F De Mulder

0800h **U11B-0024 POSTER** Examining the concept of "Geoparks" and "Geoheritage" in the Americas as a potential legacy for IYPE: **W Eder**, P Bobrowsky, R Missotten

0800h **U11B-0025 POSTER** The UNESCO Global Network of National Geoparks: **P Mc Keever**, N Zouros, M Patzak, R Missotten

0800h **U11B-0026 POSTER** International Year of Planet Earth – Accomplishments, Activities, Challenges and Plans in Mexico: **J U Fucugauchi**, L L Perez-Cruz, S Alaniz-Alvarez

0800h **U11B-0027 POSTER** IYPE in Canada: **J Boyd**, G Nowlan

0800h **U11B-0028 POSTER** ROMANIA - IYPE AND BEYOND: **V I Mocanu**, M Sandulescu

0800h **U11B-0029 POSTER** HIGHLIGHTS AND IMPACTS OF THE INTERNATIONAL YEAR OF PLANET EARTH IN HUNGARY:

L Szarka, J Adam, K Brezsnysnysky

0800h **U11B-0030 POSTER** Continuing IYPE: A Necessity to the World: **H K Gupta**, **V M Tiwari**

U11C Moscone South: Poster Hall Monday 0800h **Toward Environmental Literacy With Examples From International Polar Year Posters**

Presiding: **D J Carlson**, IPY Int'l Programme Office; **L T Huffman**, University of Nebraska-Lincoln

0800h **U11C-0031 POSTER** IPY Education and Outreach: Unparalleled Successes with Broad Impact and Legacy Products (*Invited*): **L T Huffman**

0800h **U11C-0032 POSTER** Does Polar Research Matter? (*Invited*): **R Holmes**

0800h **U11C-0033 POSTER** IPY Education, Outreach and Communication - Some Lessons Learned (*Invited*): **D J Carlson**, R Salmon, N Munro

0800h **U11C-0034 POSTER** Antarctic Super Heroes: Using a Graphic Novel to Teach Students About Polar Science. (*Invited*): **V Lougheed**, S Palsole, C Rojas, C E Tweedie

0800h **U11C-0035 POSTER** ANDRILL Education and Public Outreach: A Legacy of the IPY: **F R Rack**, L T Huffman, J Reed, D M Harwood, M Berg, J Diamond, A Fox, L E Dahlman, R H Levy

0800h **U11C-0036 POSTER** PolarTREC—A Model Program for Taking Polar Literacy into the Future: **J Warburton**, K Timm, A M Larson

0800h **U11C-0037 POSTER** Reaching Across the Hemispheres with Science, Language, Arts and Technology: **E B Sparrow**, S Zicus, A Miller, A Baird, G Page

0800h **U11C-0038 POSTER** Bring the Poles to Your Classroom & Community Through Linked Hands-on Learning & IPY Data: **M Turrin**, R E Bell, K A Kastens, S L Pfirman

UI ID Moscone South: I03 Monday 0800h
Understanding the Impacts of Climate Change on the Western United States I

Presiding: **N J Mantua**, University of Washington; **V P Walden**

0800h **U11D-01** Climate change and water-supply availability across the western US in the coming century (*Invited*): **M D Dettinger**, D R Cayan, T Das

0815h **U11D-02** Climate Change in the Western United States: Projections and Observations (*Invited*): **K T Redmond**

0830h **U11D-03** Managing for Climate Change in Western Forest Ecosystems; The Role of Refugia in Adaptation Strategies (*Invited*): **C I Millar**, T Morelli

0845h **U11D-04** A new approach to generating scenarios for climate impacts studies in the West: **P Mote**, E P Salathe, R Jones, M R Allen

0900h **U11D-05** Impact of Climate Change on Fire Danger across the Western United States: **J T Abatzoglou**, C Kolden, T J Brown

0915h **U11D-06** Sensitivity of Runoff to Climate Warming over the Western U.S.: **T Das**, D W Pierce, D R Cayan, M Dettinger

0930h **U11D-07** Loading the dice: Climate change and recent Northwest droughts: **K A McKinnon**, G S Mauger, P Mote, P Pall

0945h **U11D-08** The post-1984 step change in spring temperatures and spring onset in the Western U.S.A.: Proximal and distant drivers: **J L Weiss**, T R Ault, J L Betancourt, M D Schwartz, A Macalady, G T Pederson, C L Castro, J T Overpeck

Atmospheric Sciences

A11A Moscone South: Poster Hall Monday 0800h
Extratropical and High-Latitude Storms: Synoptic-Scale Perspective and Linkage to Large-Scale Climate Variability, Change, and Impact I Posters (*joint with PA, GC, H, C, PP, OS*)

Presiding: **X Zhang**, University of Alaska Fairbanks; **J E Walsh**, University of Alaska; **V A Alexeev**

0800h **A11A-0077 POSTER** Future projections of North Atlantic polar low frequency: **M Zahn**, H von Storch

0800h **A11A-0078 POSTER** A Comparison of Cold Air Outbreaks in WACCM and ERA40: **D D Wheeler**, L Harvey, D E Atkinson, R L Collins, C E Randall

0800h **A11A-0079 POSTER** Statistical Relationships between the El Niño Southern Oscillation, the North Atlantic Oscillation, and Winter Tornado Outbreaks in the U.S.: **A D Robinson Cook**, J T Schaefer

0800h **A11A-0080 POSTER** Seasonal Variation of the Polar Jet and Its Relationship to the Asian Monsoon: **Y Zhang**

0800h **A11A-0081 POSTER** Seasonal Variations of the Synoptic-scale Transient Eddy Activity and Polar-front Jet over East Asia: **X Ren**

0800h **A11A-0082 POSTER** An new eddy decomposition method for diagnosing interaction between NAO and synoptic eddy activity: **H Ren**, F Jin

0800h **A11A-0083 POSTER** Intense precipitation events during La Niña in the southwestern United States: **N Feldl**, G Roe

0800h **A11A-0084 POSTER** Changes in synoptic weather patterns and Greenland precipitation in the 20th and 21st centuries: **K C Schuenemann**, J Cassano

0800h **A11A-0085 POSTER** The role of water vapor and its associated latent heating in extreme Beaufort coastal storm surge events: **J R Gyakum**, D L Small, E Atallah, N Liu, Y Kuo

0800h **A11A-0086 POSTER** What Role That Weather Systems Play in Accelerating Arctic Hydrological cycle?: **J He**, X Zhang

0800h **A11A-0087 POSTER** Outline for the Winter T-PARC (THORPEX Pacific-Asia Regional Campaign): **Y Asuma**, T Yamanouchi, Z Toth

A11B Moscone South: Poster Hall Monday 0800h
Microbial Influence on Atmospheric Processes Posters

Presiding: **S K Henderson-Begg**, University of East London

0800h **A11B-0088 POSTER** Field Observations of Bioaerosols: What We've Learned from Fluorescence, Genetic, and Microscopic Techniques (*Invited*): **J A Huffman**, J Fröhlich-Nowoisky, V R Després, W Elbert, B Sinha, M O Andreae, U Pöschl

0800h **A11B-0089 POSTER** Biological Volatile Organic Compounds (BVOCs) emissions from the planktonic diatom *Thalassiosira pseudonana*: **T Evans**, J E Mak

0800h **A11B-0090 POSTER** Modeling Microbial Processes in EPIC to Estimate Greenhouse Gas Emissions from soils: **D E Schwab**, R C Izaurralde, W B McGill, J R Williams, E Schmid

0800h **A11B-0091 POSTER** Biological Ice Nuclei: They are Everywhere, What are Their Roles? (*Invited*): **R C Schnell**

0800h **A11B-0092 POSTER** The Origin And Spread Of Airborne Bacteria: **S K Henderson-Begg**, B F Moffett

0800h **A11B-0093 POSTER** Major new sources of biological ice nuclei: **B F Moffett**, T Hill, S K Henderson-Begg

0800h **A11B-0094 POSTER** Studies of biological aerosols as ice nuclei: Existing constraints and new measurements (*Invited*): **P J DeMott**, A J Prenni, D G Georgakopoulos, G D Franc, R C Sullivan, S M Kreidenweis

0800h **A11B-0095 POSTER** Fluorescent Biological Aerosol Particle Concentrations and Size Distributions Measured with an Ultraviolet Aerodynamic Particle Sizer (UV-APS) in Central Europe: **J A Huffman**, B Treutlein, U Pöschl

0800h **A11B-0096 POSTER** Effects from Bacteria and other Biological Particles on Mesoscale Convective Systems Simulated Numerically: **V Phillips**, C Andronache, B C Christner, C Morris, D Sands

A11C Moscone South: Poster Hall Monday 0800h
Multisensor and Model Aerosol Data Intercomparison and Integration I Posters (*joint with IN*)

Presiding: **R A Kahn**, NASA/Goddard Space Flight Ctr; **J Wang**, University of Nebraska - Lincoln; **G G Leptoukh**, NASA

0800h **A11C-0097 POSTER** MODIS aerosol products in Collection 6: Moving towards multisensor fusion and interdisciplinary studies: **S Mattoo**, R C Levy, L A Remer

0800h **A11C-0098 POSTER** The fate of Saharan dust across the Atlantic: An integrated modeling and observational study: **E P Nowottnick**, P R Colarco, E J Welton

0800h **A11C-0099 POSTER** Maritime Aerosol Network as a component of AERONET – a satellite validation tool over the oceans: **A Smirnov**, B Holben, D M Giles, N T O'Neill, I Slutsker, T F Eck, P L Croot, A Macke, S M Sakerin, T J Smyth, G Zibordi, T Zielinski, N Nelson, P Quinn, K J Voss, Y Courcoux, N R Nalli, E Joseph, D Covert, S Belanger, C MacLellan, L Bariteau, R Dunn

0800h **A11C-0100 POSTER** Investigating transpacific transport of Asian aerosol using satellite observations and GEOS-Chem: **K Lapina**, C L Heald

0800h **A11C-0101 POSTER** Improving OMI aerosols retrievals by using additional information from MODIS aerosol products: **S Gassó**, O Torres, C Ahn, P Barthia

0800h **A11C-0102 POSTER** Comparisons Between MISR and AERONET Retrieved Aerosol Particle Properties: **B J Gaitley**, R A Kahn

0800h **A11C-0103 POSTER** Multi Sensor Aerosol Optical Thickness Inter-comparison over Saharan Desert during GERBILS Field Campaign: E Yang, **P Gupta**, S A Christopher

0800h **A11C-0104 POSTER** Aerosol Intercomparison Scenarios for the Giovanni Multi-sensor Data Synergy "Advisor": **S A Lloyd**, G G Leptoukh, A I Prados, S Shen, J Pan, H Rui, C Lynnes, P A Fox, P West, S Zednik

0800h **A11C-0105 POSTER** Maximizing MODIS aerosol retrieval capability using joint inversions and merged data products with CALIOP, OMI and PARASOL: **L A Remer**, R Fernandez-Borda, R A Ferrare, S K Satheesh, O Torres, F Breon, D Tanré, R C Levy, J Martins, S Mattoo, R G Kleidman

0800h **A11C-0106 POSTER** Using Coincident MISR and AERONET data To Determine Aerosol Absorption Properties: **J V Martonchik**, B J Gaitley, M Bull

0800h **A11C-0107 POSTER** Detecting thin cirrus in MISR aerosol retrievals: **J R Pierce**, R A Kahn, M Davis, J M Comstock

0800h **A11C-0108 POSTER** Biomass burning emission height in global aerosol model, simulations vs. satellite measurements: **M M Petrenko**, M Chin, Q Tan, T L Diehl

0800h **A11C-0109 POSTER** CERES-SARB Aerosol Dataset: **D W Fillmore**

0800h **A11C-0110 POSTER** Ensemble based data assimilation with global aerosol climate model: **K Yumimoto**, I Uno, T Takemura, K Eguchi

0800h **A11C-0111 POSTER** Aerosol Climatology from Storm Peak Laboratory: **I B Mccubbin**, T J Swisser, C Flynn, A G Hallar

0800h **A11C-0112 POSTER** The retrieval of aerosol optical thickness over snow using AATSR observations: **L G Istomina**, W von Hoyningen-Huene, A A Kokhanovsky, J P Burrows

0800h **A11C-0113 POSTER** Retrieval of AOT and aerosol vertical distribution over Kanpur making combined use of O2 A and B-band SCIAMACHY observations: a case study: **S Sanghavi**, J Landgraf, C Frankenberg, U Platt

0800h **A11C-0114 POSTER** Validation of MODIS Deep Blue aerosol products over bright surfaces: **C E Salustro**, N C Hsu, M Jeong

0800h **A11C-0115 POSTER** Evidence of the presence of Organics in Biomass Burning Aerosols over South America through Inter-comparison of OMI-AERONET Data: **H Jethva**, O Torres, P K Bhartia

0800h **A11C-0116 POSTER** A Time Series Technique for Aerosol Retrievals from MODIS: **Y Wang**, A Lyapustin

0800h **A11C-0117 POSTER** Vertical and Spatial Distribution of Absorbing Aerosol-Cloud Mixtures Observed by OMI: **C Ahn**, P K Bhartia, O Torres, Z Chen

0800h **A11C-0118 POSTER** Toward Obtaining Reliable Particulate Air Quality Information from Satellites: **A W Strawa**, R B Chatfield, M Legg, R Esswein, E Justice

0800h **A11C-0119 POSTER** Evaluation of MISR Aerosol Optical Depth Product for Aerosol Data Assimilation and Multi-Sensor Data Fusion: **Y Shi**, J Zhang, J S Reid, E Hyer

A11D Moscone South: Poster Hall Monday 0800h
Organics in the Atmosphere: Chemical and Physical Transformations I Posters

Presiding: **F N Keutsch**, UW Madison; **V F McNeill**, Columbia University

0800h **A11D-0120 POSTER** Formation of UV-vis Absorbing Organic Solutes, Films, and Suspended Precipitates in Sulfuric Acid Solutions at Stratospheric Aerosol Acidities: **A L Van Wyngarden**, C L Belle, C L Dalle ore, M J Morrissey, J M Rodgers, L T Iraci

0800h **A11D-0121 POSTER** Toward Investigating Optically Trapped Organic Aerosols with CARS Microspectroscopy: **L F Voss**

0800h **A11D-0122 POSTER** OH Oxidation Reactions of Unsaturated Self-assembled Monolayers on Germanium Surfaces: A System That Mimics Organics Adsorbed on Urban Surfaces: **S G Moussa**, J Raff, B J Finlayson-Pitts

0800h **A11D-0123 POSTER** Atmospheric Processing of Methylglyoxal and Glyoxal in Aqueous Environments: **J L Axson**, V Vaida

0800h **A11D-0124 POSTER** Role of Ozone in Particle Formation and Growth From the Nitrate Radical-Initiated Oxidation of α -Pinene: V M PERRAUD, E A bruns, M J Ezell, S N Johnson, Y Yu, M L Alexander, A Zelenyuk, D G Imre, B J Finlayson-Pitts

0800h **A11D-0125 POSTER** Laboratory Investigation of Trace Gas Emissions from Biomass Burning on DoD Bases: **I R Burling**, R J Yokelson, D W Griffith, J M Roberts, P R Veres, C Warneke, T J Johnson

0800h **A11D-0126 POSTER** Effect of photosensitized chemistry on organic aerosol evolution: **A Rouvière**, P F DeCarlo, T Bartels-Rausch, M Ammann

0800h **A11D-0127 POSTER** Development of a Metastable Atom Bombardment (MAB) Source for Penning Ionization Time-of-flight Aerosol Mass Spectrometry: **C B Robinson**, J R Kimmel, D David, J T Jayne, A Trimborn, D R Worsnop, J L Jimenez

0800h **A11D-0128 POSTER** Laboratory Studies of the Heterogeneous Oxidation of Levoglucosan in Biomass Burning Particles: **C J Hennigan**, A Sullivan, J L Collett, A L Robinson

0800h **A11D-0129 POSTER** Kinetics and Products of Heterogeneous Oxidation of Erythritol and Levoglucosan in Aerosol Particles: **S H Kessler**, J H Kroll, K R Wilson, J D Smith

0800h **A11D-0130 WITHDRAWN**

0800h **A11D-0131 POSTER** Gas-Phase and Particle-Phase Reaction and Kinetics of Epoxydiols from Photooxidation of Isoprene: **N C Eddingsaas**, A W Chan, J D Surratt, J Seinfeld, P O Wennberg

0800h **A11D-0132 POSTER** Improving and assessing vapour pressure estimation methods for organic compounds of atmospheric relevance using a Knudsen Effusion Mass Spectrometer (KEMS): **A M Booth**, D O Topping, G B McFiggans, A Garforth, C J Percival

0800h **A11D-0133 POSTER** Heterogeneous Reactions of Surface-Adsorbed Catechol: A Comparison of Tropospheric Aerosol Surrogates: **R Z Hinrichs**, L A Woodill

0800h **A11D-0134 POSTER** Heterogeneous Reactions of NO₃ and N₂O₅ with a Range of Organic Substrates: **R Iannone**, S Gross, S Xiao, A K Bertram

- 0800h **A11D-0135 POSTER** Keto-Enol Tautomerizations Catalyzed by Water and Carboxylic Acids: **G da Silva**
- 0800h **A11D-0136 POSTER** Photoenhanced ozonation of polycyclic aromatic hydrocarbons on model urban film surfaces: **S A Styler**, J P Wong, D J Donaldson
- 0800h **A11D-0137 POSTER** Reactions of Complex Phenols on Aerosols with Gaseous Ozone: M R Hoffmann, **S Enami**, A J Colussi
- 0800h **A11D-0138 POSTER** Temperature and Electrolyte Effects on the Thermochromism of Model Organic Aerosol Matter: **A G Rincon**, M I Guzman, M R Hoffmann, A J Colussi
- 0800h **A11D-0139 POSTER** Formation of Secondary Organic Aerosol through Cloud Processing of Anthropogenic VOCs: **J W Hutchings**, P Herckes
- 0800h **A11D-0140 POSTER** Composition of Secondary Organic Aerosols Produced by Photo-Oxidation of Biomass Burning Emissions in a Smog Chamber: **Y Desyaterik**, A Sullivan, C J Hennigan, A L Robinson, J L Collett
- 0800h **A11D-0141 POSTER** Can Secondary Organic Aerosol Formed in Atmospheric Simulation Chamber Be Continuously Aging?: **L Qi**, S Nakao, Q Malloy, B Warren, D Cocker
- 0800h **A11D-0142 POSTER** Secondary organic aerosol formation from m-xylene photooxidation: The role of the phenolic product: **S Nakao**, L Qi, C Clark, K Sato, P Tang, D Cocker
- 0800h **A11D-0143 POSTER** Slow aging in Secondary Organic Aerosol observed by Liquid Chromatography coupled with High-Resolution Mass Spectrometry: **D L Bones**, A P Bateman, T B Nguyen, J Laskin, A Laskin, S Nizkorodov
- 0800h **A11D-0144 POSTER** Atmospheric Heterogeneous Stereochemistry: **G Y Stokes**, A M Buchbinder, F M Geiger
- 0800h **A11D-0145 POSTER** Uptake of glyoxal on nitric acid/ice thin films under conditions relevant to the upper troposphere: **B M Connelly**, D O De Haan, M A Tolbert
- 0800h **A11D-0146 POSTER** Detection of aerosol organic nitrate and ammonium nitrate by Thermal Dissociation – Laser Induced Fluorescence: **A W Rollins**, J F Hunter, R C Cohen
- 0800h **A11D-0147 POSTER** Branching Ratios for the Reaction of Carbonyl-Containing Organic Peroxy Radicals with Hydroperoxy Radicals: **A Hasson**, G S Tyndall, S Hernandez, S Campbell, S Singh, Y Ibarra, J J Orlando
- 0800h **A11D-0148 POSTER** Particulate organic nitrate and organic sulfate contributions to SOA: Response of the AMS and constraints from field studies: **D Farmer**, A Matsunaga, P J Ziemann, K Docherty, A C Aiken, M Cubison, K R Wilson, J H Kroll, J D Surratt, J L Jimenez
- 0800h **A11D-0149 POSTER** Changes in Concentrations and Stable Carbon Isotopic Compositions of Diacids, Ketoacids and α -Dicarbonyls in Atmospheric Aerosol Filter Samples with Photochemical Aging: A Laboratory Study: C Pavuluri, K Kawamura
- 0800h **A11D-0150 POSTER** The Morphology of Internally Mixed SOA/DOP Particles and the Uptake of Gas-Phase DOP During SOA Formation: **T D Vaden**, C Song, R A Zaveri, D G Imre, A Zelenyuk
- 0800h **A11D-0151 POSTER** Chemical aging of organic aerosols: Evidence of changing hygroscopicity and volatility: **F D Pope**, P J Gallimore, P T Griffiths, S L Clegg, R Cox, M Kalberer
- 0800h **A11D-0152 POSTER** Substitution kinetics and energetics of aliphatic amines for ammonia in aerosols: **B R Bzdek**, M V Johnston
- 0800h **A11D-0153 POSTER** Characterization of Potential Aerosol Mass using an Oxidation Chamber coupled to an Aerodyne HR-ToF-AMS during DAURE, SHARP, and FLAME-3: **A M Ortega**, W H Brune, M Cubison, B L Lefer, S Schallharter, A Metzger, M Mueller, A Hansel, J L Jimenez
- 0800h **A11D-0154 POSTER** Changes in chemical composition observed during organic aerosol aging: **C L Heald**, J H Kroll, J L Jimenez, K Docherty, P F DeCarlo, A C Aiken
- 0800h **A11D-0155 POSTER** Determining aromatic reaction rates from the photo-oxidation of diesel exhaust using in-situ comprehensive multidimensional chromatography (GC $\times$ GC): D R Worton, A H Goldstein, N M Kreisberg, A P Teng, S V Hering, T Gorecki, C J Hennigan, A A Presto, M Ranjan, N M Donahue, A L Robinson
- 0800h **A11D-0156 POSTER** Effects of dilution on vehicle emissions of primary particles: **K L Hayden**, S Li, G Liggio, M McCurdy, T Chan, J Rostkowski
- 0800h **A11D-0157 POSTER** Field observations linking organic carbon content to optical properties in atmospheric aerosols: **B A Flowers**, M K Dubey, C Mazzoleni, A Zelenyuk, J J Schauer
- 0800h **A11D-0158 POSTER** Summertime Anthropogenic and Biogenic Influences on Particle Composition at a Remote Forested Site in Western Canada: **J G Slowik**, R Y Chang, S J Sjostedt, A Vlasenko, K L Hayden, S Li, G Liggio, A Macdonald, R Leaitch, J Abbatt
- 0800h **A11D-0159 POSTER** Can 3D Models Explain the Primary and Secondary, Fossil and non-Fossil Organic Aerosols during the 2006 MILAGRO Experiment?: **A Hodzic**, J L Jimenez, S Madronich, J D Fast, A S Prevot, J J Schauer, E M Stone
- 0800h **A11D-0160 POSTER** Modeling of secondary organic aerosols formation during MILAGRO 2006: **K Dzepina**, A Hodzic, S Madronich, R A Zaveri, R Volkamer, C D Cappa, J L Jimenez
- 0800h **A11D-0161 POSTER** Investigation of Dairy Farm Silage Emissions: **C S McCluskey**, D R Blake, M M Yang, J Dehart
- 0800h **A11D-0162 POSTER** Apportionment of Size Distribution Data from the Aerodyne Aerosol Mass Spectrometer in Pittsburgh and Mexico City: **I M Ulbrich**, Q Zhang, A C Aiken, M Canagaratna, N L Ng, D R Worsnop, J L Jimenez
- 0800h **A11D-0163 POSTER** Identification of Atmospheric Organic Matter in Fog Water: Exact Masses, Empirical Formulas, and Structural Insights: **L R Mazzoleni**, J L Collett
- 0800h **A11D-0164 POSTER** Molecular distribution, seasonal variation, chemical transformation and sources of dicarboxylic acids and related compounds in atmospheric aerosols at remote marine Gosan site, Jeju Island: **S Kundu**, K Kawamura, M Lee
- 0800h **A11D-0165 POSTER** Measurements of gas-phase inorganic and organic acids in biomass fires by negative-ion proton-transfer chemical-ionization mass spectrometry (NI-PT-CIMS): **P R Veres**, J M Roberts, J A De Gouw, C Warneke, I R Burling, R J Yokelson
- 0800h **A11D-0166 POSTER** Measurement of Organic Acids Produced By The Gas-Phase Ozonolysis of Simple Olefins Using Chemical Ionization Mass Spectrometry (CIMS) as a Function of Temperature And Humidity: **C J Percival**, A Bacak, K E Leather, M R McGillen
- 0800h **A11D-0167 POSTER** Measurements of Product-Specific VOC Reactivities during the PROPHET 2008 field intensive using proton transfer reaction linear ion trap (PTR-LIT) mass spectrometry: **L H Mielke**, J H Slade, M Alaghmand, S B Bertman, M Carroll, S M Griffith, R F Hansen, S Dusanter, P S Stevens, A Hansel, P B Shepson
- 0800h **A11D-0168 POSTER** Formaldehyde emissions from industrial facilities in Houston, TX: **O Pikelnaya**, J Stutz, D Fu, J H Flynn, B L Lefer
- 0800h **A11D-0169 POSTER** Investigation of O_3 Production Rates in the Mexico City Metropolitan Area during MILAGRO: **S Dusanter**, L T Molina, P S Stevens

0800h **A11D-0170** POSTER Preliminary Results of Glyoxal Measurements at CABINEX 2009: **M E Thurlow**, A O'Brien, M M Galloway, F Keutsch

0800h **A11D-0171** POSTER The Thermal Dissociation-Laser Induced Fluorescence (TD-LIF) technique for total Peroxy Nitrates (PNs) and comparisons to speciated PAN measurements: **P J Wooldridge**, A E Perring, T H Bertram, F M Flocke, J M Roberts, H B Singh, G Huey, J A Thornton, J G Murphy, J Fry, A W Rollins, B W LaFranchi, R C Cohen

0800h **A11D-0172** POSTER Measurements of Volatile Organic Compounds (VOCs) from Biomass Combustion – Emission Ratios, OH Reactivities and SOA Precursors: **W C Kuster**, J B Gilman, P D Goldan, C Warneke, J deGouw, P R Veres, I R Burling, R J Yokelson

0800h **A11D-0173** POSTER Isomeric Selective Studies of the Dominant Addition Channel in OH Initiated Oxidation of Isoprene: **B Ghosh**, A Bugarin, B Connell, S W North

0800h **A11D-0174** POSTER Measurements of OH and HO₂ Radical Chemistry in a Forest Environment: **R F Hansen**, S Dusanter, S M Griffith, P S Stevens

0800h **A11D-0175** POSTER Measurement and model comparison of methacrolein and methyl vinyl ketone concentrations from the OH-initiated oxidation of isoprene under NO_x free conditions: **M A Navarro**, S Dusanter, P S Stevens, R A Hites

0800h **A11D-0176** POSTER OH and HO₂ Concentrations during PROPHET 2008: Measurement and Theory: **S M Griffith**, R F Hansen, S Dusanter, P S Stevens, M M Galloway, J Hottle, A Kamrath, F Keutsch, L H Mielke, M Alaghmand, P B Shepson, N Zhang, X Zhou, S B Bertman, M Carroll

0800h **A11D-0177** POSTER Significant OH regeneration from the photooxidation of several atmospherically important alkenes: **J Crounse**, F Paulot, J Seinfeld, P O Wennberg

0800h **A11D-0178** POSTER Measurements of OH reactivity in a South-East Asian tropical rainforest: S Vaughan, **P Edwards**, K Furneaux, L K Whalley, T Ingham, A Goddard, C Seal, D E Heard, M J Evans, J Lee, S moller, J Hopkins, C E Jones, J Whitehead, C N Hewitt

A11E Moscone West: 3002 Monday 0800h
Aging of Atmospheric Soot: Laboratory and Field Studies I

Presiding: **A F Khalizov**, Texas A & M Univ; **J G Slowik**, University of Toronto

0800h **A11E-01** A Climate-Forcing Perspective on Black Carbon Aging (*Invited*): **T Bond**, L Fierce, C Zarzycki, C Roden

0820h **A11E-02** Wavelength dependence of aerosol light absorption in urban and biomass burning impacted conditions: An integrative perspective: **W P Arnott**, M Gyawali, K Lewis, H Moosmuller

0835h **A11E-03** Measurements of black carbon particles' chemical, physical, and optical properties (*Invited*): **T B Onasch**, E S Cross, P Davidovits, D R Worsnop, A Ahern, D A Lack, C D Cappa, A Trimborn, A Freedman, J S Olfert, J T Jayne, P Massoli, L R Williams, C Mazzoleni, J P Schwarz, D A Thornhill, J G Slowik, G L Kok, B T Brem, R Subramanian, A J Sedlacek, J R Spackman, S Freitag, M K Dubey

0855h **A11E-04** The Mixing State of Black Carbon in Asian Outflow (*Invited*): **Y Kondo**, N Moteki, N Takegawa, N Oshima, L K Sahu

0915h **A11E-05** Atmospheric Aging and Its Impacts on Physical Properties of Soot Aerosols: Results from the 2009 SHARP/SOOT Campaign: R Zhang, **A F Khalizov**, J Zheng, C C Reed, D R Collins, E P Olaguer

0930h **A11E-06** AGING OF DIESEL AND WOOD BURNING SOOT IN SMOGCHAMBER EXPERIMENTS: **A S Prevot**, R Chirico, M Heringa, P F DeCarlo, T Tritscher, M Laborde, M Gysel, E Weingartner, M Elsässer, J Schnelle-Kreis, R Zimmermann, A C Aiken, B Sierau, A Filep, T Ajtai, Z Bozoki, U Baltensperger

0945h **A11E-07** Relative effects of Fossil-Fuel Soot, Biofuel Soot and Gases, and Methane on Climate, Arctic Ice, and Air Pollution Health (*Invited*): **M Z Jacobson**

A11F Moscone West: 3006 Monday 0800h
Atmospheric Chemistry and Impacts of Halogenated Species in the Troposphere I (*joint with B*)

Presiding: **A Saiz-Lopez**, **J Stutz**

0800h **A11F-01** Laboratory and Theoretical Studies of Tropospheric Iodine Chemistry (*Invited*): **J M Plane**, R W Saunders, R Kumar, J Gomez Martin, A S Mahajan, B J Murray

0815h **A11F-02** Towards a quantitative link between tidal macroalgal exposure and iodine-mediated CCN formation: **G McFiggans**, C Bale, S Ball, W Bloss, L Carpenter, J Dorsey, R Dunk, M J Flynn, K Furneaux, M W Gallagher, D E Heard, A Hollingsworth, K E Hornsby, C E Jones, R Jones, L Kramer, J Langridge, J Lee, C Leblanc, R Leigh, D Lowe, A Mahajan, P Monks, H Oetjen, J M Plane, P Potin, A Saiz-Lopez, A Shillings, L Whalley, J Whitehead

0830h **A11F-03** Direct detection of iodine oxide and glyoxal over the open tropical Pacific Ocean: **R Volkamer**, S Coburn, B K Dix, R Sinreich

0845h **A11F-04** From Tromsø to Boulder: the global importance of ClNO₂ as a Cl atom source (*Invited*): **J A Thornton**, J P Kercher, T Riedel, N Wagner, J Cozic, J Holloway, W P Dubé, G M Wolfe, P Quinn, A M Middlebrook, S S Brown

0900h **A11F-05** Measurement of HOCl and Cl₂ in the remote marine boundary layer: **M J Lawler**, E S Saltzman

0915h **A11F-06** 1D modeling of halogen and NO_x chemistry over the Greenland ice sheet (*Invited*): **J L Thomas**, J Stutz, R von Glasow

0930h **A11F-07** Halogen Activation from Frozen Sea Water Initiated by Uptake of Ozone and Hydroxyl Radicals and by Photolysis of Nitrate: **J Abbatt**, R Cox, S Gao, N W Oldridge, S J Sjoestedt, A Symington

0945h **A11F-08** Remote-sensing versus in-situ measurements of BrO and IO: is the quandary resolved?: N Brough, **H K Roscoe**, H M Atkinson, A E Jones, A Richter, A Schoenhardt

A11G Moscone West: 3004 Monday 0800h
Climate Teleconnections in Past, Present, and Future
Climates: Observations and Mechanisms I (*joint with PP*)

Presiding: **J C Chiang**, University of California; **F Vimeux**, IRD-HSM-LSCE

0800h **A11G-01** Sensitivity of South American tropical climate to Last Glacial Maximum boundary conditions: focus on teleconnections with tropics and extratropics (*Invited*): **M Khodri**, M Kageyama, D M Roche

0815h **A11G-02** Tropical Atlantic climate response to low-latitude and extratropical sea-surface temperature: A Little Ice Age perspective: **C P Saenger**, P Chang, L Ji, D Oppo, A L Cohen

0830h **A11G-03** Changes in the Seasonality of Tropical Precipitation in Response to Greenhouse Gases: Local and Remote Forcings: **M Biasutti**, A H Sobel, D S Battisti

0845h **A11G-04** The Atmospheric Component of the Pacific Decadal Oscillation: Seasonal and Spatial Patterns: **C M Mills**, J E Walsh

0900h **A11G-05** Abrupt atmospheric CO₂ change during the Greenland stadial between Dansgaard-Oeschger events 8 and 9: **J Ahn**, E Brook

0915h **A11G-06** The impact of midlatitude stationary waves on the Hadley cell and ENSO: **R Caballero**, B T Anderson

0930h **A11G-07** Response of the Tropical Atmospheric Circulation to Glacial Boundary Conditions Simulated by an Ensemble of Coupled Climate Models: **P N Di Nezio**, A C Clement, G A Vecchi

0945h **A11G-08** Extratropical atmospheric teleconnections in a range of climates: **C Li**, J J Wettstein

A11H Moscone West: 3008 Monday 0800h
Ocean-Land-Atmosphere Interactions in the Eastern Tropical Oceans I (*joint with OS*)

Presiding: **R Wood**, University of Washington; **S Spak**, University of Iowa; **H Coe**, The University of Manchester; **C R Mechoso**

0800h **A11H-01** Oceanic Circulation and Regional Climate Dynamics for Western South America (*Invited*): **J C McWilliams**

0830h **A11H-02** The role of eddies in setting the upper ocean heat budget under the Chilean stratus (*Invited*): **RA Weller**, T Farrar, F Straneo, C F Moffat, C J Zappa, C W Fairall

0900h **A11H-03** VOCALS-REx airborne observations of the physical characteristics of the SE Pacific cloud-topped boundary layer along 20S (*Invited*): **C S Bretherton**, R Wood, G Allen

0915h **A11H-04** A regional climatology of the Humboldt Current System: **M Grados Quispe**, A Chaigneau, J Blanco, L Vasquez, N Dominguez

0930h **A11H-05** On the Tropical Atlantic Warm Bias in the Kiel Climate Model: **S Wahl**, M Latif, W Park, N S Keenlyside

0945h **A11H-06** Connection of Subtropical Anticyclone and the South American Monsoon System: **H Ma**, H Xiao, C R Mechoso, C Wu, Y Xue, F H De Sales

Biogeosciences

B11A Moscone South: Poster Hall Monday 0800h
Biogeochemistry of Soil and Surface Water in Rural, Suburban, and Urban Ecosystems I Posters (*joint with H*)

Presiding: **J A Aitkenhead-Peterson**, Texas A&M University; **M Steele**, Texas A&M University; **R V Pouyat**, U.S. Forest Service

0800h **B11A-0460 POSTER** The Effect of FeS Mineral Transformation on TCE Degradation: **Y T He**, J T Wilson, R T Wilkin

0800h **B11A-0461 POSTER** Effect of heavy metals on soil mineral surfaces and bioretention pond performance: **H Zhang**, M S Olson

0800h **B11A-0462 POSTER** An Air-Stripping Packed Bed Combined with a Biofilm-Type Biological Process for Treating BTEX and Total Petroleum Hydrocarbon Contaminated Groundwater: **U hong**, S Park, J Lim, W lee, S Kwon, Y Kim

0800h **B11A-0463 POSTER** Comparison of Chloroethene-Reductive Dehalogenase Activity in Suspended and Attached Growth Anaerobic Reactors: **S Park**, J Lim, J Lee, U hong, W lee, Y Kim

0800h **B11A-0464 POSTER** The Impact of Urban Development on the Water Quality in the Las Vegas Watershed: **A Yu**, C Simmons, K Acharya

0800h **B11A-0465 POSTER** Benthic Oxygen Demand in Former Salt Ponds as Estimated by Porewater Profiles: J S Kuwabara, **B Topping**, N D Athern, J Y Takekawa, F Parchaso, K Henderson, S Piotter

0800h **B11A-0466 POSTER** Reduction of Ferrihydrite and Akaganeite by *Shewanella alga* (PAH93): **M Jung**, Y Kim, Y Lee, K Kwon, Y Roh

0800h **B11A-0467 POSTER** Watershed-Scale Geochemical Inventory of Soils by Portable X-Ray Fluorescence: **D E Beaudette**, L K Stupi, A Swarowsky, A T O'Geen, J F Chang, B Gallagher

0800h **B11A-0468 POSTER** Continuous Monitoring of Nitrogen Retention in an Urban Stormwater Detention Pond: **B Rosenzweig**, P R Jaffe

0800h **B11A-0469 POSTER** Recapturing nutrients from dairy waste using biochar: **D Sarkhot**, T A Ghezzehei, A A Berhe

0800h **B11A-0470 POSTER** SOURCES AND TRANSFORMATIONS OF NITROGEN, CARBON, AND PHOSPHORUS IN THE POTOMAC RIVER ESTUARY: **M J Pennino**, S Kaushal

0800h **B11A-0471 POSTER** Reconstructing Historical Environmental Conditions in Pittsburgh Using Tree Ring Metal Concentrations: **A L Johnson**, D J Bain

0800h **B11A-0472 POSTER** Si Fluxes in Boreal Catchments: **Z H Lin**, P Dillon

0800h **B11A-0473 POSTER** Diel Studies of Hydrogen Peroxide Production and Cycling in Urban-Impacted Southern California Coastal Receiving Waters: **C D Clark**, W J De Bruyn, C Hirsch, P Aiona

0800h **B11A-0474 POSTER** Non-controlled CO₂ and CH₄ emission from landfills: a useful parameter to evaluate landfill gas extraction efficiency: **D Nolasco**, N Mora Fernández, H De Paz Carmona, G Padilla, G Melian, P A Hernandez Perez, N Perez

0800h **B11A-0475 POSTER** In-Situ Anaerobic Biosurfactant Production Process For Remediation Of DNAPL Contamination In Subsurface Aquifers: **J D Albino**, I M Nambi

0800h **B11A-0477 POSTER** Urban Signatures of Heavy Metals in Soils of an Arid Environment: **X Zhuo**, P Prapaipong, E Shock

0800h **B11A-0478 POSTER** TREATMENT PERFORMANCE OF A COMBINED CONSTRUCTED WETLAND SYSTEM AND ITS GREENHOUSE GASES EMISSION: **K Q Xu**, C Liu, Y Ebie, Y Inamori

0800h **B11A-0479 POSTER** A phosphorus budget for the Lake of the Woods, a large freshwater lake: **K E Hargan**, P Dillon, A Paterson

0800h **B11A-0480 POSTER** Impact of freshwater diversion projects on diversity and activity of methanotrophic communities in freshwater wetlands: **J Isaac**, C J Schulz, G W Childers

0800h **B11A-0481 POSTER** Nutrient pollution in central California rivers: a comparison of point and diffuse sources: **D J Sobota**, J A Harrison

B11B Moscone South: Poster Hall Monday 0800h
Effects of High Tropospheric Ozone on Plant Ecosystems and Mechanisms of Ozone Uptake Posters (*joint with A, EP, GC*)

Presiding: **S Fares**, University of California

0800h **B11B-0482 POSTER** Stomatal regulation, structural acclimation and metabolic shift towards defensive compounds reduce O₃ load in birch under chronic O₃ stress: **E Oksanen**, J Riikonen, S Kontunen-Soppela, M Maenpaa, M Rousi

0800h **B11B-0483 POSTER** Gene expression responses of paper birch to elevated O₃ and CO₂ during leaf maturation and senescence: **S Kontunen-Soppela**, J Parviainen, H Ruhanen, M Brosché, M Keinänen, R C Thakur, M Kolehmainen, J Kangasjarvi, E Oksanen, D F Karnosky, E Vapaavuori

0800h **B11B-0484 POSTER** Long-term exposure to twice-ambient ozone (O₃) affects carbon sink strength, allocation and stem growth in adult central European forest trees: **T E Grams**, R Matyssek

0800h **B11B-0485 POSTER** Ozone fluxes from Citrus species exposed to different levels of atmospheric ozone concentration: **S Fares**, E Ormeño, J Park, D R Gentner, M McKay, J F Karlik, A H Goldstein

0800h **B11B-0486 POSTER** A COMBINED USE OF EDDY-COVARIANCE AND OPEN-TOP CHAMBERS FOR THE IDENTIFICATION OF DOSE-EFFECT RELATIONSHIPS FOR OZONE ON CROPS. A CASE STUDY AND PERSPECTIVES: **G Gerosa**, A Finco, R Marzuoli, L Migliorati, S Cieslik, A Ballarin-Denti

0800h **B11B-0487 POSTER** Differential Effects of Ozone Exposure on Carbon Assimilation and Stomatal Conductance: **D Lombardozi**, G B Bonan, S Levis, J P Sparks

0800h **B11B-0488 POSTER** Long-Term Trends in High Elevation Tropospheric Ozone in the Northeastern US: Implications for Ozone Uptake in Red Spruce-Dominated Ecosystems: **C Bergweiler**

B11C Moscone South: Poster Hall Monday 0800h
Measuring and Modeling the Emission of Biogenic Volatile Organic Compounds From Crop and Forest Ecosystems I Posters (joint with A, EP, GC)

Presiding: **E Ormeño**, UC Berkeley; **S Fares**, University of California

0800h **B11C-0489 POSTER** Environmental controls over methanol production, emission, and $\delta^{13}\text{C}$ values from *Lycopodium obscurum*: P Oikawa, B M Giebel, J E Mak, D D Riemer, P K Swart, M Lerda

0800h **B11C-0490 POSTER** The Study of Biogenic Volatile Organic Compounds from Needles of White Pine (*Pinus Strobus*) in Northern Michigan: **S Toma**, S B Bertman

0800h **B11C-0491 POSTER** Biogenic volatile organic compounds (BVOC) emitted and accumulated by herbaceous and woody California crops: **E Ormeño**, S Fares, J Park, D R Gentner, J F Karlik, A H Goldstein

0800h **B11C-0492 POSTER** Volatile Organic Compound Emissions from *Larrea tridentata* (Creosote bush) during the North American Monsoon: **K J Jardine**, S A Kurc, A B Guenther, R L Scott, T E Huxman, L Abrell

0800h **B11C-0493 WITHDRAWN**

0800h **B11C-0494 POSTER** BVOC emissions from 2 Asian Eucalyptus species, *E. camadulensis* and *E. robusta*: **J Tsui**, A B Guenther, C K Chan, A P Lau

B11D Moscone South: Poster Hall Monday 0800h
Remote Sensing of Terrestrial Carbon Fluxes I Posters (joint with GC)

Presiding: **A F Rahman**, Indiana University

0800h **B11D-0495 POSTER** Impact of Fuel Treatments on Carbon Flux During a Wildfire Using Satellite Imagery: Okangoan-Wenatchee National Forest: E Justice, **B Cheung**, W Danse, K Myrick, M Willis, S Prichard, J W Skiles

0800h **B11D-0496 POSTER** Remote Sensing of Ecosystem Light Use Efficiency Using MODIS: **K F Huemmrich**, E Middleton, D Landis, T A Black, A G Barr, J H McCaughey, F Hall

0800h **B11D-0497 POSTER** Airborne Measurement of Ecosystem Carbon Dynamics over Heterogeneous Landscapes: **T J Wade**, T C Hill, R Clement, J Moncrieff, M Disney, C J Nichol, M D Williams

0800h **B11D-0498 POSTER** Distribution of Aboveground Biomass and Productivity of US Forests from Fusion of Multi-scale Remote Sensing: **T L Fuller**, S S Saatchi, Y Yu, L S Heath, E LaPoint

0800h **B11D-0499 POSTER** How do land management practices affect net ecosystem CO_2 exchange of an invasive plant infestation?: **O Sonnentag**, M Detto, B Runkle, M Kelly, D D Baldocchi

0800h **B11D-0500 POSTER** Estimating Net Primary Production for Croplands Using Advanced Wide Field Sensor (AWiFS) Time Series Data: **V Bandaru**, T O West

0800h **B11D-0501 POSTER** Long-term Carbon Loss and Recovery Following Selective Logging in Amazon Forests: **M Huang**, G P Asner

0800h **B11D-0502 POSTER** Land-use and land-cover change in California: Implications for regional carbon flux: **B M Sleeter**, J Liu

0800h **B11D-0503 POSTER** Revising estimates of global GPP using new information from eddy covariance and satellite datasets: **Y Wang**, Y Jin, M L Goulden, J T Randerson

0800h **B11D-0504 POSTER** Diagnostic Up-scaling of GPP from Eddy Covariance to Global Estimates: E Tomelleri, **C Beer**, N Carvalhais, M Jung, D Papale, M Reichstein, P Ciais, P Peylin, F PIs

0800h **B11D-0505 POSTER** A SPECTRAL INDEX FOR ASSESSING SURFACE WATER DEPTH: CASE STUDY FROM A LARGE-SCALE HYDROLOGICAL MANIPULATION EXPERIMENT IN ARCTIC: **S Goswami**, J A Gamon, C E Tweedie

0800h **B11D-0506 POSTER** Carbon Exchange and NDVI by Vegetation Community in the Canadian High Arctic: F M Gregory, P M Treitz, **N A Scott**

B11E Moscone West: 3018 Monday 0800h
Revisiting the Habitable Zone I

Presiding: **R Barnes**, University of Washington; **K P Hand**; **M Claire**, Virtual Planetary Laboratory; **S D Domagal-Goldman**, University of Washington

0800h **B11E-01** The generalized runaway greenhouse and the outer limit of habitable zones (*Invited*): **R Pierrehumbert**

0815h **B11E-02** Tidal Heating and the Boundaries of the Habitable Zone: **R Greenberg**, R Barnes, B Jackson

0830h **B11E-03** Tectonics and the photosynthetic habitable zone (*Invited*): **N H Sleep**

0845h **B11E-04** Atmospheric Chemistry on Planets in the Habitable Zone of F, G, K and M Main Sequence Stars (*Invited*): **A Segura**, V S Meadows, J F Kasting, L Walkowicz, M Cohen

0900h **B11E-05** The 1 AU region around M-dwarfs as a habitable zone for exotic life: **J I Lunine**

0915h **B11E-06** Using atmospheric composition as a metric for detecting life on habitable planets: **D C Catling**, D Bergsman

0930h **B11E-07** Volatiles in Terrestrial Planets Orbiting Within Habitable Zones of Low-Mass Stars: **J J Lissauer**

0945h **B11E-08** Prospect of life on cold planets with low atmospheric pressures: **A A Pavlov**, A Pavlov, M Vdovina

B11F Moscone West: 3016 Monday 0800h
The Bioatmospheric N Cycle: N Emissions, Transformations, Deposition, and Terrestrial and Aquatic Ecosystem Impacts I (joint with PA, A, GC, OS, H)

Presiding: **E M Elliott**, University of Pittsburgh; **S B Weiss**, Creekside center for Earth Observation

0800h **B11F-01** Estimation of Surface Concentrations and Emission Sources of Nitrogen Oxides Using Satellite Data. (*Invited*): **L Lamsal**

0815h **B11F-02** Interannual variability in soil nitric oxide emissions over the United States as viewed from space: **R C Hudman**, A R Russell, L C Valin, R C Cohen

0830h **B11F-03** The influence of gas-particle partitioning on the spatial patterns of reactive nitrogen deposition: **J G Murphy**, A DeSousa, A S Cole

0845h **B11F-04** Isotopic Investigation of Reactive Nitrogen Deposition Along a Highway Road Gradient: **K M Middlecamp**, E M Elliott

0900h **B11F-05** Soil acidification in China: Is controlling SO₂ emissions enough?: **Y Zhao**, L Duan, J Xing, T Larssen, C P Nielsen, J Hao

0915h **B11F-06** Evaluating Anthropogenic Impacts to the Nitrogen Cycle Based on the Isotopes of Nitrate (*Invited*): **M G Hastings**

0930h **B11F-07** Reconstruction of the nitrogen cycle in the German Bight/SE North Sea by means of a model-data study of nitrogen isotope composition in sediments: **A Serna**, J Pättsch, C H Hass, M Zeiler, D Hebbeln, K Emeis

0945h **B11F-08** Modeling Nitrogen Deposition for the Santa Clara County Habitat Conservation Plan: **S B Weiss**, T Meyers, T Held, D Zippen

Cryosphere

C11A Moscone West: 3014 Monday 0800h
Monitoring and Quantifying Glacier Dynamics I (*joint with G, GC, S, H*)

Presiding: **D C Finnegan**, Cold Regions Research & Eng. Lab;
L A Stearns, University of Kansas

0800h **C11A-01** Ocean tides modulation of flow at Helheim Glacier, East Greenland, observed using GPS: **J de Juan**, P Elosegui, M Nettles, J L Davis, T Larsen, A Ahlstrøm, M L Andersen, G Ekstrom, R Forsberg, G S Hamilton, S A Khan, K M Schild, L A Stearns, L Stenseng

0815h **C11A-02** Geodetic observations of short-time-scale changes in glacier flow at Helheim and Kangerdlugssuaq Glaciers, East Greenland: **M Nettles**, P Elosegui, T Larsen, J L Davis, G S Hamilton, L A Stearns, M L Andersen, J de Juan, E Malinkowski, I Gonzalez, M Okal, B Johns, G Ekstrom, A Ahlstrøm, L Stenseng, S A Khan, K M Schild, R Forsberg, S A Veitch

0830h **C11A-03** Ocean regulation of glacier dynamics in south-east Greenland and implication for ice sheet mass changes: T Murray, K Scharer, **T D James**, S Dye, E Hanna, A Booth, N Selmes, A J Luckman, A L Hughes, S Cook, P Huybrechts

0845h **C11A-04** WITHDRAWN

0900h **C11A-05** Seismic and satellite observations of calving events at Jakobshavn Isbrae, Greenland, from 1996 to present: **J M Amundson**, M A Fahnestock, M Truffer

0915h **C11A-06** West Greenland Outlet Glacier Sensitivity (2000-2009): **E M McFadden**, I M Howat, Y Ahn, I R Joughin, W Maslowski

0930h **C11A-07** Whillans Ice Stream stick-slip events: Slip-predictability and dynamically fluctuating till strength: **J I Walter**, S M Tulaczyk, E E Brodsky, S Y Schwartz

0945h **C11A-08** Flow Conditions of Thwaites Glacier for the Past ~1000 Years Using Radar-detected Internal Layer Patterns: **T J Fudge**, G A Catania, H Conway, D A Young, D Blankenship, S Kempf, E Leuro

Education and Human Resources

ED11A Moscone South: Poster Hall Monday 0800h
Using Web 2.0 Technologies to Facilitate Science Communications I Posters

Presiding: **C E Meth**, Consortium for Ocean Leadership;
C M Martinez, AGI

0800h **ED11A-0557** WITHDRAWN

0800h **ED11A-0558** POSTER History of Science Web Resources at American Institute of Physics: **G A Good**

0800h **ED11A-0559** POSTER Looking to the Future: Communicating with an expanding cryospheric user community: **K Gergely**, D Scott, L Booker

0800h **ED11A-0560** POSTER Working on Opposite Sides of the World: **C M Cooper**, L N Moresi

0800h **ED11A-0561** POSTER Blogging from North Pond: C G Marziali, **K J Edwards**

0800h **ED11A-0562** POSTER The Snowtweets Project: communicating snow depth measurements from specialists and non-specialists via mobile communication technologies and social networks: **J M King**, A R Cabrera, R E Kelly

0800h **ED11A-0563** POSTER The Ice Stories experience: a researcher's point of view: **Z Courville**

0800h **ED11A-0564** POSTER Ice Stories: Connecting Polar Scientists with Web and Museum Audiences: **M K Miller**

0800h **ED11A-0565** POSTER Use of Web 2.0 Technologies for Public Outreach on a Simulated Mars Mission: **B Shiro**, J Palaia, K Ferrone

0800h **ED11A-0566** POSTER MyMoon: Engaging the "Missing Link" in Lunar Science Exploration through New Media: **A Shaner**, C Shupla, S S Shipp, A Eriksson

0800h **ED11A-0567** POSTER ARM Climate Research Facility: Outreach Tools and Strategies: L Roeder, **R Jundt**

0800h **ED11A-0568** POSTER Virtual petrological microscopy: web 2.0 technology for learning microscopy skills outside the laboratory: **S P Kelley**, P Whalley, A Tindle

0800h **ED11A-0569** POSTER Online Exhibits & Concept Maps: **M Douma**

0800h **ED11A-0570** WITHDRAWN

0800h **ED11A-0571** POSTER Estimating and Presenting Individualized Earthquake Risk Using Web-Based Information Services: **J R Holliday**, J B Rundle, A Donnellan

0800h **ED11A-0572** POSTER Non-traditional approaches to teaching GPS online: **A Matias**, D F Wolf II

0800h **ED11A-0573** POSTER The impact of online applets on learning in an introductory meteorology lecture course: **T J Wagner**, S A Ackerman

0800h **ED11A-0574** POSTER The Andean Geotrail (1): A scientific adventure: **C Sassier**, O Galland, C Raufaste, K Mair

0800h **ED11A-0575** POSTER Google Tools in the Classroom: **E M Albee**, P O Koons, M Schaufli, Y Zhu, B E Segee

ED11B Moscone West: 3020 Monday 0800h
Innovative Practices in K-12 Pre-Service and In-Service Geoscience Teacher Professional Development I (*joint with A, C, GC, NH, EP*)

Presiding: **R J Myers**, Institute for Global Environmental Strategies;
T G Schwerin, Institute for Global Environmental Strategies (IGES)

0800h **ED11B-01** An Integrative Approach to Improving an Introductory Weather & Climate Course and Developing an Allied NASA Earth & Space Science Certificate Program for Pre-service Secondary Teachers (*Invited*): **C A Morrow**, L Martin-Hansen, J Diem, W Elliott

0815h **ED11B-02** Meeting the Vision of the National Science Education Standards for K-12 Teacher Professional Development: Journeys through Space and Time. (*Invited*): **W Slattery**, S Lunsford

0830h **ED11B-03** Approaches for Improving Earth System Science Education in Middle Schools and High Schools in the United States (*Invited*): **P E Adams**

0845h **ED11B-04** Linking Student Achievement and Teacher Science Content Knowledge about Climate Change: Ensuring the Nations 3 Million Teachers Understand the Science through an Electronic Professional Development System: **F Niepold**, A Byers

0900h **ED11B-05** The Arctic Climate Modeling Program: K-12 Geoscience Professional Development for Rural Educators: **K B Bertram**

0915h **ED11B-06** Assessment of an On-Line Earth System Science Course for Teachers: **R D Shuster**, N Grandgenett

0930h **ED11B-07** Earth System Science Education Modules: **C Hall**, C Kaufman, R R Humphreys, M W Colgan

0945h **ED11B-08** Concept Mapping: Linking Spheres in Earth System Science: **K P Czajkowski**, M Hedley

Geodesy

G11A Moscone South: Poster Hall Monday 0800h **Challenges and Opportunities in Combining Multiple Global Navigation Satellite Systems Observations Posters**

Presiding: **T Springer**, ESOC

0800h **G11A-0621** *POSTER* Combining the Observations from Different GNSS (*Invited*): **R Dach**, S Lutz, S Schaer, H Bock, A Jäggi, M Meindl, L Ostini, D Thaller, A Steinbach, G Beutler, P Steigenberger

0800h **G11A-0622** *POSTER* Near Real Time GLONASS Orbit and Clock Determination (*Invited*): **J P Weiss**, Y Bar-Sever, W Bertiger, S D Desai, C Lane, A Navarro, L Romans

0800h **G11A-0623** *POSTER* Opportunities for troposphere monitoring with upcoming and improved GNSS: **A Karabatic**, R Weber

0800h **G11A-0624** *POSTER* CNES-CLS IGS Analysis Centre products : evaluation and recent improvements: S Loyer, **F Perosanz**, F Mercier, H Capdeville, L Soudarin

0800h **G11A-0625** *POSTER* GNSS Receiver Calibration (*Invited*): **L Young**, T Munson, T Meehan, S Esterhuizen

0800h **G11A-0626** *POSTER* Investigation of GNSS Based ERP-series to Validate Atmospheric and Oceanic Contributions to High Frequency Earth Rotation: **R Weber**, J Nastula, S Boehm

G11B Moscone South: Poster Hall Monday 0800h **Results of the Reprocessing of Space Geodetic Observations I Posters**

Presiding: **J Ray**, NOAA/NGS

0800h **G11B-0627** *POSTER* GSFC/NASA DORIS-only Contribution to ITRF2008 and determination of the Geocenter motion with DORIS: **K Le Bail**, F G Lemoine, D S Chinn

0800h **G11B-0628** *POSTER* Reprocessing of SLR Data by the Official ILRS Combination Center ILRSB: Processing Strategies and Time Series Results: **R Kelm**

0800h **G11B-0629** *POSTER* The ILRS Reanalysis 1983 – 2009 Contributed To ITRF2008: **E C Pavlis**, V Luceri, C Sciarretta, R Kelm

0800h **G11B-0630** *POSTER* The JPL IGS Analysis Center: Results from the reanalysis of the global GPS network: **S D Desai**, W Bertiger, B J Haines, N Harvey, D Kuang, C Lane, A Sibthorpe, F Webb, J P Weiss

0800h **G11B-0631** *POSTER* An assessment of the NGS' contribution to the reprocessed IGS products: **J Griffiths**, J Ray, J R Rohde, W G Kass, R L Dulaney, M Cline, S Hilla, R A Snay

0800h **G11B-0632** *POSTER* Results from the New IGS Time Scale Algorithm (version 2.0): **K Senior**, J Ray

0800h **G11B-0633** *POSTER* Storm Surge and Non-Tidal Ocean Loading Effects on Geodetic GPS Observations: **S D Williams**, N T Penna, F N Teferle, J Geng

0800h **G11B-0634** *POSTER* Harmonic Analysis of IGS stations time series: **J Mtamakaya**, M Santos, M Craymer

0800h **G11B-0635** *POSTER* NOISE CHARACTERISTIC AND SEASONAL SIGNALS IN THE RE-PROCESSED EUREF PERMANENT NETWORK COORDINATE TIME SERIES: **A Kenyeres**, S D Williams, M Figurski, T M van Dam, K Szafrank

0800h **G11B-0636** *POSTER* Strategy of combination of GPS/VLBI-derived nutation parameters at the normal equation level: M Kudryashova, S Lambert, **V M Dehant**, C Bruyninx

0800h **G11B-0637** *POSTER* A Comparison of Reprocessed Orbit and Earth Rotation Products from 2000 - 2007: **D N Hansen**, F N Teferle, R M Bingley, S D Williams

0800h **G11B-0638** *POSTER* Towards an improved model of the secular velocities in the western US: **C F Pearson**, R A Snay, R McCaffrey

0800h **G11B-0639** *POSTER* Reanalysis of Global and Western North American Continuous GPS Time Series: **S E Owen**, A W Moore, F Webb, S Kedar, D Dong

0800h **G11B-0640** *POSTER* The Assessment of Re-Processed GPS Satellite Products For Long-Term Monitoring of Geodynamic Processes: O Y Alhamadani, **D N Hansen**, F N Teferle, R M Bingley

0800h **G11B-0641** *POSTER* Long GPS coordinate time series: multipath and geometry effects: **M King**, C S Watson

0800h **G11B-0642** *POSTER* Preparations for the 2nd IGS Reprocessing Campaign: **J Ray**

0800h **G11B-0643** *POSTER* Higher-order ionosphere modeling for CODE's next reprocessing activities: **S Lutz**, S Schaer, M Meindl, R Dach, P Steigenberger

0800h **G11B-0644** *POSTER* Precise orbit determination for GEOSAT and GEOSAT Follow-On in the GRACE era: **N P Zelensky**, F Lemoine, B D Beckley, D S Chinn, D D Rowlands, J L Lillibridge, R Scharroo, W H Smith

0800h **G11B-0645** *POSTER* GNSS Absolute Antenna Calibration at the National Geodetic Survey: **A L Bilich**, G L Mader

0800h **G11B-0646** *POSTER* Uncertainty estimation of the velocity model for the TrigNet GPS network: **M Hackl**, R Malservisi, U Hugentobler, R Wonnacott

G11C Moscone South: Poster Hall Monday 0800h **Terrestrial Reference Systems: Theory, Realizations, and Applications I Posters** (*joint with PA, C, OS, T*)

Presiding: **Z Altamimi**, Institut Geographique National; **R S Gross**, Jet Propulsion Laboratory; **C C Boucher**, MEEDDM

0800h **G11C-0647** WITHDRAWN

0800h **G11C-0648** *POSTER* VLBI-SLR Combination Solution Using GEODYN: **D S MacMillan**, F G Lemoine, D S Chinn, E C Pavlis, D D Rowlands

0800h **G11C-0649** *POSTER* Contribution of the new DORIS/DGXX instrument to the geodetic products: **L Soudarin**, H Capdeville, J Lemoine

0800h **G11C-0650** *POSTER* Dynamic Mantle Density Heterogeneities and global geodetic observables: **M Greff-Lefftz**, L Metivier, J Besse

0800h **G11C-0651** *POSTER* Secular motion of the geocenter, ITRF origin and the possible impact of climate changes: **L Metivier**, Z Altamimi, M Greff-Lefftz, X Collilieux

0800h **G11C-0652** *POSTER* Global sea-level rise and its relation to the terrestrial reference frame definition: **X Collilieux**, G Wöppelmann

0800h **G11C-0653** *POSTER* Variations of the Earth's figure axis from SLR and GRACE data: **M Cheng**, J C Ries, B D Tapley

0800h **G11C-0654** *POSTER* Impact of Albedo Modeling on GNSS Satellite Orbits and Geodetic Time Series: **U Hugentobler**, C J Rodriguez Solano, P Steigenberger, R Dach, S Lutz

0800h **G11C-0655** *POSTER* IDS contribution to ITRF2008: J Valette, **F Lemoine**, P Ferrage, Z Altamimi, P Willis, P Stepanek, M Otten, R Govind, S Kuzin, K Le bail, P Moore, P Yaya, L Soudarin

0800h **G11C-0656** *POSTER* CONTRIBUTION OF MULTI-TECHNIQUE COMBINATIONS AT THE "OBSERVATION LEVEL" TO THE REALIZATION OF ITRF2008: **J M Richard**, D Gambis

0800h **G11C-0657** WITHDRAWN

0800h **G11C-0658** *POSTER* EPN Continuous Cumulative Solution - Single Analysis Centers and Combination -, Heinz Habrich, Federal Agency for Cartography and Geodesy, Frankfurt M., Germany: **H Habrich**

0800h **G11C-0659** *POSTER* Transforming PPP results to different realizations of the NAD83 reference frame in Canada: **M R Craymer**, J A Henton, M Piraszewski

0800h **G11C-0660** *POSTER* NGS2008-beta: A preliminary estimate of an update to the North America CORS velocity field: **J R Rohde**, J Griffiths, M Cline, R L Dulaney, S Hilla, W G Kass, J Ray, G Sella, R A Snay

0800h **G11C-0661** *POSTER* LONG-TERM STABILITY OF THE LOCAL GROUND CONTROL NETWORK AT THE CO-LOCATION SITE OF MEDICINA: **C Abbondanza**, P Sarti, J Legrand

0800h **G11C-0662** *POSTER* Gravitation is Retarded:Theory and Evidence: **K Tang**

0800h **G11C-0663** *POSTER* Vertical Datums: Unification and time variation: **S J Edwards**, N Dayoub, P Moore, N T Penna

G11D Moscone South: Poster Hall Monday 0800h
Estimation, Prediction, and Excitation of Earth Orientation Variations Posters (*joint with A, OS*)

Presiding: **R S Gross**, Jet Propulsion Laboratory; **T J Johnson**

0800h **G11D-0664** *POSTER* EOP: History, Accuracy, Latency and the Future: **J Gipson**

0800h **G11D-0665** *POSTER* Earth orientation parameters as constraints for an inverse dynamic model: S Kirschner, **F Seitz**

0800h **G11D-0666** *POSTER* Zonal tidal variations in UT1 observed by VLBI (*Invited*): **S Boehm**, J Boehm, H Schuh

0800h **G11D-0667** *POSTER* Potential Use of AAM Forecasts for Polar Motion Prediction: **B J Luzum**, B E Stetler, E Schultz

0800h **G11D-0668** *POSTER* KASI research about Earth Rotation - Report: S Na, J Cho, **J Baek**, Y Kwak, S Yoo, P Park

0800h **G11D-0669** *POSTER* Impact of Atmospheric Pressure on Oceanic Angular Momentum: **R S Gross**, Y Song

0800h **G11D-0670** *POSTER* Extension of Dynamic Barometer Green's Functions to Short Periods: **S R Dickman**

0800h **G11D-0671** *POSTER* Polar motion excitations from regional hydrological estimates and from atmospheric analyses: **D A Salstein**, J Nastula

0800h **G11D-0672** *POSTER* Variable atmospheric and oceanic forcing of the Chandler wobble: **C Bizouard**, F Remus, L Seoane, D H Gambis

0800h **G11D-0673** *POSTER* Closing the Earth's Axial Angular Momentum Budget on Subseasonal Time Scales: No Need to Invoke Core Effects: **S L Marcus**, J O Dickey, O de Viron

0800h **G11D-0674** *POSTER* Combined electromagnetic and topographic core-mantle coupling and its equivalent excitation function for the time interval 1961 - 2000: **J M Hagedoorn**, H Greiner-Mai, L Ballani, I Wardinski, D Stromeyer

0800h **G11D-0675** *POSTER* Geophysical Fluids and Stability of Free Core Nutation: **J Vondrak**, C Ron

0800h **G11D-0676** *POSTER* Observation and excitation of the free core nutation (*Invited*): **S Lambert**

0800h **G11D-0677** *POSTER* Predicting Changes in Earth Orientation - Dynamic versus Static Solar System Model: **W Cruttenden**

Global Environmental Change

GC11A Moscone South: Poster Hall Monday 0800h
Diverse Views From Galileo's Window: Solar Forcing of Climate Change Posters (*joint with SH, A*)

Presiding: **N Scafetta**, Duke University; **R C Willson**, ACRIM

0800h **GC11A-0678** *POSTER* The satellite total solar irradiance database: **R C Willson**

0800h **GC11A-0679** *POSTER* Are the Sudden Stratospheric Warmings Related to Variability in the Solar Corpuscular and UV Radiation?: **N A Kilifarska**

0800h **GC11A-0680** *POSTER* Total Solar Irradiance Composites and the empirical analysis of the solar contribution to global mean air surface temperature change (*Invited*): **N Scafetta**

0800h **GC11A-0681** *POSTER* The Sun-Climate Connection: A journey from solar-stellar-galactic astrophysics, to weather-climate continuum and paleoclimatic-geological insights (*Invited*): **W Soon**

0800h **GC11A-0682** WITHDRAWN

0800h **GC11A-0683** *POSTER* Responses of Clouds and Atmospheric Dynamics to Modulation, by Solar and Thunderstorm Output Changes, of Current Flow in the Global Electric Circuit: **B A Tinsley**

0800h **GC11A-0684** *POSTER* Synthetic Temperature-Depth Transients Based On Solar Forcing vs. Observed From Repeated Well Temperature Logs in the Canadian Prairies: **W Skinner**, J A Majorowicz, J Safanda

0800h **GC11A-0685** *POSTER* Revised Assumptions and a Multidiscipline Approach to a Solar/Climate Connection: **C A Perry**

0800h **GC11A-0686** *POSTER* Variable solar-cycle intensity during the Holocene and its imprint on Earth's climate: **M Faurschou Knudsen**, P Riisager, B H Jacobsen, R Muscheler, I Snowball, M Seidenkrantz, J Olsen

0800h **GC11A-0687** *POSTER* Persistent temperature disturbances and solar forcing: **V E Courtillot**, J Le Mouel, E Blanter, V G Kossobokov, M Shnirman

0800h **GC11A-0688** *POSTER* Daily Tropical Cyclone Intensity Response to Solar Ultraviolet Variations: **J Elsner**, T Jagger, R Hodges

0800h **GC11A-0689 POSTER** Long-term variation of solar activity deduced from carbon-14 content in tree rings: **H Miyahara**, Y Yokoyama, H Matsuzaki, K Masuda, K Nagaya, T Nakamura, Y Muraki

0800h **GC11A-0690 POSTER** : Midlatitude long-term temperature trend deduced from 17 years of Na lidar observations and its relationships to solar cycle effects and an observed episodic response: **C She**, D A Krueger

0800h **GC11A-0691 POSTER** Scale-specific North Hemisphere patterns of phase coherence between solar/geomagnetic activity and near-surface air temperature: **M Palus**, D Novotna

0800h **GC11A-0692 POSTER** Validation of the IPCC AR4 Monthly Mean Surface Downward Shortwave and Longwave Radiative Fluxes against the BSRN Data: **T Zhang**, P W Stackhouse, S K Gupta, S J Cox, J C Mikovitz

Geomagnetism and Paleomagnetism

GP11A Moscone South: Poster Hall Monday 0800h
Geomagnetism and Paleomagnetism General Contributions I Posters

Presiding: **H F Evans**, LDEO; **M Tominaga**, Woods Hole Oceanographic Institution

0800h **GP11A-0730 POSTER** Absolute Paleointensity Techniques: Developments in the Last 10 Years (*Invited*): **J A Bowles**, M C Brown

0800h **GP11A-0731 POSTER** Paleomagnetic and paleointensity investigation of Paleoproterozoic Dike Swarms in the Dharwar Craton, India: New results: **E J Piispa**, A V Smirnov, M S Lingadevaru, K S Anantha Murthy, T C Devaraju, L J Pesonen

0800h **GP11A-0732 POSTER** Paleomagnetism and paleointensity of Mid-Continental Rift System basalts at Silver Mountain and Sturgeon River Falls (Upper Michigan): **E Kulakov**, E J Piispa, M S Laird, A V Smirnov, J F Diehl

0800h **GP11A-0733 POSTER** Relative geomagnetic paleointensity of the Brunhes Chron and the Matuyama-Brunhes precursor as recorded in sediment core from Wilkes Land Basin (Antarctica): **P Macri**, L Sagnotti, J Dinarès-Turell, A Caburlotto

0800h **GP11A-0734 POSTER** Paleomagnetic evidence for multiple Late Cenozoic glaciations in the Tintina Trench, west central Yukon, Canada: **R W Barendregt**, A Duk-Rodkin

0800h **GP11A-0735 POSTER** Archeomagnetism in East Asia for the Past 3,000 Years: **S Doh**, Y Yu, W Kim, Y Park

0800h **GP11A-0736 POSTER** Laschamp geomagnetic excursion confirmed in New Zealand lake sediments using ¹⁰Be: **A Nilsson**, I Snowball, R Muscheler, A Aldahan, G Possnert, P M Augustinus

0800h **GP11A-0737 POSTER** Paleomagnetic Study of Marine Sediment Core OR715-21 from Eastern Offshore of Taiwan: **T Lee**, K Wei, C Huh

0800h **GP11A-0738 POSTER** The MagIC Database: A Rock- and Paleomagnetic Online Comprehensive Archive, Scientific Analysis Environment, and Rich Visualization Platform: **R Minnett**, A A Koppers, L Tauxe, C Constable

0800h **GP11A-0739 POSTER** MATLAB software for viewing and processing u-channel and discrete sample paleomagnetic data: UPmag and DPmag: **C Xuan**, J E Channell

0800h **GP11A-0740 POSTER** Rock magnetic properties of soils from different environmental settings: Implications for the anthropogenic impact on the environment (*Invited*): **C Richter**, H Vedrines, W Schramm

0800h **GP11A-0741 POSTER** A new software for the measurement of magnetic moments using a SQUID magnetometer: **M Wack**

0800h **GP11A-0742 POSTER** Rockmagnetism of ferromanganese crust: **H Oda**, I Miyagi, A Usui, Y Yamamoto, Y Hashimoto

0800h **GP11A-0743 POSTER** Resolution Analysis and the Backus-Gilbert Local Estimator for the Inverse Problem in the Scanning Magnetometry: **Y Usui**, M Uehara

0800h **GP11A-0744 POSTER** Rock magnetic and paleomagnetic investigations using a Giant Magneto Resistance-based scanning magnetometer: **F Hankard**, J Gattacceca, C Fermon, M Pannetier-Lecoeur, B Langlais, Y Quesnel, P Rochette, S A McEnroe

0800h **GP11A-0745 POSTER** Electron paramagnetic resonance spectra of some iron sulfides and inorganic chain-like magnetite: **L Chang**, J Wolowska, A P Roberts, Q Chen

0800h **GP11A-0746 POSTER** Electron holography of oxy-exsolution microstructures in synthetic titanomagnetites: **N S Church**, R J Harrison, T Kasama, R Dunin-Borkowski

0800h **GP11A-0747 POSTER** Pristine magnetic moments of magnetic grains in natural sediments; results of laboratory experiments with lacustrine and marine sediments: **R Lovlie**

0800h **GP11A-0748 POSTER** Archaeomagnetic Dating in Europe Using a Global Geomagnetic Field Model: **A Lodge**, N Suttie, R Holme, J Shaw, M J Hill, P Linford

0800h **GP11A-0749 POSTER** How does Chinese loess become magnetized?: X Zhao, **A P Roberts**

0800h **GP11A-0750 POSTER** Paleolatitudes of the Permo-Triassic Ukrainian Shield with Implications for Pangaea A and B: **K Yuan**, R Van Der Voo, M L Bazhenov, V Bakhmutov, V Alekhin, B Hendriks

0800h **GP11A-0751 POSTER** The Pangea Problem: Insights from New Permo-Triassic Paleomagnetic Data from Gondwana: **M M Domeier**, R Van Der Voo, R Tomezzoli, T H Torsvik, E Tohver, B Hendriks, H Vizan, A R Dominguez

0800h **GP11A-0752 POSTER** Magnetic Anisotropic Susceptibility Studies on Impact Structures in the Serra Geral Basalt, Paraná Basin, Brazil: **A P Crosta**, W D MacDonald

0800h **GP11A-0753 POSTER** Paleomagnetism of the Becker Peak stock: **B A Miller**, B A Housen

0800h **GP11A-0754 POSTER** Paleomagnetic Quantification of Neogene Block Rotations within an Active Transensional Plate Boundary, Baja California, Mexico: **J Weber**, P J Umhoefer, J A Pérez Venzor, V Bachtadse

0800h **GP11A-0755 POSTER** Resolving Crustal Vertical-Axis Rotation Rates since the Eocene in the Western United States: **A J Sussman**, J W Geissman, S Mason

0800h **GP11A-0756 POSTER** New paleomagnetic data from Jurassic Sediments from Sardinia: **U Kirscher**, V Bachtadse, G Muttoni, K Aubele

0800h **GP11A-0757 POSTER** PRELIMINARY PALEOMAGNETIC RESULTS FROM OUTFLOW EOCENE-OLIGOCENE ASH FLOW TUFFS FROM THE WESTERN MARGIN OF THE SAN LUIS BASIN: IMPLICATION FOR THE KINEMATIC EVOLUTION OF THE RIO GRANDE RIFT: **S N Mason**, J W Geissman, A J Sussman

0800h **GP11A-0758 POSTER** DETERMINING THE 3-D KINEMATIC HISTORY OF THE WYOMING LARAMIDE FORELAND: PRELIMINARY PALEOMAGNETIC AND AMS RESULTS FROM THE TRIASSIC CHUGWATER GROUP: **A B Weil**, A Yonkee

0800h **GP11A-0759 POSTER** Magnetotelluric Profile Through Yosemite National Park Images Foundering Lithosphere: **L Ostos**, S K Park

0800h **GP11A-0760 POSTER** A Paleomagnetic Study of Early Miocene Sediments in Central Honshu, Japan: Implications for the Formation of Curvature of the Median Tectonic Line: **H Hoshi**

0800h **GP11A-0761** POSTER Mid-Cenozoic Caetano Tuff, Nevada: Tectonic and correlation implications from paleomagnetic data and sanidine $^{40}\text{Ar}/^{39}\text{Ar}$ dating: **W D MacDonald**, A L Deino, H C Palmer

0800h **GP11A-0762** POSTER Development of new exploration tools for seabed mineral resources – Result of R/V YOKOSUKA research cruise YK09-09 –: **M Harada**, K Sayanagi, T Kasaya, T Sawa, T Goto, N Tada, H Ichihara, M Asada, T Nakajima, N Isezaki

0800h **GP11A-0763** POSTER Problems on the Analysis Results Obtained from the Geomagnetic Scalar Field: **N Isezaki**, M Harada, K Sayanagi, J Matsuo

Hydrology

H11A Moscone South: Poster Hall Monday 0800h **Advances in the Quantitative Characterization of Karstic and Fractured Aquifers I Posters** (*joint with NS*)

Presiding: **M D Covington**, University of Minnesota - Twin Cities; **D H Doctor**

0800h **H11A-0782** POSTER Periodic Slug Tests in a Sandstone Bedding Plane Fracture: **M W Becker**, E Guiltinan

0800h **H11A-0783** POSTER Multi-Tracer Investigation of Groundwater Residence Time in a Karstic Aquifer: Bitter Lakes National Wildlife Refuge, New Mexico, USA: **L A Land**, R Huff

0800h **H11A-0784** POSTER Ambient Flow and Heterogeneity in Multi-Aquifer Wells: **D J Hart**, M B Gotkowitz, J A Luczaj

0800h **H11A-0785** POSTER Characterizing aperture distributions in karst aquifers by simulating the evolution of solution conduits: C Rehrl, B Hubinger, **S Birk**

0800h **H11A-0786** POSTER Computational Investigation of Fundamental Mechanisms Contributing to Fracture Dissolution and the Evolution of Hypogene Karst Systems: **A Chaudhuri**, H Rajaram, H S Viswanathan, G Zvyolowski, P H Stauffer

0800h **H11A-0787** POSTER The role of a thick unsaturated zone for transport of environmental tracers in karst systems: **T Geyer**, J Sultenfuss, F Eichinger, M Sauter

0800h **H11A-0788** POSTER Helicopter Electromagnetic and Magnetic Surveys of the Upper and Middle Zones of the Trinity Aquifer, Uvalde and Bexar Counties, Texas: **D V Smith**, C D Blome, B D Smith, A C Clark

0800h **H11A-0789** POSTER A relationship between porosity and permeability of carbonate rock reservoirs: J Lee, **Y Park**, Y Jo, J Jeong, S Eom

0800h **H11A-0790** POSTER Investigating Land-Use Effects on Hydrologic Processes and Water Quality in a Complex Karst Hydro-Region of the Central United States: **J A Hubbard**, E A Bulliner, G W Freeman, P Chinnasamy, G W Hosmer, D P Scollan, T D Stokely

0800h **H11A-0791** POSTER Resistivity Surveys on the Mauna Kea Saddle: Implications for groundwater resources on the Island of Hawaii: **D M Thomas**, H A Pierce

0800h **H11A-0792** POSTER A Large Block Experiment for Measurement of the Effective Permeability of Indiana Limestone: **P A Selvadurai**, A P Selvadurai

H11B Moscone South: Poster Hall Monday 0800h **Challenges and Progress in Regional Groundwater Flow, Transport, and Reactive Transport Modeling I Posters** (*joint with B, NS*)

Presiding: **L Foglia**, UC Davis and Larry Walker Associates; **C Green**, USGS; **T Ginn**, UC Davis

0800h **H11B-0793** POSTER Generic Procedure for Coupling the PHREEQC Geochemical Modeling Framework with Flow and Solute Transport Simulators: L C Wissmeier, **D A Barry**

0800h **H11B-0794** WITHDRAWN

0800h **H11B-0795** POSTER A Scaling Method for Multi-species Transport Simulation with Linear Sorption Isotherm under Steady State Flow Conditions: **J Zhang**, J Clare, J Guo

0800h **H11B-0796** POSTER Numerical Groundwater Flow Modeling of the Arsenic Contaminated Gotra Aquifer, West Bengal, India: **C E Koenig**, A J Desbarats, R D Beckie, T Pal, P K Mukherjee

0800h **H11B-0797** POSTER Thermal and hydrochemical anomalies due to large-scale thermohaline convection in Seferihisar-Balıçova Geothermal system, Western Anatolia, Turkey: **F Magri**, A Pekdeger, ÜNSAL Gemici, T Akar

0800h **H11B-0798** POSTER Effects of transient flow and water chemistry on U(VI) transport: **J Yin**, R Haggerty, J D Istok, D B Kent, C Zheng, J M Zachara

0800h **H11B-0799** POSTER Non-Stationary Hydrostratigraphic Model of Cross-Cutting Alluvial Fans: **C Meirovitz**, G E Fogg, G S Weissmann, E LaBolle, J Sagar, L Roll

0800h **H11B-0800** POSTER Assessment of salt and nitrate sources and loading implications using a coupled surface water/groundwater model: a Central Valley example: **V Kretsinger**, L Foglia, J Herr, J Dickey, R Smith

0800h **H11B-0801** POSTER Towards understanding how geographic, hydrologic, and chemical processes interact to produce trends in groundwater quality: **J J Starn**, C T Green, S R Hinkle, F H Chapelle, B Lindsey, S Thiros

0800h **H11B-0802** POSTER Using Groundwater Temperatures and Heat Flow Patterns to Assess Groundwater Flow in Snake Valley, Nevada and Utah, USA: **M D Masbruch**, D S Chapman

0800h **H11B-0803** POSTER The effect of gradual decrease in hydraulic conductivity with depth on groundwater flow in small drainage basins: **X Jiang**, L Wan, X Wang

0800h **H11B-0804** POSTER A Suggested Method of Accelerating Transport Simulation for Pumping Induced Groundwater Flow Conditions: X Wei, G Randall, **J Zhang**

0800h **H11B-0805** POSTER Hydrogeologic Property Inference Using Spatially-Dependent Aquifer Parameters: K H Birdsell, D R Harp, **V V Vesselinov**

0800h **H11B-0806** POSTER Comparisons of Particle Tracking Techniques and Galerkin Finite Element Methods in Flow Simulations on Watershed Scales: **D Shih**, G Yeh

0800h **H11B-0807** POSTER Testing MODFLOW-LGR for simulating flow around buried Quaternary valleys – synthetic test cases: **T N Vilhelmsen**, S Christensen

H11C Moscone South: Poster Hall Monday 0800h **Emerging Trends in the Hydrological Data Record I Posters** (*joint with A, C, G*)

Presiding: **G J Huffman**; **M Rodell**, NASA/GSFC

0800h **H11C-0808** POSTER Estimating 20th Century Evapotranspiration Trends in the Eastern United States: **G L Noyce**, L Bounoua

0800h **H11C-0809** POSTER Recent Changes in Global Drought: **H Li**, J Sheffield, E F Wood

0800h **H11C-0810** POSTER Climate-Related Trends, Human Induced Trends, and False-Trends in Seven Years of Terrestrial Water Storage Observations from GRACE: **M Rodell**, J S Famiglietti, D P Chambers

0800h **H11C-0811** *POSTER* Changing runoff patterns during the 20th century due to changing surface water volume: **A Wörman**, G Lindstrom, J Riml, A Åkesson (née Gustafsson)

0800h **H11C-0812** *POSTER* Tropical Lake Levels and Their Relationship to Rainfall: **M Ricko**, J Carton, C M Birkett

0800h **H11C-0813** *POSTER* Flood Peak Distributions for the Eastern United States: **G Villarini**, J A Smith

0800h **H11C-0814** *POSTER* Patterns of spatial and temporal variability in streamflow records in South-Central Chile in the period 1952-2003: **E A Rubio**, A Lara, J P McPhee

0800h **H11C-0815** *POSTER* ERS-ENVISAT radar altimetry over the Amazon basin: J SANTOS DA SILVA, **S Calmant**, O C Rotunno Filho, F Seyler, W J Mansur, G Cochonneau

0800h **H11C-0816** *POSTER* Present-day long-term deformation from GPS survey in an intraplate area (Ploemeur aquifer, French Brittany): influence of hydrological and hydrogeological processes: G Biessy, **F Moreau**, O Dauteuil, O Bour

H11D Moscone South: Poster Hall Monday 0800h
Groundwater Sustainability and Global Change I Posters (*joint with GC, PA*)

Presiding: **D A Stonestrom**, US Geological Survey; **B R Scanlon**, University of Texas at Austin

0800h **H11D-0817** *POSTER* A Global Groundwater Stress Index from Estimates of Groundwater Withdrawal and Recharge: K Voss, **J S Famiglietti**, M Lo, C de Linage, J T Reager, M Rodell

0800h **H11D-0818** *POSTER* Water storage in large lake drainage basins from GRACE, altimetry and hydrological models; inference on groundwater variations: E Zakharova, **M Becker**, A A Cazenave, A Güntner, J Cretaux

0800h **H11D-0819** *POSTER* Sustainable Water Resources in Semiarid Agroecosystems: **R C Reedy**, G Favreau, J B Gates, A Mukherjee, B R Scanlon, C Zheng

0800h **H11D-0820** *POSTER* Three-Dimensional Numerical Simulation of Density-Dependent Groundwater Flow and Salt Transport Due to Groundwater Pumping in an Unsaturated Fractured Porous Coastal Aquifer System: **J Kihm**, J Kim

0800h **H11D-0821** *POSTER* Source Water Protection and Sustainability: a Practical Approach to Assessing Risk: **D O Nelson**, A E Chinitz

0800h **H11D-0822** *POSTER* Altered Landscapes and Groundwater Sustainability – Exploring Impacts with Induced Polarization, DC Resistivity, and Thermal Tracing: C Eddy-Miller, R Caldwell, J Wheeler, P McCarthy, A M Binley, J E Constantz, **D A Stonestrom**

0800h **H11D-0823** *POSTER* Groundwater Depletion, Irreversible Damages and the Energy-Food-Water Nexus: A Case Study from Gujarat, India: K K Narula, V Modi, U Lall, **R Fishman**, T U Siegfried

0800h **H11D-0824** *POSTER* Agricultural production and groundwater depletion under climate variability in India - Results from a regional scale crop modeling approach: **T U Siegfried**, S Sobolowski, R Fishman, V Vasquez, P Raj, K K Narula, V Modi, U Lall

0800h **H11D-0825** *POSTER* Groundwater sustainability in Asian Mega city: **M Taniguchi**

0800h **H11D-0826** *POSTER* Hydrogeological Methods for Assessing Feasibility of Artificial Recharge: **Y Kim**, Y Kim, M Koo, K Lee, D Moon, J M Barry

0800h **H11D-0827** *POSTER* Bacterial contamination of groundwater in Jeju Island: **Y Jo**, J Lee, S Jun, R Kim

0800h **H11D-0828** *POSTER* Groundwater component of land water storage in Asia from GRACE and hydrological modeling: **J Vergnes**, M Becker, A A Cazenave, V M Tiwari, A Güntner

0800h **H11D-0829** *POSTER* Managing water and salinity with desalination, conveyance, conservation, waste-water treatment and reuse to counteract climate variability in Gaza: **D E Rosenberg**, A E Aljuaidi, J J Kaluarachchi

0800h **H11D-0830** *POSTER* ARTIFICIAL RECHARGE OF GROUNDWATER IN K. MENDERES RIVER BASIN IN WESTERN TURKEY: H Yazicigil, **A PEKSEZER**

0800h **H11D-0831** *POSTER* Evaluation of the potential impact of climate changes on groundwater recharge in Karkheh river basin (Khuzestan, Iran): **A ABRISHAMCHI**, E Beigi, M Tajrishy, A Abrishamchi

0800h **H11D-0832** *POSTER* Hydrological Monitoring and Environmental Modeling to Assess the Quality and Sustainability of the Water Resources in an Uranium Mine Area, Caetité – Brazil: **M R Franklin**, E van Slobbe, N F Fernandes, J Palma, D van Dalen, A C Santos, V Melo, R G Reis, R Carmo, H M Fernandes

0800h **H11D-0833** *POSTER* Implications of agricultural land use for sustainability of gravity fed water distribution systems relying on natural springs in the Alto Beni Region of Bolivia: **L M Fry**, D W Watkins, J R Mihelcic, N Reents

0800h **H11D-0834** *POSTER* Assessing Groundwater Storage Changes in Edwards-Trinity Aquifer, Texas: **A Y Sun**, R T Green, M Rodell, T I Michaels

0800h **H11D-0835** *POSTER* Survey of groundwater isotopic composition ($\delta^2\text{H}$ and $\delta^{18}\text{O}$) from the southwestern Edwards Aquifer and regionally associated aquifers: J B West, J R Shallock, R Cooper

0800h **H11D-0836** *POSTER* Precipitation and Surface-Runoff Sampling in the Arid Regions – New Lysimeter Techniques: **O M Al-Qudah**, J C Walton, A Woocay

0800h **H11D-0837** *POSTER* Total Water Storage Change Over the San Joaquin and Sacramento River Basins Comparing GRACE and Observational Data: **S Ho**, M Lo, J S Famiglietti, S C Swenson, K J Anderson, T H Syed, E A Rosenberg, D P Lettenmaier

0800h **H11D-0838** *POSTER* Water Storage Change in the Sacramento and San Joaquin River Basins Since 2003, Including Central Valley Groundwater Depletion: **J Bethune**, J S Famiglietti, C de Linage, J T Reager, M Lo, S C Swenson, M Rodell

0800h **H11D-0839** *POSTER* Is Storage a Solution to End Water Shortage?: **M Narayanan**

H11E Moscone South: Poster Hall Monday 0800h
Surface Water Hydrology Posters

Presiding: **G Park**, University of Wyoming; **K Franz**

0800h **H11E-0840** *POSTER* Hydrological and chemical budgets of Akanuma Pool in Kushiro Mire, northern Japan: **T Kizuka**, H Yamada, T Hirano

0800h **H11E-0841** *POSTER* Modeling the water and energy cycles in the upper Tone River Basin, Japan: **L Wang**, T Koike, K Yang

0800h **H11E-0842** *POSTER* Distance-varying Parameter Estimation for the Rain Cell Models Using Radar Rainfall Data: **J SHIAU**

0800h **H11E-0843** *POSTER* A gamma pulse model of streamflow timeseries with an explicit link to rainfall stochasticity: **R Muneeppeerakul**, S Azaele, I Rodriguez-Iturbe

0800h **H11E-0844** *POSTER* Representation of urbanized terrain and its use in quantifying hydrologic response with a morpho-climatic instantaneous unit hydrograph model: **J A Gironas**, J D Niemann, L A Roesner, F Rodriguez, H Andrieu

- 0800h **H11E-0845** *POSTER* Streamflow Response to Rainfall in a Large Watershed with Sparse Vegetation in Northern California: **A S Dhakal**, A Dufour, D Cameron
- 0800h **H11E-0846** *POSTER* Using an integrated surface-subsurface model to quantify baseflow and overland runoff in heterogeneous hillslopes: **S B Meyerhoff**, R M Maxwell
- 0800h **H11E-0847** *POSTER* Runoff Model for the Dongting Lake Basin, China: **D Liu**, D Yang, H Yang
- 0800h **H11E-0848** *POSTER* Linking HRR Model with VIC-3L Hydrologic Model for Flow Routing in the Susquehanna River Basin: **R L Ray**, R E Beighley
- 0800h **H11E-0849** *POSTER* Distributed Hydrology Soil Vegetation Model (DHSVM) and Sediment Discharge Validation in a small, Pacific Northwestern Watershed: **B W Huggett**, A P Stubblefield, A S Dhakal, K Sullivan
- 0800h **H11E-0850** *POSTER* Continuous Hydrological Simulations with the NCUDWM Distributed Watershed Model: **R Sung**, M Li
- 0800h **H11E-0851** *POSTER* Modification of the NWS Distributed Modeling Structure to Account for Subsurface Grid Water Exchange: **B Khakbaz**, B Imam, K Hsu, S Sorooshian, V Koren, M B Smith, P J Restrepo
- 0800h **H11E-0852** *POSTER* Using Support Vector Machines to Characterize Runoff-triggering in Small Watersheds: D Misra, **T Oommen**, T Radatz, A Thompson
- 0800h **H11E-0853** *POSTER* Infusion of Ensemble Data Assimilation in the operational NWS-Ensemble Streamflow Prediction (ESP) System: **T T Meskele**, H Moradkhani
- 0800h **H11E-0854** *POSTER* Remotely Sensed Snow Data Assimilation within Distributed Snow 17 Model: **C M DeChant**, M Leisenring, H Moradkhani
- 0800h **H11E-0855** *POSTER* Investigating the spring snow melt signal in soil moisture data from the Cariboo Mountains, British Columbia: **T L Upton**, S J Dery
- 0800h **H11E-0856** *POSTER* On the use of MODIS and TRMM products to simulate hydrological processes in the La Plata Basin: O C Saavedra Valeriano, T Koike, **E H Berbery**
- 0800h **H11E-0857** *POSTER* Development of Hydro-Informatic Modelling System and its Application: **Z Wang**, C Liu, H Zheng, L Zhang, X Wu
- 0800h **H11E-0858** *POSTER* Soil moisture in a southwestern mixed conifer forest: **H Garduno**, A G Fernald
- 0800h **H11E-0859** *POSTER* A Multi-Platform Approach to Examine Spatial and Temporal Variability of Antecedent Moisture Content on Model-Generated Runoff from a Watershed: **W J Meyer**, S Ahmad, M Young, D S Shafer, J J Miller, K Chief
- 0800h **H11E-0860** *POSTER* Dominant variability of terrestrial hydrological processes over the Pearl River in South China: **J NIU**, J Chen
- 0800h **H11E-0861** *POSTER* Modeling the Dynamic Water Resource Needs of California's Coastal Watersheds: **C Alford**
- 0800h **H11E-0862** *POSTER* Testing a Post-Analysis Weighting Technique To Improve Long-Term Forecasts of the Colorado River Basin: **K W Lamb**, T C Piechota
- 0800h **H11E-0863** *POSTER* Parameter Optimization for Green-Ampt Infiltration Model: L Chen, **L Xiang**, M Young, Z Yu
- 0800h **H11E-0864** *POSTER* Water Repellency Effects on Water Retention in Heat Pre-treated Volcanic Ash Soil: **T Chhoden**, A Karunarathna, K Kawamoto, T Komatsu, P Moldrup
- 0800h **H11E-0865** *POSTER* Modeling surface water flow through emergent vegetation in a small floodplain wetland: **C Piercy**, T Wynn, A Ludwig
- 0800h **H11E-0866** *POSTER* Analyzing River Longitudinal Profiles Around the World: **M T Hannon**, J P Syvitski, A J Kettner
- 0800h **H11E-0867** *POSTER* Shear Stress Comparison Using ADV Sontek FlowTracker and SonTek 10-MHz ADV: **K A Clancy**, A Timm
- 0800h **H11E-0868** *POSTER* Modeling Size-Selective Soil Erosion and Nutrient Transport in Flume-Scale Experiments: **B P Heng**, G C Sander, A Armstrong, J H Chandler, J N Quinton, C F Scott, A D Wheatley
- 0800h **H11E-0869** *POSTER* One-Dimensional Hairsine-Rose Erosion Model: Parameter Consistency in the Presence of Rainfall Splash: **S Jomaa**, D A Barry, G C Sander, J Parlange, B P Heng, H J Tromp-van Meerveld
- 0800h **H11E-0870** *POSTER* Unsteady Soil Erosion Modeling and Bedload Transport: **T Zheng**, G C Sander, B P Heng
- 0800h **H11E-0871** *POSTER* Modeling of ravine sediment loading and budget in the lower Le Sueur River, Minnesota River Basin: **L A Azmera**, F R Miralles-Wilhelm, R Garica, P Belmont, A M Melesse
- 0800h **H11E-0872** *POSTER* Utilizing Turbidity and Measurements of Suspended Sediment Concentrations to Better Understand Sediment Transport within Urban Streams: **T M Elkins**, J A Napieralski
- 0800h **H11E-0873** *POSTER* An Exploration of Inexpensive, Automated Methods for Measuring River Stage: **A Kruger**, J J Niemeier, W F Krajewski, D Ceynar, G D Wagner
- 0800h **H11E-0874** *POSTER* ACOUSTIC DOPPLER VELOCIMETER (ADV) GENERATED FLOW AND POTENTIAL IMPACT ON MEASUREMENT QUALITY: **C Poindexter**, E A Variano
- 0800h **H11E-0875** *POSTER* Mass-conservative level-set methods for two-phase free-surface flows: **M W Farthing**, C E Kees, I Akkerman, J Bazilevs
- 0800h **H11E-0876** WITHDRAWN
- 0800h **H11E-0877** WITHDRAWN
- 0800h **H11E-0878** *POSTER* Impact of Morphological Changes of the Medjerda River, Tunisia, on Flood Risks and Frequencies: **A Fares**, M Jaballah, M Djebbi
- 0800h **H11E-0879** *POSTER* Characterization of flow resistance in high-gradient, forested streams: **S E Yochum**, B Bledsoe, G C David, E E Wohl
- 0800h **H11E-0880** *POSTER* Hydrodynamic and thermal modeling in Devils Hole using fiber-optic distributed temperature sensing (DTS) measurements: **M B Hausner**, S W Tyler, K P Wilson, M R Bower, J S Selker
- 0800h **H11E-0881** *POSTER* Analyzing Relationships Between Stream pH and Watershed Attributes: A Multi-Site Study Using Concentration-Duration-Frequency Curves: **L Mauney**, J S Schwartz, K J Neff
- 0800h **H11E-0882** *POSTER* The state and amounts of contaminants in the streams in Jeonju, South Korea: **S Lee**, C Oh
- 0800h **H11E-0883** *POSTER* Effect of Water Chemistry on the Upwelling of p,p'-DDE from Contaminated Streambeds under Base Flow Events: **C I Camarena**, J Ren
- 0800h **H11E-0884** *POSTER* Fen Wetland Hydrology and Constraints on the Fate and Transport of Heavy Metals in the San Juan Mountains, Colorado: **B K McClenning**, F Marcantonio, J R Giardino
- 0800h **H11E-0885** *POSTER* Model Simulations of Upwelling and Biouptake of Persistent Bioaccumulative Toxic (PBT) Organic Pollutants from Contaminated Streambeds for Base Flow Events: **D D Otero**, J Ren

0800h **H11E-0886 POSTER** Solidification/stabilization of heavy metal contaminated mine tailings using polymeric materials: **K Min**, T Kim, H Lee

0800h **H11E-0887 POSTER** Spatial and temporal variation of water quality of Pearl River in Guangzhou, China: **Y Fan**, X Yang, Z Li, J Han, J Li, G Ou, Q Zhou

0800h **H11E-0888 POSTER** Modeling the Transport and Fate of Fecal Pollution and Nutrients of Miyun Reservoir: **L Liu**, X Fu, G Wang

0800h **H11E-0889 POSTER** Spreading of Cholera through Surface Water: **E Bertuzzo**, R Casagrandi, M Gatto, I Rodriguez-Iturbe, A Rinaldo

0800h **H11E-0890 POSTER** Development of water environment information management and water pollution accident response system: J Zhang, **H Ruan**

0800h **H11E-0891 POSTER** 2009-2010 El Niño: Hydrologic Relief for Parts of the U.S.: **O A Aziz**, G A Tootle, T C Piechota, W P Miller, V Lakshmi, J A Dracup

0800h **H11E-0892 POSTER** Evaluation of the Constant Slope Baseflow Separation and Empirical Infection point Method: **A Timm**, J Barrick, K Clancy

0800h **H11E-0893 POSTER** CLIMATE SERVICES AND HYDROLOGICAL APPLICATIONS RESEARCH STRATEGY WITHIN GEWEX: **P J van Oevelen**

H11F Moscone South: Poster Hall Monday 0800h
Unusual Hydrological Experiments Under Financial Constraints Posters

Presiding: **R Hut**, Delft University of Technology; **J S Selker**, T Blume, GFZ German Research Centre for Geosciences; **W Luxemburg**, Delft University of Technology

0800h **H11F-0894 POSTER** Characterization of Coastal Hydraulics: Simple Tools and Sweat Equity: **D McInnis**, C Fertenbaugh, S Orou-Pete, A Mullen, C Smith, S E Silliman, N Yalo, M Boukari

0800h **H11F-0895 POSTER** Ground based monitoring of channel and floodplain inundation dynamics: **H Apel**, N N Hung, A Güntner, H Thoss

0800h **H11F-0896 POSTER** Low-Cost Sensor Network for Stream Flow Monitoring in the Alto Beni Region of Bolivia: **M D Rowe**, L M Fry, J R Mihelcic

0800h **H11F-0897 POSTER** Where Does the River Run? Lessons from a Semi-Arid River: **T Meixner**, C D Soto, H Richter, K Uhlman

0800h **H11F-0898 POSTER** Stream Segment Energy Balances Using Digital Cameras and Inexpensive Light Sensors: **P Barnes**, J Zhu, D Li, S Villamizar-Amaya, C A Butler, H Pai, T C Harmon

0800h **H11F-0899 POSTER** Uncertainties in temperature based estimates of stream-aquifer flux: **C D Soto**, T Meixner, T A Ferre

0800h **H11F-0900 POSTER** Discharge gauging without a hydrologist (*Invited*): **M Weiler**, M Grether, E Blattmann

0800h **H11F-0901 POSTER** Monitoring Mountain Meteorology without Much Money (*Invited*): **J D Lundquist**

0800h **H11F-0902 POSTER** Weighing trees – tree rainfall interception measured by stem compression: **J Friesen**, C van Beek, J S Selker, H Savenije, N Van De Giesen

0800h **H11F-0903 POSTER** Affordable Acoustic Disdrometer: Design, Calibration, Tests: **N Van De Giesen**, C Degen, R Hut

0800h **H11F-0904 POSTER** Multi-functional measurement devices for vadose zone characterization (*Invited*): **J W Hopmans**

0800h **H11F-0905 POSTER** A line source tracer test - a better method for assessing high groundwater velocity: **E Magal**, N Weisbrod, A Yakirevich, D Kurtzman, Y Yechieli

0800h **H11F-0906 POSTER** Using Nanotechnology to Identify and Characterize Hydrological Flowpaths: **A N Sharma**, M T Walter, D Luo

0800h **H11F-0907 POSTER** Wii mote as hydrological sensor: observation of water level fluctuations: W Luxemburg, **R Hut**, S Weijs, M Hegnauer

H11G Moscone West: 3011 Monday 0800h
Applications of Hydrologic Remote Sensing Data I: Advances Toward the Soil Moisture Active Passive (SMAP) Mission

Presiding: **J D Bolten**, NASA GSFC; **D Entekhabi**, MIT; **T R Holmes**, USDA ARS

0800h **H11G-01** Informing radar retrieval algorithm development using an alternative soil moisture validation technique: **W T Crow**, W Wagner

0815h **H11G-02 PALS OBSERVATIONS DURING THE SMAPVEX08 EXPERIMENT:** **R Bindlish**, T J Jackson, M H Cosh, S H Yueh, S Dinardo

0830h **H11G-03** Bias and Random Error Estimates of SMAP Radiometric Soil Moisture Measurements: **A G Konings**, D Entekhabi, S Chan, E G Njoku

0845h **H11G-04** MoistureMap: A soil moisture monitoring, prediction and reporting system for sustainable land and water management: **C Rudiger**, J P Walker, D J Barrett, R J Gurney, Y H Kerr, E J Kim, J LeMarshall

0900h **H11G-05** Passive Microwave Observations of Soil Moisture and Dew in Soil Moisture Experiments 2005 (SMEX05): **J Du**, T J Jackson, R Bindlish, M H Cosh, L Li, B K Hornbuckle

0915h **H11G-06** Retrieval of Surface and Subsurface Moisture of Bare Soil Using Simulated Annealing: **A Tabatabaenejad**, M Moghaddam

0930h **H11G-07** Assimilation of Satellite Observed Soil Moisture into the Noah Land Surface Model Using the 3-D EnKF Technique: **A K Sahoo**, G J De Lannoy, R H Reichle, P R Houser, L Dumenil-Gates

0945h **H11G-08** Development of Global High Resolution Soil Moisture Product from the SMAP mission: **N Das**, D Entekhabi, E G Njoku

H11H Moscone West: 3009 Monday 0800h
Flow and Transport in Complex Porous Media I

Presiding: **J Niessner**, University of Stuttgart; **S M Hassanizadeh**, Utrecht University

0800h **H11H-01** Examining the Influence of Pore Size Distribution and Geometry on Flow through Unsaturated Peat using 3D Micro-CT Scanning: **F Rezanezhad**, W L Quinton, J S Price, D Elrick, T Elliot, K Shook

0815h **H11H-02** Characterization of fluid micro-structures in porous media and their relation to wettability: **Z T Karpyn**, M Piri, G Singh, C J Landry

0830h **H11H-03** Model of Transport Across Sharp Interfaces Between Porous Materials: **A Cortis**, A Zoia

0845h **H11H-04** Local avalanche dynamics of imbibition fronts: towards critical pinning: **S santucci**, R Planet, J Ortin, K Måløy

0900h **H11H-05** Pore Network Modeling of Capillary Pressure – Saturation Relations Through Retention Cells and Equilibrium Fluid Distributions in Long Columns: **R Glantz**, M Hilpert

0915h **H11H-06** Diffusional Transport of Organic Solutes in Subsurface Clay Lenses and Layers: **A H Demond**, D Ayrál, M N Goltz

0930h **H11H-07** Experimental investigation of the relationship among capillary pressure, saturation, and interfacial area in a 2D micromodel under equilibrium and non-equilibrium conditions: **S Bottero**, S M Hassanizadeh, L J Pyrak-Nolte

0945h **H11H-08** Dynamic Measurements of Interfacial Area and Saturation During Drainage in Model Porous Media: P Tortora, **D Crandall**, G S Bromhal, S Anna, M Ferer, D H Smith

H1 I1 Moscone West: 3005 Monday 0800h
Hydrologic Predictions in a Changing Environment I (joint with B, GC)

Presiding: **B L Ruddell**, Arizona State University; **T Wagener**, Penn State University

0800h **H11I-01** Inter-annual and inter-catchment variability of hydrologic partitioning: The importance of the Horton index to improve hydrologic predictions in a changing environment (*Invited*): **P A Troch**, M Sivapalan, B L Ruddell, P D Brooks, M Durcik, G McGrath

0820h **H11I-02** Optimal Leaf Water Use Drives Ecosystem Water and Carbon Fluxes in a Changing Environment (*Invited*): **S Manzoni**, G Vico, G G Katul, P A Fay, W Polley, S Palmroth, A M Porporato

0840h **H11I-03** Projecting Changes in Catchment Water Availability using a Budyko Framework (*Invited*): **M L Roderick**, G D Farquhar

0900h **H11I-04** Hydrology-Vegetation Interactions Under Climate and Population Pressures: Bridging Ecology, Turbulence, and Water Resources (*Invited*): **J D Albertson**, N Montaldo

0920h **H11I-05** On the characterization of anthropogenic streamflow regime alterations: the case of the Piave river basin: **G Botter**, S Basso, A M Porporato, I Rodriguez-Iturbe, A Rinaldo

0940h **H11I-06** Impact of Weather Modification and Land Cover Change on Streamflow: C Moser, **H Stephen**, G A Tootle, T C Piechota

H1 I1 Moscone West: 3007 Monday 0800h
Integrity of CO₂ Sequestration Reservoirs: Mechanisms Controlling Subsurface Trapping of CO₂ and CO₂ Flow Within Fractures, Faults, and Wellbore Interfaces I (joint with GC)

Presiding: **J W Carey**, Los Alamos National Laboratory; **B G Kutchko**, US-DOE/NETL

0800h **H11J-01** The Influence of Seal Properties on Pressure Buildup and Leakage of Carbon Dioxide from Sequestration Reservoirs (*Invited*): **S M Benson**, E Chabora

0815h **H11J-02** Hydromechanical Simulations of Surface Uplift due to CO₂ Injection at In Salah (*Invited*): **J P Morris**, Y Hao, W Foxall, W W McNab

0830h **H11J-03** Convective CO₂ dissolution: Analog experiments and direct numerical simulations: **J A Neufeld**, M A Hesse, A Riaz, H A Tchelepi, H E Huppert

0845h **H11J-04** A coupled water chemistry and corrosion model for high salinity-high CO₂ environments with application to wellbore integrity in CO₂ sequestration: **J Han**, J W Carey, J Zhang

0900h **H11J-05** Is there a universal instability in a convectively-driven dissolution front?: **T Ladd**, P Szymczak

0915h **H11J-06** Permeability of the South Ellwood Fault, Offshore Santa Barbara, California: **J R Boles**, S Horner, G Garven

0930h **H11J-07** Alteration of Variable-Aperture Fractures by Precipitation and Dissolution Resulting from Thermal Gradients: Computational Results, Stochastic Analysis and Upscaling (*Invited*): **H Rajaram**, A Chaudhuri, H S Viswanathan

0945h **H11J-08** CO₂ storage capacity estimates from fluid dynamics (*Invited*): **R Juanes**, C W MacMinn, M Szulczewski

Earth and Space Science Informatics

IN I1A Moscone South: Poster Hall Monday 0800h
Challenges in Achieving Earth System Model Interoperability Posters (joint with A, B, H, EP, OS, NS)

Presiding: **O David**, CSU; **B (Jagers)**, Deltares; **S D Peckham**, University of Colorado Boulder; **J L Goodall**, University of South Carolina

0800h **IN11A-1038 POSTER** Ontologies: Semantic Nirvana for Earth Science Model Interoperability? (*Invited*): **J Graybeal**

0800h **IN11A-1039 POSTER** An Integrated Hydrology/Hydraulic and Water Quality Model for Watershed-scale Simulations: **C Wang**, G Yeh

0800h **IN11A-1040 POSTER** Integrating atmospheric and surface process models: Why software engineering is like having weasels rip your flesh (*Invited*): **J Galewsky**

0800h **IN11A-1041 POSTER** CHPS - an NWS development to enter the interoperability era: **P Gijsbers**, L Cajina, C Dietz, J Roe, E Welles

0800h **IN11A-1042 POSTER** Constrained Interpolation for Remapping in ESMF: **R O'Kuinghttons**, A St-Cyr, R Oehmke

0800h **IN11A-1043 POSTER** Comparing tightly coupled and loosely coupled paradigms for modeling hydrologic systems: **A M Castronova**, J L Goodall

0800h **IN11A-1044 POSTER** Use of Annotations for Component and Framework Interoperability: **O David**, W Lloyd, J Carlson, G H Leavesley, F Geter

0800h **IN11A-1045 POSTER** Componentizing, standardizing and visualizing: How CSDMS is building a new system for integrated modeling from open-source tools and standards: **S D Peckham**, E Hutton

0800h **IN11A-1046 POSTER** Utilizing Model Interoperability and High Performance Computing to Enhance Dust Storm Simulation: **Q Huang**, C Yang, J Xie, H Wu, J Li

0800h **IN11A-1047 WITHDRAWN**

0800h **IN11A-1048 POSTER** A web accessible data management system for the Hanford 300 Area IFRC: **R J Versteeg**, A Henrie, S Ahir, P C Lichtner, M L Rockhold, C J Murray

0800h **IN11A-1049 POSTER** A WorkFlow Engine Oriented Modeling System for Hydrologic Sciences: **B Lu**, M Piasecki

IN I1B Moscone South: Poster Hall Monday 0800h
Data Fusion: Issues, Barriers, and Approaches Posters (joint with A, B, C, ED, H, H, H, GC, OS, NH, PA)

Presiding: **P A Fox**, Rensselaer Polytechnic Inst.; **P C Dibner**; **D K Arctur**, Open Geospatial Consortium, Inc.

0800h **IN11B-1050 WITHDRAWN**

0800h **IN11B-1051 POSTER** An OpenEarth Framework (OEF) for Integrating and Visualizing Earth Science Data: **J L Moreland**, D R Nadeau, C Baru, C J Crosby

0800h **IN11B-1052 POSTER** Improving Land Use Land Cover Classification in Remote Sensing Data Using Adaptive Image Fusion: Z D Bergen, **D Hulslander**

0800h **IN11B-1053 POSTER** Real-time Environmental Monitoring from a Wind Farm Platform in the Texas Hypoxic Zone: **R L Mullins**, S F Dimarco, J N Walpert, N L Guinasso, M K Howard

0800h **IN11B-1054 POSTER** Multi-Sensor Data Synergy Advisor: **G G Leptoukh**, C Lynnes, P A Fox, A I Prados, S Shen, S Zednik, P West

0800h **IN11B-1055 POSTER** Ontology-aided Data Fusion (*Invited*): **R Raskin**

0800h **IN11B-1056 POSTER** Integrated modelling requires mass collaboration (*Invited*): **R V Moore**

0800h **IN11B-1057 POSTER** Integrated modeling of natural and human systems – problems and initiatives: H Kessler, J Giles, J Gunnink, A Hughes, R V Moore, **D Peach**

0800h **IN11B-1058 POSTER** Social and Personal Factors in Semantic Infusion Projects: **P West**, P A Fox, D L McGuinness

IN11C Moscone South: Poster Hall Monday 0800h
Earth Science Software Reuse: Experiences and Challenges Posters (*joint with A, B, C, GC, OS*)

Presiding: **R R Downs**, Columbia University; **R E Wolfe**

0800h **IN11C-1059 POSTER** Re Use Tradeoffs: A Case Study of Software Reuse within the NPP Mission (*Invited*): **R Gerard**, J J Marshall

0800h **IN11C-1060 POSTER** Mercury: Reusable software application for Metadata Management, Data Discovery and Access: **R Devarakonda**, G Palanisamy, J Green, B E Wilson

0800h **IN11C-1061 POSTER** Measuring Software Reusability for Scientific Data Systems: J J Marshall, R R Downs, **R S Gerard**

0800h **IN11C-1062 POSTER** Experiences with Using the SciFlo Grid Workflow System to Construct a Generic Data Subsetting and Reformatting System: **R J Walter**, P L Rinsland

0800h **IN11C-1063 POSTER** Inside Autoplot: an Interface for Representing Science Data in Software: **J B Faden**, R S Weigel, J D Vandegriff, R H Friedel, J Merka

0800h **IN11C-1064 POSTER** Software reuse example and challenges at NSIDC: **B W Billingsley**, M Brodzik, J A Collins

0800h **IN11C-1065 POSTER** OOSTethys - Open Source Software for the Global Earth Observing Systems of Systems: **E Bridger**, L E Bermudez, M Maskey, C Rueda, B L Babin, R Blair

IN11D Moscone South: Poster Hall Monday 0800h
Management and Dissemination of Earth and Space Science Models Posters

Presiding: **B Thrasher**, Climate Central; **T A O'Brien**, University of California, Santa Cruz

0800h **IN11D-1066 WITHDRAWN**

0800h **IN11D-1067 POSTER** Processing Community Model Output: An Approach to Community Accessibility (*Invited*): **D Shea**, M Haley

0800h **IN11D-1068 POSTER** Ancient Secrets of Open-Source Geoscience Software Management (*Invited*): **C S Zender**

0800h **IN11D-1069 POSTER** The CCSM4 Sea Ice Component and the Challenges and Rewards of Community Modeling: **D A Bailey**, M M Holland, M Vertenstein, E C Hunke

0800h **IN11D-1070 POSTER** Fostering Team Awareness in Earth System Modeling Communities: **S M Easterbrook**, A Lawson, S Strong

IN11E Moscone South: I02 Monday 0800h
Next Generation Distributed Data Access, Diagnostics, and Collaborations for Climate and Weather Models I (*joint with A*)

Presiding: **G K Rutledge**, NOAA NCDC; **M W Govett**, NOAA

0800h **IN11E-01** Data extraction tool and colocation database for satellite and model product evaluation (*Invited*): **S Ansari**, H Zhang, J L Privette, S Del Greco, M Urzen, Y Pan, R B Cook, B E Wilson, Y Wei

0815h **IN11E-02** GEOSS AIP-2 Climate Change and Biodiversity Use Scenarios: Interoperability Infrastructures (*Invited*): **S Nativi**, M Santoro

0830h **IN11E-03** NOAA's National Climate Model Portal (NCMP): NOMADS Next?: **G K Rutledge**, J C Alpert, D Swank

0845h **IN11E-04** Policy-based Distributed Data Management: **R W Moore**

0900h **IN11E-05** NOAA Operational Model Archive Distribution System (NOMADS): High Availability Applications for Reliable Real Time Access to Operational Model Data: **J C Alpert**, J Wang

0915h **IN11E-06** GeoBrain Computational Cyber-laboratory for Earth Science Studies: **M Deng**, L Di

0930h **IN11E-07** A Portable Regional Weather and Climate Downscaling System Using GEOS-5, LIS-6, WRF, and the NASA Workflow Tool: **E M Kemp**, W M Putman, J Gurganus, R W Burns, M R Damon, G R Mcconaughey, M S Seablom, G S Wojcik

0945h **IN11E-08** Integration of GFDL Data Portal into FMS Runtime Environment (FRE) modeling framework: **S Nikonov**, V Balaji, C Rehbein, Y Malysheva

Natural Hazards

NH11A Moscone South: Poster Hall Monday 0800h
Severe Storms and Sea Level Rise: A Challenge to Science and Society I Posters (*joint with A, G, GC, T, PA, OS, H*)

Presiding: **H Plag**; **A H Sallenger**, U.S. Geological Survey

0800h **NH11A-1097 POSTER** Impact of Sea Level Rise on the Low Land Area South East of Alexandria, Egypt: **H M El-Askary**, M El-Hattab, M El-Raey, M Kafatos

0800h **NH11A-1098 POSTER** Model Projections of Rapid Sea-Level Rise on the Northeast Coast of the United States: **J Yin**, M Schlesinger, R J Stouffer

0800h **NH11A-1099 POSTER** Phase I for the use of TOPEX-Poseidon and Jason-1 Radar Altimetry to Monitor Coastal Wetland Inundation and Sea Level Rise in Coastal Louisiana: **M Brozen**, M Batina, C Brooks, S Parker

0800h **NH11A-1100 POSTER** Sea Level Variations in the Regional Seas Around Taiwan: **Y Tseng**, L C Breaker, E Chang

0800h **NH11A-1101 POSTER** Integrating Terrestrial Hydrology and Coastal Ecology: Understanding Cholera Dynamics using Remote Sensing Data: **S Islam**, A S Jutla, A S Akanda

0800h **NH11A-1102 WITHDRAWN**

0800h **NH11A-1103 POSTER** A track-relative climatology of hurricanes affecting Eglin Air Force Base: **K Scheitlin**, J Elsner

0800h **NH11A-1104 WITHDRAWN**

0800h **NH11A-1105 POSTER** Reconstruction of paleostorm history using geochemical proxies in sediment cores from Eastern Lake, Florida: **O Das**, Y Wang, J F Donoghue, J L Coor, S Kish, J Elsner, X B Hu, A W Niedoroda, M Ye, Y Xu

0800h **NH11A-1106 POSTER** Sediment Analysis Network for Decision Support (SANDS): **D M Hardin**, K Keiser, S J Graves, H Conover, S Ebersole

0800h **NH11A-1107 POSTER** Offshore Transport of Sediment During Cyclonic Storms: Hurricane Ike (2008), Texas Gulf Coast, USA: **J A Goff**, M A Allison, S P Gulick

0800h **NH11A-1108 POSTER** Louisiana Natural Disasters and Ecological Forecasting: Assessment of Tropical Cyclone Induced Transgression of the Chandeleur Islands for Restoration and Wildlife Management: **R R Reahard**, B S Mitchell, L M Childs, A Billiot, T Brown

0800h **NH11A-1109 POSTER** Development of a Long-Term Storm History for the Northwest Florida Coast Using Multiple Proxies: **J L Coor**, J Donoghue, Y Wang, O Das, S Kish, J Elsner, X B Hu, A W Niedoroda, M Ye

0800h **NH11A-1110 POSTER** Coastal Lake Record of Holocene Paleo-Storms from Northwest Florida: **J F Donoghue**, J L Coor, Y Wang, O Das, S Kish, J Elsner, X B Hu, A W Niedoroda, M Ye

0800h **NH11A-1111 POSTER** Measuring Bathymetry, Runup, and Beach Volume Change during Storms: New Methodology Quantifies Substantial Changes in Cross-Shore Sediment Flux: **K L Brodie**, J E McNinch

NH11B Moscone West: 3001 Monday 0800h
Multidisciplinary Approach to Earthquake Forecast and Prediction I (*joint with A, G, GP, T, SA, S, MR, V*)

Presiding: **D P Ouzounov**, NASA/GSFC; **J G Liu**

0800h **NH11B-01** On Verification of Earthquake Precursors (*Invited*): **V G Kossobokov**

0815h **NH11B-02** An overview of the development and progress in the lithosphere-atmosphere-ionosphere coupling (LAIC) model. (*Invited*): **S A Pulinets**

0830h **NH11B-03** Natural Time Analysis of Phenomena Preceding Earthquakes (*Invited*): **S Uyeda**, P Varotsos

0845h **NH11B-04** To Catch a Fish . . . You Need to Go where the Fish Are! (*Invited*): **A C Fraser-Smith**

0900h **NH11B-05** In-situ stressing of rock: Observation of infrared emission prior to failure: **R Dahlgren**, F T Freund, M Momayez, T E Bleier, C Dunson, P Jogerst, K Jones, S Wang

0915h **NH11B-06** In-situ stressing of rock: Observation of Ultra Low Frequency (ULF) magnetic signals and ion emissions detected prior to failure: **T E Bleier**, F T Freund, R Dahlgren, C Dunson

0930h **NH11B-07** Variations of ionospheric parameters observed by the satellite DEMETER during seismic activity: **M Parrot**

0945h **NH11B-08** Satellite study of electromagnetic perturbations connected with seismic activity: **F Nemec**, O Santolik, M Parrot, D Pisa

Ocean Sciences

OS11A Moscone South: Poster Hall Monday 0800h
Advances in Scientific Drilling and Operational Oceanography Posters (*joint with PP*)

Presiding: **L Lembke-Jene**

0800h **OS11A-1150 POSTER** Enabling Technology for the Exploration of the Arctic Ocean - Multi Channel Seismic Reflection data acquisition: **B Coakley**, R Anderson, D N Chayes, S Goemmer, M Oursler

0800h **OS11A-1151 POSTER** TOWARDS A GLOBAL OCEAN MESOSCALE MONITORING: **B Tranchant**, R Bourdalle-Badie, E Greiner, C Derval, C Testut

0800h **OS11A-1152 POSTER** NEPTUNE Canada Regional Cabled Ocean Observatory: Installed and Online!: **C R Barnes**, M Best, B Bornhold, F Johnson, P Phibbs, B Pirenne

0800h **OS11A-1153 POSTER** Long Term Borehole Monitoring System For NanTroSEIZE 3.5 km Riser Hole: Environmental Life Test and Land Test: **M Kyo**, E Araki, H Ito

0800h **OS11A-1154 POSTER** Instrument developments for chemical and physical characterization, mapping and sampling of extreme environments (Antarctic sub ice environment): **S W Vogel**, R D Powell, I Griffith, T Lawson, S Schiraga, G Ludlam, J Oen

0800h **OS11A-1155 POSTER** A New Method of Salinometry: **I Shkvorets**, F Johnson

0800h **OS11A-1156 POSTER** Multivariate Multi-data Assimilation System in Regional Model with High Resolution: **M Benkiran**, R Bourdalle-Badie, Y Drillet, E Greiner, J Chanut

OS11B Moscone West: 3003 Monday 0800h
New Insights From Integrated Multidisciplinary Studies of Oceanic Spreading Center Processes: Ridge 2000 Research I (*joint with T, B, V*)

Presiding: **K H Rubin**, Univ Hawaii; **D J Fornari**

0800h **OS11B-01** Near-axis melt anomalies and segmentation of axial melt: a common framework for the EPR and Endeavour ISS? (*Invited*): **S M Carbotte**, M R Perfit, J B Gill, D Kelley, J Canales, M Nedimovic, H D Carton

0815h **OS11B-02** CHARACTERISTICS OF THE CRUSTAL MAGMA BODY IN THE 2005-2006 ERUPTION AREA AT 9° 50'N ON THE EAST PACIFIC RISE FROM 3D MULTI-CHANNEL SEISMIC DATA: **H D Carton**, S M Carbotte, J C Mutter, J Canales, M R Nedimovic, M Marjanovic, O Aghaei, M Xu, S Han, L Stowe

0830h **OS11B-03** Volcanic eruption and emplacement during the 2005-06 magmatic event at the East Pacific Rise R2K Integrated Study Site (*Invited*): **S Soule**, K H Rubin, D J Fornari, M R Perfit, V Ferrini, S M White, T M Shank, A T Fundis, D Nakata, M Tivey, A R Goss

0845h **OS11B-04** Evolution of the 9° 50'N East Pacific Rise Hydrothermal System from Earthquake Data: **M Tolstoy**, F Waldhauser, L Doermann

0900h **OS11B-05** Structure and dynamics of ridge axial melt lenses in the Oman ophiolite: **A J Nicolas**, F I Boudier

0915h **OS11B-06** Hydrothermal Heat Extraction at the Center of Slow-Spreading Mid-Ocean Ridges : Controls by Fault Systems and Focused Magmatism: **F J Fontaine**, J Escartin, M Cannat

0930h **OS11B-07** Melting the Hydrothermally Altered Sheeted Dike Complex: Experiments and Chemical Compositions: L France, **B Ildefonse**, J Koepke, C J MacLeod, M Godard

0945h **OS11B-08** Enabling Integration and Synthesis through the Ridge 2000 Data Portal: W B Ryan, **V Ferrini**, S M Carbotte, S O'Hara, R A Arko, J Bonczkowski, S Chan

Planetary Sciences

P11A Moscone South: Poster Hall Monday 0800h
Organics in Meteorites and Dust Particles: Composition, Distribution, Formation, and Isotopic Anomalies I Posters (*joint with B*)

Presiding: **G D Cody**, Geophysical Laboratory

0800h **P11A-1193 POSTER** Meteoroid Delivery of Aromatic Compounds to Mars: **M Templeton**, M E Kress

0800h **P11A-1194 POSTER** Mass spectra of organic and inorganic dust particles measured by an impact ionization mass analyzer instrument: J G Salter, **Z Sternovsky**, R Srama, F Postberg, S Kempf, S P Armes, E Gruen, M Horanyi, K Drake, A Westphal

0800h **P11A-1195 POSTER** *In situ* characterization of organic matter in two primitive chondrites through correlated microanalytical techniques: **A M Wende**, L Nittler, A Steele, C D Herd

0800h **P11A-1196 POSTER** Detection of Non-aromatic Organic Compounds in Meteorites using Imaging Laser Desorption/Ionization Fourier Transform Ion Cyclotron Resonance Mass Spectrometry: **J R Scott**, N W Hinman, C D Richardson, R C Mahon, T R McJunkin

0800h **P11A-1197 POSTER** Heterogeneous Chemical Transformation of Incident Exogenous Organic Material in Earth's Upper Atmosphere: **C L Belle**, M E Kress, L T Iraci

0800h **P11A-1198 POSTER** Survival of primordial organic compounds during planetary accretion: **W Montgomery**, E Jennings, P Lerch, D Sherman

0800h **P11A-1199 POSTER** Comparison of the Organic Composition of Cometary Samples with Residues Formed from the UV Irradiation of Astrophysical Ice Analogs: **M Nuevo**, G Cody, D Kilcoyne, S N Milam, S Sandford

P11B Moscone South: Poster Hall Monday 0800h
Planetary Plasma Interactions and Atmospheric Escape I
Posters (*joint with A, SM*)

Presiding: **F Duru**, University of Iowa; **E C Sittler**, NASA/Goddard SFC

0800h **P11B-1200 POSTER** Loss of Atmosphere by Solar Wind in Magnetic Planets: **H Durand**

0800h **P11B-1201 POSTER** Estimation of the erosion rate of Venus ionosphere due to viscous like interaction with the solar wind: **M Reyes-Ruiz**, H A Perez De Tejada, H Aceves

0800h **P11B-1202 POSTER** Hybrid Simulations of Venus: **S H Brecht**, S A Ledvina

0800h **P11B-1203 POSTER** Energetics of the Oxygen Ion Escape From Venus in a Hybrid Simulation: **R Jarvinen**, E J Kallio, P Janhunen, T Zhang, S Barabash, V Pohjola, I Sillanpaa

0800h **P11B-1204 POSTER** Pioneer Venus Orbiter (PVO) Ionosphere Evidence for Atmospheric Escape: **J M Grebowsky**, W R Hoegy

0800h **P11B-1205 POSTER** An Improved Short Study of Ionospheric Photoelectrons at Venus: **S M Tsang**, A J Coates, G H Jones, R A Frahm, J D Winningham, A Fedorov, S Barabash, R Lundin

0800h **P11B-1206 POSTER** Ion cyclotron waves at unmagnetized bodies: a comparison of Mars, Venus and Titan: **H Wei**, C T Russell, M Cowee, X Blanco-Cano, T Zhang, M K Dougherty

0800h **P11B-1207 POSTER** Proton cyclotron waves at Mars revisited: **C X Mazelle**, C Bertucci, J Trotignon, K Sauer, J Bertaux, J Chaufray

0800h **P11B-1208 POSTER** MAGNUS FORCE EFFECTS IN THE ROTATING IONOSPHERES OF VENUS AND MARS: **H A Perez De Tejada**, R Lundin

0800h **P11B-1209 POSTER** Dynamics of pick-up ions in turbulent electromagnetic fields in the magnetic polar regions of Mars ionosheath: **H Aceves**, M Reyes-Ruiz, H A Perez De Tejada

0800h **P11B-1210 POSTER** Ion Dynamics and Composition in the coma of Comet 19P/Borrelly as measured by Deep Space One: **A M Jessop**, D B Reisenfeld, D C Boice, R Harper, P Janzen, J D Williams

0800h **P11B-1211 POSTER** The 2013 Mars Atmosphere and Volatile Evolution (MAVEN) Mission to Mars: **B M Jakosky**

0800h **P11B-1212 POSTER** Photochemical Escape of Atomic Carbon from Mars: **J L Fox**, A B Hac

0800h **P11B-1213 POSTER** A 3D Multi-fluid MHD Study of the Interaction of the Solar Wind with the Ionosphere/Atmosphere System of Mars: **D Najib**, A F Nagy, Y Ma, G Toth

0800h **P11B-1214 POSTER** Statistical Study of Flux Ropes in the Martian Upper Atmosphere: **J A Briggs**, D A Brain, J P Eastwood, J S Halekas

0800h **P11B-1215 POSTER** Energy Deposition by Energetic Protons in the Upper Atmosphere of Mars: **D A Brain**, G T Delory, R J Lillis, J G Luhmann, S W Bougher, C D Parkinson

0800h **P11B-1216 POSTER** Particle Precipitation Into Jovian and Saturnian Thermosphere and Exosphere: **C D Parkinson**, M W Liemohn, X Fang, S W Bougher, Y L Yung

0800h **P11B-1217 POSTER** Protons precipitation onto the Martian atmosphere: Mars Express observations: C Dieval, S Barabash, H Nilsson, Y Futaana, **M Holmstrom**, A Fedorov, D A Brain

0800h **P11B-1218 POSTER** Effects on the Martian Plasma Environment during CMEs: **T V Falkenberg**, S Vennerstrom, D A Brain, G T Delory, A Taktakishvili

0800h **P11B-1219 POSTER** Variability of O⁺, O²⁺ and CO²⁺ outflow at Mars: **L Andersson**, R E Ergun, I Stewart

0800h **P11B-1220 POSTER** Steep, Transient Density Gradients in the Martian Ionosphere Similar to the Ionopause at Venus: **F Duru**, D A Gurnett, R A Frahm, J D Winningham, D D Morgan, G G Howes

0800h **P11B-1221 POSTER** Analysis of Photoelectron Observations on the Strong Crustal Field Lines at Mars: **M R Trantham**, M W Liemohn, D Mitchell, J Frank

0800h **P11B-1222 POSTER** MGS nighttime observations of bi-directional electron conics over the moderate crustal magnetic sources on Mars: **D Ulusen**, D A Brain, D Mitchell

0800h **P11B-1223 POSTER** The Martian night-side ionosphere observed by Mars Express ionospheric sounding: D Kirchner, **D D Morgan**, D A Gurnett, R J Lillis, M O Fillingim

0800h **P11B-1224 POSTER** Data-model comparisons of the nightside ionosphere of Mars: joint constraints on neutral densities and electron temperatures: **R J Lillis**, M O Fillingim, D D Morgan, D A Brain, S England, D A Gurnett

0800h **P11B-1225 POSTER** Ionospheric conductivities at planets and planet-like bodies without internal magnetic field: **H J Opgenoorth**, L Rosenqvist, R S Dhillon, M Lester, P Withers, D A Brain

0800h **P11B-1226 POSTER** Flowing Afterglow Studies of Temperature Dependencies for Electron Dissociative Recombination of HCNH⁺, CH₃CNH⁺ and CH₃CH₂CNH⁺ and Their Symmetrical Proton Bound Dimers: **J L McLain**, N G Adams

0800h **P11B-1227 POSTER** Energetic Neutral Atoms from Titan: Particle-Simulations in Draped Magnetic and Electric Fields: **V Wulms**, J S Saur, D F Strobel, S Simon, D G Mitchell

0800h **P11B-1228 POSTER** Energetics of Titan's Ionosphere: Model and Cassini Data Comparisons: **M S Richard**, T E Cravens, I P Robertson, J H Waite, J Wahlund, F J Crary, A J Coates

0800h **P11B-1229 POSTER** Hybrid Simulations of Titan's Plasma Interaction: **S A Ledvina**, S H Brecht

0800h **P11B-1230 POSTER** Titan's induced magnetosphere under variable upstream conditions: **C Bertucci**, I Sillanpaa, E C Sittler, N Sergis, R Modolo, A Rymer, R L Tokar, M K Dougherty, D T Young, S M Krimigis, W S Kurth

0800h **P11B-1231 POSTER** Dynamical and Magnetic Field Time Constants for Titan's Ionosphere - Empirical Estimates: **T E Cravens**, M S Richard, Y Ma, C Bertucci, J G Luhmann, S A Ledvina, I P Robertson, J Wahlund, K Agren, J Cui, I C Mueller-Wodarg, J H Waite, M K Dougherty, J M Bell, D Ulusen

0800h **P11B-1232 POSTER** Methane Group Ions in Saturn's Outer Magnetosphere?: **E C Sittler**, R E Hartle, J F Cooper, R E Johnson, H Smith, M Shappirio, D B Reisenfeld

0800h **P11B-1233 POSTER** Mechanisms for the Production of Energetic Atomic Hydrogen from Dissociation of Molecular Hydrogen on Saturn: **X Liu**, P V Johnson, C P Malone, J A Young, I Kanik, D E Shemansky

PIIC Moscone South: Poster Hall Monday 0800h
Small Bodies and Meteorites Posters

Presiding: **K Hutchins**, University of New Mexico

0800h **P11C-1234 POSTER** A large crater as a probe of the internal structure of the E-type asteroid Steins: **M Jutzi**, P Michel, W Benz

0800h **P11C-1235 POSTER** PHYSICAL PROPERTIES OF STEINS' CRATERS: **S Besse**, P L Lamy, S Marchi, L Jorda

0800h **P11C-1236 POSTER** Visible-Wavelength Integrated Spectroscopy of Binary Asteroids: **A E Reiss**, F Marchis, J P Emery

0800h **P11C-1237 POSTER** Characterizing the scale lengths of CN and C2 in the inner comae of the B and C fragments of comet 73P/Schwassman-Wachmann 3: **S Hosseini**, M Vincent, W Harris

0800h **P11C-1238 POSTER** Growth of dust rims around chondrules in MHD-turbulent protoplanetary disks: **A Carballido**

0800h **P11C-1239 POSTER** Testing of an H-chondrite as a Candidate for the Bulk Martian Mantle Composition: **K Hutchins**, C B Agee, D S Draper

0800h **P11C-1240 POSTER** Characterizing Pyroxene Reaction Space in Calcium-Aluminum Rich Inclusions: Oxidation During CAI Rim Formation: **K A Dyl**, E D Young

0800h **P11C-1241 POSTER** Silicon Carbide Clusters Found in the Canyon Diablo Meteorite: Implications of Cooling Histories for Group IAB Meteorites: **I S Leung**, R Winston

P13A Moscone South: Poster Hall Monday 0800h
A Detailed Look at Alteration Processes on Mars III Posters
(joint with EP)

Presiding: **J W Ashley**, Arizona State University

0800h **P13A-1242 POSTER** Silica Deposits in the Nili Patera Volcanic Caldera, Syrtis Major, Mars: **J R Skok**, J F Mustard, B L Ehlmann, R Milliken, S L Murchie

0800h **P13A-1243 POSTER** Vis-NIR Spectroscopy of Mineral Mixtures with Montmorillonite and Silica: Implications for Detecting Alteration Products on Mars: **E B Rampe**, M D Kraft, T G Sharp

0800h **P13A-1244 POSTER** Mineralogy of Libya Montes, Mars: **K A Perry**, J L Bishop, N K McKeown

0800h **P13A-1245 POSTER** Characterizing Mafic, Clay, and Carbonate Components found in MRO/CRISM Images in Libya Montes, Mars, using Advances in Automated Gaussian Modeling of Spectral Features: **H D Makarewicz**, M Parente, K A Perry, N K McKeown, J L Bishop

0800h **P13A-1246 POSTER** Alteration Mineralogy of Adirondack-class Rocks in Gusev Crater, Mars: **V E Hamilton**, S W Ruff

0800h **P13A-1247 POSTER** Pancam Multispectral Observations of the Block Island meteorite, Meridiani Planum, Mars: **J R Johnson**, W M Calvin, W H Farrand, K E Herkenhoff, R V Morris, J W Ashley, E M Lee, J F Bell, C M Weitz

0800h **P13A-1248 POSTER** Evidence for Physical Weathering of Iron Meteorite Meridiani Planum (Heat Shield Rock) on Mars: **J W Ashley**, T J McCoy, C Schröder

0800h **P13A-1249 POSTER** Spectral variation and alteration across the Cumberland Ridge outcrops, Columbia Hills, Mars: **S B Cole**, A T Knudson, M S Rice, S W Squyres

0800h **P13A-1250 POSTER** Recent Spirit Rover Results: Morphological and Textural Analysis of Sulfate-Rich Soils to the West of Home Plate: **K Siebach**, R E Arvidson, R V Morris, R Gellert, A Wang

0800h **P13A-1251 POSTER** Spectral and Textural Changes Observed in Sulfate Soil Deposits at Gusev Crater, Mars: **M S Rice**, J F Bell, A Wang, J R Johnson, R E Arvidson

0800h **P13A-1252 POSTER** Constraints on the Nature of Hydrothermal Magmatic Fluids that can produce Sulfate-rich Alteration Assemblages on Mars: **H Nekvasil**, G K Ustunisik, F McCubbin

0800h **P13A-1253 POSTER** Composition and Mineralogy of Low Albedo Northern Circumpolar Deposits on Mars Using MGS/TES Data: **J F Bell**, B Horgan, E Z Noe Dobrea

0800h **P13A-1254 POSTER** Observations of Rock Organization on High Latitude Patterned Ground Terrains on Mars: **T C Orloff**, M A Kreslavsky, E I Asphaug, H Gray, A Maine

0800h **P13A-1255 POSTER** Search for buried high-grade water ice at low-to-mid latitudes of Mars using MONS neutron data: **W C Feldman**, B J Travis, S Maurice

0800h **P13A-1256 POSTER** Martian circumpolar sulfate-rich deposits: sublimation tills derived from the North Polar Cap: **M Masse**, O Bourgeois, S Le Mouélic, C Verpoorter, L Le Deit

0800h **P13A-1257 POSTER** A Mechanism for Near-Surface Water Ice on Mars: **B J Travis**, W C Feldman, S Maurice

0800h **P13A-1258 POSTER** Acid Brines on a Cool, Semi-Arid, Early Mars?: **S M Som**, D R Montgomery, K Benison, D LaClair

0800h **P13A-1259 POSTER** Compositions of Bedrock Containing Craters on Mars as Viewed by TES, THEMIS, and CRISM: **C S Edwards**, D Rogers, J L Bandfield, P R Christensen

0800h **P13A-1260 POSTER** Detection of Phyllosilicates on Mars from PFS Observations: A Maturilli, **J Helbert**, M D'Amore

0800h **P13A-1261 POSTER** Identification, repartition and possible origins of hydrated minerals in Capri/Eos Chasma (Mars), based on CRISM and HiRISE data: **J Flahaut**, C Quantin, P Allemand

0800h **P13A-1262 POSTER** Examining cemented inverted channel deposits in Green River, Utah as an analog for inverted terrain on Mars: **N Lanza**, C H Okubo, E B Rampe, A M Ollila, H E Newsom, S Yurchyk

0800h **P13A-1263 POSTER** Characterizing putative chloride salt deposits on Mars using THEMIS and TES data: **H B Jensen**, T D Glotch

0800h **P13A-1264 POSTER** Weathering and hydrothermal alteration of basalts in Iceland: mineralogy from VNIR, TIR, XRD, and implications for Mars: **B L Ehlmann**, J F Mustard, D L Bish

0800h **P13A-1265 POSTER** The Role of Impact Excavation in Distributing Clays Over Noachian Surfaces: **C J Barnhart**, F Nimmo

0800h **P13A-1266 POSTER** Identification and spatial distribution of light-toned deposits enriched in Al-phyllosilicates on the plateaus around Valles Marineris, Mars: **L Le Deit**, J Flahaut, C Quantin, P Allemand

0800h **P13A-1267 POSTER** Laboratory Experiments and Investigations on the Reaction Rates of Mg-sulfates Under Mars Relevant Conditions: **A Wang**, J J Freeman

0800h **P13A-1268 POSTER** Evidence for Unconformable Deposition of Hydrated Sulfate-bearing Evaporitic Deposits in Northern Sinus Meridiani, Mars: **S M Wiseman**, R E Arvidson, R V Morris, F Poulet, J L Bishop, J C Andrews-Hanna, D J Des Marais, J L Griffes, S L Murchie, F P Seelos

0800h **P13A-1269 POSTER** Evidence for Multiple Depositional Periods in Aram Chaos, Mars: **K A Lichtenberg**, R E Arvidson, R V Morris, S L Murchie, J L Bishop, D C Fernandez-Remolar, T D Glotch, E Z Noe Dobrea, J F Mustard, J C Andrews-Hanna, L Roach

0800h **P13A-1270 POSTER** K-Ar dating on Mars?: **P Gillot**, J Lefèvre, F Chiavassa, E Chassefiere

0800h **P13A-1271 POSTER** Automated Texture Classification of the Mawrth Vallis Landing Site Region: **M Parente**, L Bayley, L Hunkins, N K McKeown, J L Bishop

PIID Moscone South: 307 Monday 0800h
Mars Radar Investigations: Observations, Supporting Theoretical, Field, and Lab Work, and Future Opportunities I
(joint with NS)

Presiding: **S M Clifford**, LPI/USRA; **V Ciarletti**, LATMOS/IPSL

0805h **P11D-01** Radar Sounding of Mars with MARSIS: **J J Plaut**, G Picardi, R Orosei, D A Gurnett

0825h **P11D-02** Mars surface materials from MARSIS radar reflectivity: **W W Kofman**, J Mouginot, P Beck, A Pommerol, B Schmitt, C Grima, A Herique, A Safaenili, J J Plaut

0840h **P11D-03** The SHARAD Sounding Radar Explores Mars *(Invited)*: **R J Phillips**, R Seu, B A Campbell, J J Plaut, J W Holt, L M Carter, N E Putzig, S E Smrekar, D C Nunes, R Orosei

0900h **P11D-04** Radar Probing of Isidis and Amazonis Planetias: Exploring the Origin and the Bulk Composition of the Large Equatorial basins fills Using MARSIS and SHARAD data: **E Heggy**, J Boisson, S M Clifford, Y Gim, A Frigeri, J J Plaut

0915h **P11D-05** Radar Evidence For Past Ice Flow on Gemina Lingula in the North Polar Layered Deposits: **D P Winebrenner**, M R Koutnik, E D Waddington, J W Holt, I Smith, A Pathare, S Byrne, B King, R Knott

0930h **P11D-06** The WISDOM Radar onboard the Rover of the ExoMars mission *(Invited)*: **V Ciarletti**, C Corbel, D Plettemeier, S M Clifford, P Cais, S Hamran

0945h **P11D-07** Studying the Near-Surface Geology of Mars with Imaging Radar: **B A Campbell**, J J Plaut, J A Grant, A Freeman

Paleoceanography and Paleoclimatology

PPIIA Moscone South: Poster Hall Monday 0800h
Deep and Surface Water Coral Archives of Oceanographic Change I Posters *(joint with B, GC, OS)*

Presiding: **E Roark**, Texas A&M University; **T M Hill**, UC Davis

0800h **PP11A-1285 POSTER** Cold-water coral ecosystems in the Penmarc'h and Guilvinec canyons (Bay of Biscay): deep-water versus shallow water settings: L De Mol, D Van Rooij, **H Pirlet**, F Quemmerais, J Greinert, N Frank, J Henriot

0800h **PP11A-1286 POSTER** Li/Mg ratios in shallow- and deep-sea coral exoskeletons as a new temperature proxy: **P Montagna**, M López Correa, A Rüggeberg, M T McCulloch, S L Goldstein, R Rodolfo-Metalpa, E Douville, C Ferrier-Pagès, M Taviani, S Silenzi, C Mazzoli, J A Trotter, G M Henderson, A Freiwald, S Russo

0800h **PP11A-1287 POSTER** Distribution of Mg and Li in Deep-Sea Scleractinian Corals: Implications for "Vital Effects" and Deep-Sea Thermometry: **D H Case**, L F Robinson, M E Auro, A C Gagnon

0800h **PP11A-1288 POSTER** Sr/Ca as a Potential Proxy of Sub-surface Temperature Variability in C. secundum: **E Roark**, S J Fallon, T P Guilderson, R B Dunbar, M T McCulloch

0800h **PP11A-1289 POSTER** Neodymium isotopic composition of deep-sea corals from Rockall Trough: implications for past changes of hydrology during the Holocene: **C Colin**, N Frank, K Copard, E Douville

0800h **PP11A-1290 POSTER** Geochemical Signal Reproducibility in Sub-samples of Black Corals: **N Prouty**, E Roark, S Ross

0800h **PP11A-1291 POSTER** Deep-sea Corals Reveal Present Temperature and Salinity Conditions in the Florida Straits:

A D Rosenberg, P K Swart, G P Eberli, B E Rosenheim, J K Reed

0800h **PP11A-1292 POSTER** High resolution trace element records from the deep sea hydrocoral *Stylaster venustus*: Implications for stylasterids as a paleoceanographic archive: **R S Aranha**, G D Layne, E Edinger, G Piercey

0800h **PP11A-1293 POSTER** California margin Bamboo corals: Spatial variability in stable carbon and nitrogen isotope composition: **C R Myrvold**, T M Hill, H J Spero, T P Guilderson

0800h **PP11A-1294 POSTER** Trace Metal Record of a 200-Year-Old Deep-Sea Bamboo Coral (*Isidella* sp.): **J P Hornung**, A C Mix, F J Tepley, A J Kent, W W Wakefield

0800h **PP11A-1295 POSTER** Radiocarbon Age Variability of Deep Sea Corals from the North Atlantic and the Southern Ocean: **N Thiagarajan**, D S Gerlach, M Roberts, A P McNichol, R Thresher, J F Adkins

0800h **PP11A-1296 POSTER** Reconstructing the seawater nutrient history of Biscayne National Park, FL, using phosphorus recorded in coral skeleton: **K M Harazin**, M LaVigne, R M Sherrell, K L DeLong, C D Reich

0800h **PP11A-1297 POSTER** The influences of hydrological dynamics on Porites coral skeletal Sr/Ca thermometry: C Hu, **C Shen**, C Chiu, C Chang, H Chiang, L D Doan

0800h **PP11A-1298 POSTER** Natural variation of ⁸⁷Sr/⁸⁶Sr in coral Porites from southern Taiwan: **Y Liu**, H Chiang, C Shen, D Lee, Y Chen

0800h **PP11A-1299 POSTER** Pacific climate forcing recorded in coral proxy record from the Maldives (Indian Ocean): **D M Storz**, E Gischler

0800h **PP11A-1300 POSTER** Coral $\delta^{18}\text{O}$ stratigraphy from the West Pacific Warm Pool, Palau: M C Osborne, R B Dunbar, D A Mucciarone, J Sanchez-Cabeza

PPIIB Moscone South: Poster Hall Monday 0800h
Global Lake Drilling in the 21st Century: The Emergence of Long Continental Paleoenvironmental Records I Posters *(joint with OS)*

Presiding: **D Ariztegui**, University of Geneva; **J Brigham-Grette**, University of Massachusetts; **B Zolitschka**, GEOPOLAR, Institute of Geography

0800h **PP11B-1301 POSTER** LacCore: Support for the terrestrial sediment core research community: K L Brady, **A J Noren**, A Myrbo, E Ito

0800h **PP11B-1302 POSTER** Organic geochemical evidence for climate changes over the lateglacial-Holocene in Lake Suigetsu, Japan: **E J Pearson**, T Nakagawa, J Tyler, S Juggins, C Bronk-Ramsey, C Bryant, R Staff, F Brock, H Lamb, A Brauer, M Marshall, G Schlolaut, Y Yokoyama, P Tarasov, R L Payne, T Haraguchi, H Yonenobu, R Tada, K Gotanda, A Kossler, D Demske, K Takemura, M Ikehara

0800h **PP11B-1303 POSTER** Sedimentation in Lake Elgygytyn, NE Russia, during the past 340,000 years: **O Juschus**, M Melles, V Wennrich, N Nowaczyk, J Brigham-Grette, P Minyuk

0800h **PP11B-1304 POSTER** High-resolution inorganic geochemistry of high arctic Lake Elgygytyn/NE Siberia over the last 340ka: **V Wennrich**, P Minyuk, O Juschus, M Melles, J Brigham-Grette

0800h **PP11B-1305 POSTER** Fourier transform infrared spectroscopy: a technique for rapid, quantitative analysis of biogeochemical properties from Lake El gygytyn: **P Rosen**, H Vogel, L Cunningham, P Persson, M Melles

0800h **PP11B-1306 POSTER** Bulk and compound-specific isotopic signatures of carbon cycling and anoxia at Lake El'gygytyn: **A R Holland**, K Wilkie, S Petsch, J Brigham-Grette

0800h **PP11B-1307 POSTER** The emerging lipid biomarker record of environmental change at Lake El'gygytyn, NE Russia: **S J Burns**, K M Wilkie, J Brigham-Grette, S Petsch, M Melles

0800h **PP11B-1308 POSTER** Diatom Assemblages Preserved During Intervals of Peak Warmth Inferred in Sediment Cores from Lake El'gygytyn, Siberia: Implications for Paleoenvironmental Reconstructions from the Lake: **J A Snyder**, M Cherapanova, J Brigham-Grette, M Melles

0800h **PP11B-1309 POSTER** Pyrite morphology of Unit 1 of Qingshankou Formation of Cretaceous Songliao Basin, NE China: **Y Huang**, C Wang

0800h **PP11B-1310 POSTER** Microbially mediated carbon cycling at the Cenomanian-Turonian transition in lacustrine environments: **H Wu**, S Zhang, G Jiang, M Underwood, X Wan

0800h **PP11B-1311 POSTER** Sedimentary environments for the massive formation of the lacustrine organic rich petroleum source rocks of late Cretaceous from Songliao Basin, China: **S Zhiguang**

0800h **PP11B-1312 POSTER** The sediment record of Lake Ohrid (Albania/Macedonia): **H Vogel**, B Wagner, R Sulpizio, G Zanchetta, S Schouten, M J Leng, M Wessels, N Nowaczyk, A Hilgers

0800h **PP11B-1313 POSTER** Northward migration of tropical storms via the Saharo-Arabian desert belt during past interglacials: **A Torfstein**, N Waldmann, M Stein

0800h **PP11B-1314 POSTER** A 75,000-Year Precipitation Record from Lake Malawi, Africa Based on Compound-Specific D/H Ratios: **B Konecky**, J M Russell, T C Johnson, Y Huang, J P Werne, M L Woltering

0800h **PP11B-1315 POSTER** Scientific drilling in continental East Africa: The dominance of eccentricity-modulated precession and half-precession on continental tropical climate: **R P Lyons**, C A Scholz, J W King, E T Brown, A S Cohen, T C Johnson

0800h **PP11B-1316 WITHDRAWN**

0800h **PP11B-1317 POSTER** Seismic reflection data from Lake Elsinore, Southern CA, reveal a sustained late-Holocene lake lowstand: **B N Pyke**, M E Kirby, C A Scholz, P Cattaneo

0800h **PP11B-1318 POSTER** Organic carbon contents and isotopic compositions in the Lake Cuitzeo sediments from the central Mexico during the past 45 Ka: Changes in lake level and climate: **T Kuo**, J L Bischoff, I I Alcantara, V H Garduño-Monroy, H Li

0800h **PP11B-1319 POSTER** Geochronology and Stratigraphy of Pluvial Argentinean Lakes: Implications for Quaternary Climate Change: **A Cartwright**

0800h **PP11B-1320 POSTER** Origin and evolution of the Laguna Potrok Aike maar (Southern Patagonia, Argentina) as revealed by seismic data: **C Gebhardt**, M A De Batist, F Niessen, F Anselmetti, D Ariztegui, T Haberzettl, C Ohlendorf, B Zolitschka

0800h **PP11B-1321 POSTER** Blooms from the past: Building up a long diatom record from PASADO: **C Recasens**, D Ariztegui, N I Maidana

0800h **PP11B-1322 POSTER** Investigating the deep cool lacustrine biosphere: Lake Potrok Aike, Patagonia, Argentina: **A Vuillemin**, D Ariztegui, J Pawlowski, S P Templer

0800h **PP11B-1323 POSTER** Best practices in core and data management for lake drilling projects: **A J Noren**, K L Brady, A Myrbo, E Ito

PP11C Moscone South: Poster Hall Monday 0800h
Paleoceanographic Applications of Biogenic Opal: Proxies in a Silica World I Posters

Presiding: **K R Hendry**, University of Oxford; **L I Bradtmiller**, Macalester College; **B C Reynolds**, IGMR; **B C Reynolds**, IGMR

0800h **PP11C-1324 POSTER** Siliceous Sponge Spicules as Paleoenvironmental Biomarkers of the Deep-sea: **K P Jochum**, X Wang, T W Vennemann, B Sinha, W E Müller

0800h **PP11C-1325 POSTER** The boron geochemistry of siliceous sponges: **A de Leon**, M Wille, S M Eggins, M J Ellwood

0800h **PP11C-1326 POSTER** An Investigation Into the Molecular and Isotopic Composition of Diatom Frustule-Bound Organic Matter: Method Development for New Proxies: **M C BRIDOUX**, A E Ingalls

0800h **PP11C-1327 POSTER** Using diatom-bound $\delta^{15}\text{N}$ to examine nitrogen cycling in the Gulf of California during the Holocene: J Fliegler, R S Robinson, B N Popp

0800h **PP11C-1328 POSTER** Testing the utility of the diatom-bound N isotope proxy using batch cultures: **M G Horn**, R S Robinson, T Rynearson

0800h **PP11C-1329 POSTER** $\delta^{30}\text{Si}$ in the Modern Ocean: The Key to the Past: G F de Souza, B C Reynolds, J Rickli, M Frank, B Bourdon

0800h **PP11C-1330 POSTER** Understanding the global marine $\delta^{30}\text{Si}$ distribution: B C Reynolds

0800h **PP11C-1331 POSTER** Changes in the North Pacific Ocean biological pump from MIS 5e to MIS 3: **G Swann**

0800h **PP11C-1332 WITHDRAWN**

0800h **PP11C-1333 POSTER** Evaluation of Paleoproductivity Proxies in the Southern Ocean: **M E Wagner**, I L Hendy, J L McKay

0800h **PP11C-1334 POSTER** Germanium/Silicon and Silicon Isotope Records of Marine Diatom Opal from a Low Silicon Environment: **J N Sutton**, M Wille, M J Ellwood, W A Maher

0800h **PP11C-1335 POSTER** Boron isotopes in Archean cherts: investigating early Earth marine conditions: **D Lemarchand**, M Jeambrun, M J van Bergen, P Van Cappellen

PP11D Moscone South: Poster Hall Monday 0800h
Reconstruction and Modeling of the Transient Climate Evolution of the Past 21,000 Years I Posters

Presiding: **P J Bartlein**, University of Oregon; **J M Lynch-Stieglitz**, Georgia Tech; **Z Liu**, University of Wisconsin-Madison

0800h **PP11D-1336 POSTER** Multiproxy reconstruction of rapid paleoceanographic changes in the SW Barents Sea during the Late Glacial- Early Holocene transition: **S A Soerensen**, K Husum, M Hald, J Knies

0800h **PP11D-1337 POSTER** Arctic Oscillation during the mid-Holocene and last glacial maximum from PMIP2 coupled model simulations: **S Kim**, J Lu, A Abe-Ouchi, Y Yu

0800h **PP11D-1338 POSTER** Pollen Distribution in Marine Surface Sediments From South-east Pacific and Paleoclimate Changes During the Last 20kyr From Core MD 07 3088 (46°S) off Patagonia: **V Montade**, N Combourieu Nebout, S Mulsow, C Kissel, E Michel, G Siani

0800h **PP11D-1339 POSTER** Did the surface ocean cool in the South Pacific Gyre during the last glacial? New planktonic foraminiferal Mg/Ca results from the Cook-Austral island chain: **I L Hendy**

0800h **PP11D-1341 POSTER** Paleoproductivity in the Eastern Equatorial Pacific through the Pliocene-Pleistocene Transition: **A G Rowan**, G M Filippelli, D Andreasen, C Ravelo

0800h **PP11D-1342 POSTER** Late Quaternary Variations of Atmospheric Nitrous Oxide Reconstructed from Polar Ice Cores: **A Schilt**, M Baumgartner, T Blunier, J Schwander, R Spahni, H Fischer, T F Stocker

0800h **PP11D-1343 POSTER** Late Quaternary Atmospheric CH₄ Isotope Record Suggests Permafrost was a Source of CH₄ and CO₂: **S A Zimov**, N Zimov

0800h **PP11D-1344 POSTER** AMO-like Variations of Holocene Sea Surface Temperatures in the North Atlantic Ocean: **S Feng**, Q S Hu, R J Oglesby

0800h **PP11D-1345 POSTER** New records from the subtropical North Pacific over the Pliocene climate transition: **N L Venti**, K Billups

0800h **PP11D-1346 POSTER** Precise Duration of Drier Conditions in Central China During the 8.2 kyr Event: **Y Liu**, G M Henderson, N Charnley, C Hu, S Xie

0800h **PP11D-1347 POSTER** Environmental instabilities in the Suguta Valley, Northern Kenya Rift, during the 'African Humid Period': **A Junginger**, M H Trauth

0800h **PP11D-1348 POSTER** Rapid Climatic Variability in the Western Mediterranean during the Last 25,000 Years from the High Resolution Pollen Record ODP Site 976: N Combourieu Nebout, **S Desprat**, O Peyron, I Dormoy, C Beaudoin, U Kotthoff, F Marret

0800h **PP11D-1349 POSTER** Reconstruction of marine environments in the south Pacific during the last deglaciation (15 - 9 ka) using fossil corals collected from Tahiti: **M Inoue**, Y Yokoyama, M Tanimizu, A Suzuki, H Kawahata, H Matsuzaki, Y Iryu

0800h **PP11D-1350 POSTER** Climate Change in Cariaco Basin During the Late Glacial "Mystery Interval": **L N Yurco**, L C Peterson

0800h **PP11D-1351 POSTER** Developing the Late Quaternary Record of Pluvial Lake Clover, Northern Great Basin, U.S.A: **B J Laabs**, J S Munroe

0800h **PP11D-1352 POSTER** Did Lake Bonneville Experience A Major Water-Budget Shift At 17.4 cal ka?: **C Oviatt**

0800h **PP11D-1353 POSTER** Simulating ENSO During the Last Glacial Maximum and Holocene: **J R Alder**, S W Hostetler, D Pollard

0800h **PP11D-1354 POSTER** Marine carbon cycle sensitivity to background glacial climate states: **M O Chikamoto**, A Abe-Ouchi, A Oka, R Ohgaito

0800h **PP11D-1355 POSTER** North Atlantic melting water forcing of early Pacific deglacial warming and two-step North Pacific ventilation: a transient GCM study with CCSM3: **F He**, Z Liu, B L Otto-Bliesner, P U Clark, A E Carlson, E C Brady

0800h **PP11D-1356 POSTER** Changes in seasonal climate patterns from 34-4 ka in a Soreq Cave (Israel) speleothem: Sub-annual resolution by ion microprobe and CLFM: **I J Orland**, M Bar-Matthews, N Kita, A Ayalon, J W Valley

0800h **PP11D-1357 POSTER** Orbitally Modulated Changes in the African Monsoon System during the last 5 Million Years: **O Elison Timm**, A Timmermann, L Menviel, A Abe-Ouchi, F SAITO, T Segawa

0800h **PP11D-1358 POSTER** NORTHERN NEW ZEALAND DEGLACIAL CLIMATE AND THE ANTARCTIC COLD REVERSAL; COOLER AND DRIER OR WETTER? OR, BOTH?: **E L Sikes**, P M Augustinus, P M Medeiros, M Makou

0800h **PP11D-1359 POSTER** Last deglaciation and last glacial climatic record from the new coastal TALDICE ice core (East Antarctica): **D Buiron**, B Stenni, M Frezzotti, J Chappellaz, B Lemieux-Dudon

0800h **PP11D-1360 POSTER** Tropical North Atlantic Subsurface Temperature Change Linked to Atlantic Meridional Overturning Circulation Variability During the Last Deglacial: **M W Schmidt**, P Chang

PP11E Moscone West: 2004 Monday 0800h
Late Pleistocene Variability in Ventilation of Deep and Intermediate Water Masses I (*joint with GC, OS*)

Presiding: **F Mekik**, Grand Valley State University; **R F Anderson**, Lamont-Doherty Earth Observatory

0800h **PP11E-01** Modeling Deep Ocean Ventilation in the Last Glacial Period and Holocene with Long Transient CCSM3 Simulations: **E C Brady**, Z Liu, B L Otto-Bliesner, F He

0815h **PP11E-02** Rapid Changes in North Atlantic Deep Ocean Circulation During the MIS 5a/4 Glacial Inception: S Barker, **D J Thornalley**, I R Hall, G Knorr

0830h **PP11E-03** Vigorous meridional overturning circulation at mid-depth of the Atlantic Ocean at the last glacial maximum (*Invited*): **J F McManus**

0845h **PP11E-04** Reconstructing deglacial Atlantic deep water circulation using the Nd isotopic composition of Fe-Mn oxide coatings from planktonic foraminifera: **A M Piotrowski**, A Galy, N L Roberts, J Nicholl, J Yu, J Clegg, C Pomies, A E Scrivner

0900h **PP11E-05** Intermediate water radiocarbon evidence for the demise of an isolated deep ocean water mass during the last deglaciation (*Invited*): **S P Bryan**, T M Marchitto, S J Lehman

0915h **PP11E-06** NO "DEAD" CARBON IN THE UPPER SOUTHERN OCEAN AND SOUTH PACIFIC DURING THE EARLY DEGLACIATION: **K A Rose**, E L Sikes, T P Guilderson, P A Shane, T M Hill, R Zahn, H J Spero

0930h **PP11E-07** Possible increase in reservoir age of the surface water in the northwestern Bering Sea during the deglacial period: Evidence of ascending aged North Pacific deepwater?: **R Tada**, S Rella, M Uchida, T Itaki, K Nagashima, N Harada

0945h **PP11E-08** Another Nail in the Coffin of the Glacial-Age Isolated Abyssal Reservoir Scenario: **W S Broecker**, E H Clark

PP11F Moscone West: 2002 Monday 0800h
New Approaches to Cenozoic Terrestrial Ecosystem and Climate Reconstructions I (*joint with GC*)

Presiding: **M T Hren**, Yale University; **B J Tipple**, University of Utah

0800h **PP11F-01** Decade to centennial resolution hydrogen isotopic record of climate change from southern New England for the past 16 kyr: proxy validation and multi-proxy comparisons: **Y Huang**, L Gao, J Hou, B N Shuman, W Oswald, D Foster

0815h **PP11F-02** Terrestrial climate reconstructions from carbonate clumped-isotope thermometry (*Invited*): **K W Huntington**, D S Battisti, G Roe, B P Wernicke, J M Eiler

0830h **PP11F-03** Polar terrestrial ecosystems, permafrost, and extreme warm paleoclimate dynamics (*Invited*): **R DeConto**, M Pagani, D Pollard, D J Beerling

0845h **PP11F-04** Relative humidity across the Paleocene-Eocene Thermal Maximum via combined hydrogen-oxygen isotope paleohygroscopy (*Invited*): **F A McInerney**, J I Bloch, R Secord, S L Wing, M J Kraus, D M Boyer

0900h **PP11F-05** Insights to PETM Terrestrial Records from Global Patterns in Carbon Isotope Fractionation by Modern Plants: **K H Freeman**, A F Diefendorf, K E Mueller, S L Wing, P L Koch
 0915h **PP11F-06** Digital Leaf Physiognomy: Using Leaf Size and Shape to Reconstruct Early and Middle Paleocene Climate Change in the Western Interior of North America: **D J Peppe**, D L Royer, S Oliver
 0930h **PP11F-07** Kinetic effects in 'clumped isotopes': application to Soreq cave speleothems: **H P Affek**, A Ayalon, M Bar-Matthews, A Matthews
 0945h **PP11F-08** Clumped-isotope thermometry of speleothems: understanding and correcting for large kinetic fractionation induced by CO₂ degassing: **M Daëron**, W Guo, J M Eiler, D Genty, K Wainer, P Niles, H Vonhof, J Dublyansky, D Blamart

PP11-O1 Moscone West: 2008 Monday 0800h
The Heat Is On: Past, Present, and Future Climate Change in the Indo-Pacific Warm Pool I (*joint with GC*)

Presiding: **J E Tierney**, Brown University; **C Chazen**, Brown University

0800h **PP11G-01** Is El Niño an Appropriate Analogue for Tropical Pacific Climate Change? (*Invited*): **A C Clement**, P N Di Nezio, G A Vecchi
 0815h **PP11G-02** Synoptic shifts in tropical Indo-Pacific hydrology during the past two millennia: **J E Tierney**, D Oppo, Y Rosenthal, B K Linsley, J M Russell, A S Cohen, J S Sinninghe Damsté, D Verschuren
 0830h **PP11G-03** On the cause of multidecadal Medieval megadrought in southeast Asia (*Invited*): **K J Anchukaitis**, B Buckley, E R Cook, J H Jungclauss, A Sinha, R D'Arrigo, C M Ammann
 0845h **PP11G-04** Interannual to multi-decadal scale climate variability in the Western Pacific Warm Pool recorded by the geochemistry of 16th-17th century corals from Papua New Guinea: **K A Hereid**, T M Quinn, F W Taylor, J Banner
 0900h **PP11G-05** Was ENSO Amplified During the Last Glacial Maximum? (*Invited*): **A Koutavas**
 0915h **PP11G-06** Western Pacific Warm Pool hydrologic changes during the last glacial period: **L Vidal**, K Tachikawa, C Sonzogni
 0930h **PP11G-07** Glacial to Holocene climate swings of the Indo-Pacific Warm Pool: The Indian Ocean story (*Invited*): **M Mohtadi**
 0945h **PP11G-08** Understanding Weak SST Gradients and the Ocean Warm Pool Expansion in the Early Pliocene: **A V Fedorov**, C M Brierley

SPA - Aeronomy

SA11A Moscone South: Poster Hall Monday 0800h
SPA-Aeronomy General Contributions I Posters

Presiding: **L P Goncharenko**, MIT; **M P Hickey**, Embry-Riddle Aeronautical University

0800h **SA11A-1452 POSTER** Effects of a Major Tsunami on the Energetics and Dynamics of the Thermosphere: **M P Hickey**, R L Walterscheid, G Schubert
 0800h **SA11A-1453 POSTER** Effects of tides on the upper atmosphere simulated by a non-hydrostatic general circulation model: **E Yigit**, A J Ridley, M E Hagan
 0800h **SA11A-1454 POSTER** Mesospheric bore formation from large-scale gravity wave perturbations observed by collocated all-sky OH imager and sodium lidar: **J Yue**, C She, T Nakamura, S Harrell, T Yuan

0800h **SA11A-1455 WITHDRAWN**
 0800h **SA11A-1456 POSTER** Energetic particle precipitation effects on the Northern Hemisphere stratosphere observed by LIMS: **L A Holt**, C E Randall, L Harvey, B Funke, G P Stiller
 0800h **SA11A-1457 POSTER** Magnetic conjugate point observations of kilometer and hundred meter-scale irregularities and zonal drifts: **E R de Paula**, M T Muella, J H Sobral, K M Groves, T L Beach, I S Batista, M A Abdu
 0800h **SA11A-1458 POSTER** Correlations Between FORMOSAT-2/ISUAL 6300A Airglow and FORMOSAT-3/GOX Electron Density: **K W Liu**, **C Z Cheng**, C Lin
 0800h **SA11A-1459 POSTER** SIMULTANEOUS O+ TEMPERATURES DERIVED FROM OII 7320Å LINE WIDTH AND INCOHERENT SCATTER RADAR AT ARECIBO: **P M Santos**, R B Kerr, J Noto, C G Brum, S A Gonzalez, M Migliozi, R Garcia
 0800h **SA11A-1460 POSTER** Comparative study of the NmF2 and hmF2 registered by incoherent scatter radar with the AO and IRI models: C G Brum, **A Carrion Matta**, S A Gonzalez, N Aponte
 0800h **SA11A-1461 POSTER** Climatology of the topside-protonosphere region over Arecibo Observatory based on Incoherent scatter radar data: **A S Amirrezvani**, C G Brum, S A Gonzalez, N Aponte
 0800h **SA11A-1462 POSTER** Study of the Topside Ionosphere Using Radio Occultation Data: **D C Thompson**, L Scherliess, R W Schunk, J J Sojka
 0800h **SA11A-1463 POSTER** Ionosphere Mesosphere Polar Aeronomy Campaign (IMPAC): **Q Wu**, W Wang, M G Conde, A L Aruliah, R Niciejewski, J W Meriwether
 0800h **SA11A-1464 POSTER** Analysis of High Latitude Neutral Density Variations: **F A Marcos**, C S Lin, S B Cable, E K Sutton, C Huang
 0800h **SA11A-1465 POSTER** Modeling of 8446 Å dayglow emission in the northern hemisphere: **S Mallepula Venkata**, V Singh

SA11B Moscone South: 301 Monday 0800h
Ionospheric Modifications and Active Experiments With Radio Waves I (*joint with SM, AE*)

Presiding: **M Cohen**, Stanford University; **G M Milikh**, University of Maryland

0800h **SA11B-01** Ionospheric Current Drive at Low Frequencies (*Invited*): **K Papadopoulos**
 0815h **SA11B-02** The HAARP Magnetospheric Wave Injection Experiment: Conditions and Dependencies (*Invited*): **M Golkowski**
 0830h **SA11B-03** The new Arecibo HF facility: Design, Construction, and Approaching Scientific Use (*Invited*): **M P Sulzer**
 0845h **SA11B-04** Geophysical Remote Sensing Using the HF Pumped Stimulated Brillouin Scatter (SBS) Emission Lines Produced by HAARP: **P A Bernhardt**, C A Selcher
 0900h **SA11B-05** On Electron Heating and Cooling During HF Radio Wave Heating: B Gustavsson, M T Rietveld, N V Ivchenko, **M Kosch**
 0915h **SA11B-06** Optical ring formation by refraction from artificially produced density enhancements in HF heating experiments at HAARP: **T R Pedersen**, B Gustavsson, E V Mishin, E A Kendall, E MacKenzie, T Mills, M J Starks
 0930h **SA11B-07** Cutoff frequencies and excitation threshold of artificial E region field aligned irregularities: **D L Hysell**, E Noss
 0945h **SA11B-08** Application of radio phase modes to modification and remote sensing of the atmosphere and space: **B Isham**, S Mohammadi, J Chau, D L Hysell, L K Daldorff, B Thide, J Bergman

SPA - Solar and Heliospheric Physics

SH11A Moscone South: Poster Hall Monday 0800h
The Long and Quiet Solar Minimum at the End of Solar Cycle 23 I Posters (*joint with SM, SA*)

Presiding: **D Alexander**, Rice University; **M J Wiltberger**, NCAR

0800h **SH11A-1482 POSTER** Large-Scale Solar Subsurface Flows During Solar Cycle Minimum: **R Komm**, R Howe, F Hill

0800h **SH11A-1483 POSTER** Investigation of solar/heliospheric anomalies during the current solar cycle minimum: **C Wu**, K Liou, S P Plunkett, C D Fry

0800h **SH11A-1484 POSTER** Polar Cap Convection/Precipitation States During Earth Passage of two ICMs at Minimum of Solar Cycle 23: P E Sandholt, **C J Farrugia**, Y Aandalsvik

0800h **SH11A-1485 POSTER** Observations of the Van Allen Radiation Belt, Solar Wind and Corotating Interaction Regions during Solar Minimum: **P T Loto'aniu**, J Li, V Angelopoulos, H J Singer

0800h **SH11A-1486** WITHDRAWN

0800h **SH11A-1487 POSTER** A New Source Surface Radius in Potential Field Modeling During the Current Weak Solar Minimum?: **X Sun**, J T Hoeksema

0800h **SH11A-1488 POSTER** Principal Component Analysis of the background and sunspot magnetic field during the cycles 21-23: **V V Zharkova**, S Zharkov

0800h **SH11A-1489 POSTER** Ulysses KET measurements of galactic cosmic ray protons and electrons during an unusual solar minimum: B Heber, J Gieseler, **P Dunzlaff**, A Kopp, R Müller-Mellin, H Fichtner, K Scherer, M S Potgieter, S Ferreira

0800h **SH11A-1490 POSTER** Does the solar magnetic flux depends on boundary conditions?: **O Cohen**, N A Schwadron, N U Crooker, M J Owens, T I Gombosi

0800h **SH11A-1491 POSTER** Recent STEREO Observations of Coronal Mass Ejections: **O C St Cyr**, H Xie, M L Mays, J M Davila, H R Gilbert, S I Jones, W D Pesnell, N Gopalswamy, J B Gurman, S Yashiro, J Wuelser, R A Howard, B J Thompson, W T Thompson

0800h **SH11A-1492 POSTER** The Variation of Solar Chromospheric H-alpha Plage 2002-2009: **K S Balasubramaniam**

0800h **SH11A-1493 POSTER** Reduced Solar Wind Wave And Turbulence Levels In The Current Solar Minimum: **T S Horbury**, R T Wicks, M J Owens

0800h **SH11A-1494 POSTER** Filaments, filament channels and their visibility during the present solar minimum: **O Panasenco**, S F Martin, A Panasenco

0800h **SH11A-1495 POSTER** Solar Wind Structure at 1 AU: Comparison between Solar Minima 22/23 and 23/24: **L Jian**, C Russell, J G Luhmann, A B Galvin, R M Skoug, P C Schroeder

0800h **SH11A-1496 POSTER** On the Relationship Between Coronal Heating, Magnetic Flux, and the Density of the Solar Wind: **P Riley**, Z Mikic, J A Linker, D J McComas, N A Schwadron

0800h **SH11A-1497 POSTER** Sunspot activity in the build-up to the extended solar minimum: **D Alexander**, C Martus

0800h **SH11A-1498 POSTER** Low Solar Activity and High GCR Particle Flux Variations: Assessment with Ulysses and ACE/CRIS Data 2007-2009: **P B Saganti**, A Scott-Turner, B M Cudnik, G M Erickson, F A Cucinotta

0800h **SH11A-1499 POSTER** About the Solar Mass Ejection Imager (SMEI) 3D-Reconstruction-and-Display of Co-rotating Heliospheric Structure during the Present Deep Solar Minimum: **B Jackson**, M M Bisi, P P Hick, A Buffington, J M Clover

0800h **SH11A-1500 POSTER** Comparisons of Photospheric Convection Cell Characteristics: **W D Pesnell**, P E Williams

0800h **SH11A-1501 POSTER** If the Sun is so quiet, why is the Earth ringing? A comparison of two solar minimum intervals: **S E Gibson**, J U Kozyra, G de Toma, B A Emery, T G Onsager, B J Thompson

0800h **SH11A-1502 POSTER** Implications of the Deep Minimum for Slow Solar Wind Origin: **S K Antiochos**, Z Mikic, R Lionello, V S Titov, J A Linker

0800h **SH11A-1503 POSTER** Solar induced long- and short-term variations of the cosmic ray intensity in the past, and predictions and opportunities for the future: **K G McCracken**, F B McDonald, J Beer

0800h **SH11A-1504 POSTER** Reconstruction of the interplanetary magnetic field during the Holocene and its implications for the future: J Beer, J Abreu, K G McCracken, **F Steinhilber**

0800h **SH11A-1505 POSTER** What do Solar Kinematic Models Tell us About the Current Minimum?: **A Muñoz-Jaramillo**, D Nandy, P C Martens

SH11B Moscone West: 3022 Monday 0800h
Dynamics and Magnetism of the Solar Interior I

Presiding: **T Rogers**, University of Arizona; **F Hill**, NSO

0800h **SH11B-01** Three decades of 3D global simulations of the solar dynamo (*Invited*): **G A Glatzmaier**

0815h **SH11B-02** Numerical sunspot models - subsurface structure and helioseismic forward modeling (*Invited*): **M Rempel**, A C Birch, D C Braun

0830h **SH11B-03** The Internal Dynamics and Magnetism of the Sun — the Perspective from Local Helioseismology (*Invited*): **D C Braun**

0845h **SH11B-04** The internal dynamics and magnetism of the sun — the perspective from global helioseismology (*Invited*): **R Howe**, F Hill, R Komm, J Christensen-Dalsgaard, J Schou, M J Thompson

0900h **SH11B-05** Solar Magneto-Convection Simulations of Emergin Flux: **R F Stein**, A Lagerfjard, A Nordlund, D Geogobiani, D Benson

0910h **SH11B-06** The dynamics of large-scale meridional flows in the solar interior, and their role in establishing the observed rotational balance: **P Garaud**

0920h **SH11B-07** Tachocline Confinement of the Sun's Internal Magnetic Field: **T Wood**, M E McIntyre

0930h **SH11B-08** Global Simulations of Stellar Dynamos: **M K Browning**

0940h **SH11B-09** The quasi-biennial modulation of solar neutrino flux, solar and galactic cosmic rays by the solar cyclic activity: **M Laurenza**, A Vecchio, V Carbone, M Storini

0950h **SH11B-10** Recent Progress in Detecting Meridional Flows Deep within the Sun: **F Hill**, S Kholikov, S Ehgamberdiev, A Serebryanskiy

SPA - Magnetospheric Physics

SM11A Moscone South: Poster Hall Monday 0800h
Inner Magnetosphere Research: Where Are We and Where Are We Going? I Posters

Presiding: **J Goldstein**, Southwest Research Institute

0800h **SM11A-1538 POSTER** Study of the Ring Current Variability with the Use of Ground-Based Magnetometer Measurements and New Statistical Technique: Preliminary Results: **L Zhu**, J J Sojka, R W Schunk, Z Xu, P Kokoszka

0800h **SM11A-1539 POSTER** Dependence of the Maximum Static Pressure in the Inner Magnetosphere on the Solar Wind Dynamic Pressure and Different Coupling Functions: **B I Gallardo-Lacourt**, M V Stepanova, E E Antonova

0800h **SM11A-1540 POSTER** Violation of the Guiding Center Approximation for Energetic Ions in the Deep Inner Magnetosphere during Magnetic Storms: **K Shibahara**, M Nose

0800h **SM11A-1541 POSTER** Simultaneous entry of oxygen ions originating from the Sun and Earth into the inner magnetosphere during magnetic storms: **Y Ebihara**, S Kasahara, K Seki, Y Miyoshi, T A Fritz, J Chen, T Zurbuchen

0800h **SM11A-1542 POSTER** Role of Pitch Angle Anisotropy in Ring Current Electrodynamics: **Y Wan**, S Sazykin, M H Fok, N Buzulukova, R Wolf

0800h **SM11A-1543 POSTER** Initial results obtained with the coupled OpenGGCM-CRCM with pressure feedback: 27 March 2007 THEMIS substorm event: **A Vapirev**, J Raeder, M H Fok, D J Larson, B Hu, A Glocer

0800h **SM11A-1544 POSTER** Effect of tail plasma sheet conditions on the penetration of the convection electric field in the inner magnetosphere: RCM simulations with self-consistent magnetic field: **M Gkioulidou**, C Wang, L R Lyons, R Wolf

0800h **SM11A-1545 POSTER** TWINS Observations of the 22 July 2009 Storm: **M H Fok**, N Buzulukova, P W Valek, J Goldstein, D J McComas

0800h **SM11A-1546 POSTER** Coupling HEIDI into the SWMF: **R Ilie**, M W Liemohn, G Toth, A J Ridley

0800h **SM11A-1547 POSTER** Two Moderate Storms During Solar Minimum: Combine Modeling and Observations: **Y Zheng**, S G Zaharia, A Lui, M H Fok, B J Anderson, V Angelopoulos

0800h **SM11A-1548 POSTER** Modeling of Ring Current Energy Content and Magnetic Field During Storms: How Much Do the Results Depend on Model Choice?: **N Y Ganushkina**, M W Liemohn

0800h **SM11A-1549 POSTER** Plasma convection with parallel electric field in the RCM: **Y Song**, S Sazykin, R Wolf, F Toffoletto

0800h **SM11A-1550 POSTER** Contribution to charge exchange to the ring current decay: TWINS observations: **K Keika**, P C Brandt, J Goldstein, D J McComas

0800h **SM11A-1551 POSTER** Deconvolved Ring Current Ion Intensities from TWINS Stereo ENA Images of the Earth's Magnetosphere: **E W Grimes**, J D Perez, J Goldstein, D J McComas

0800h **SM11A-1552 POSTER** The Method of Extracting Ion Distributions from TWINS ENA Images: **B R Lynch**, J D Perez, J Goldstein, D J McComas

0800h **SM11A-1553 POSTER** Low altitude emission of ring current ENA's spanning 1-100 keV as observed by IMAGE and TWINS: Select case studies: **D A Mackler**, J Goldstein, J Jahn, C J Pollock, J Redfern

0800h **SM11A-1554 POSTER** Analysis and Mitigation of Sun Signatures in TWINS Images: **J Redfern**, J Goldstein, P W Valek, P C Brandt, D J McComas

0800h **SM11A-1555 POSTER** TWINS Observations of Oxygen ENA Flux: **J C Alquiza**, J Goldstein, M Gruntman, D J McComas, J Redfern, P W Valek

0800h **SM11A-1556 POSTER** SuperDARN Hokkaido Radar Observation of Recurrent Propagating SAID/SAPS Structure: **N Nishitani**, T Ogawa, T Kikuchi, Y Ebihara, R Kataoka, T Hori, K Hosokawa

0800h **SM11A-1557 POSTER** Large electric fields near the nightside plasmopause observed by the Polar spacecraft: **K Kim**, F Mozer, D Lee

0800h **SM11A-1558 POSTER** Superposed epoch analysis of storm-time electric fields in the inner magnetosphere: **H Matsui**, P A Puhl-Quinn, J W Bonnell, C J Farrugia, V Jordanova, Y V Khotyaintsev, P Lindqvist, R B Torbert

0800h **SM11A-1559 POSTER** Review of recent results on the plasmasphere by the CLUSTER and IMAGE missions: F Darrouzet, J De Keyser, A Masson, **H Matsui**, V Pierrard, B W Reinisch

0800h **SM11A-1560 POSTER** Plasmaspheric EUV image seen from the lunar orbit: Result of Extreme Ultraviolet Telescope onboard KAGUYA spacecraft: **I Yoshikawa**, G Murakami, Y Obana, K Yoshioka, A Yamazaki, M Taguchi, K Masayuki

0800h **SM11A-1561 POSTER** Multi-fluid MHD Simulations of the Plasmasphere: **J Lyon**, R E Denton

0800h **SM11A-1562 POSTER** Density Gradients at and Near the Plasmopause: **B A Larsen**, H E Spence, J W Bonnell

0800h **SM11A-1563 POSTER** Solar Cycle Variation of the Plasma Mass Density at Geosynchronous Orbit: **K Takahashi**, R E Denton

0800h **SM11A-1564 POSTER** Field Line Dependence of Mass Density at Geosynchronous Orbit: **R E Denton**, K Takahashi, H J Singer

0800h **SM11A-1565 POSTER** North-South Asymmetry of the Plasmaspheric Densities: Observations from the IMAGE Radio Plasma Imager: **P Ozhogin**, J Tu, P Song, B W Reinisch

0800h **SM11A-1566 POSTER** Plasmaspheric plumes: Occurrence frequency and quantification using a magnetospheric state vector: **M L Adrian**, S F Fung, J C Pinkerton, D L Gallagher

0800h **SM11A-1567 POSTER** A statistical study of the inner boundary of the electron plasma sheet: Boundary location, its variation with geomagnetic activity, and evidence for saturation of the cross tail potential: **F Jiang**, M G Kivelson, R J Walker, K K Khurana, V Angelopoulos, J P McFadden, T Hsu

0800h **SM11A-1568 POSTER** Plasma Sheet Energy Distributions: **T Sotirelis**, A R Lee, P T Newell

0800h **SM11A-1569 POSTER** Solar wind influence on Pc4 and Pc5 ULF wave activity in the inner magnetosphere: **W Liu**, T E Sarris, X Li, R E Ergun, V Angelopoulos, J W Bonnell, K Glassmeier

0800h **SM11A-1570 POSTER** Properties of Gendrin Mode and Whistler Mode Chorus: Theory and Observations: B Tsurutani, **O P Verkhoglyadova**, G S Lakhina, S Yagitani

0800h **SM11A-1571 POSTER** A Statistical Investigation of Electron Radiation Belt Responses to Transient Solar Wind Drivers over a Range of L-values: **S Morley**, R H Friedel, G D Reeves, J Koller, T E Cayton

0800h **SM11A-1572 POSTER** Investigation of EMIC Waves During Balloon Detected Relativistic Electron Precipitation Events: **L A Woodger**, R M Millan

0800h **SM11A-1573 POSTER** RELATIVISTIC ELECTRON LOSSES RELATED TO PROTON PRECIPITATION AND EMIC WAVES: **F Soraas**, M I Sandanger, K Aarsnes, K Oksavik, D S Evans

SM11B Moscone South: Poster Hall Monday 0800h
Innovative Tools and Techniques Posters (joint with SH, SA)

Presiding: S T Lai, Mailing address; **P J Chi**, UCLA

0800h **SM11B-1574 POSTER** Cross-Scale: multi-scale coupling in space plasmas: A Vaivads, **M G Taylor**

0800h **SM11B-1575 POSTER** A novel approach to generating time of flight mass spectra for low energy neutral atom detection: **J Kubit**, M A Coplan, M Shappirio, D J Chornay

0800h **SM11B-1576 POSTER** Energy and charge state measurements of medium energy ions in space: application of a single-sided silicon strip detector: **S Kasahara**, T Mitani, K Ogasawara, T Takashima, M Hirahara, K Asamura

0800h **SM11B-1577 POSTER** Fast Plasma Instrument for MMS: Data Compression Simulation Results: **A Barrie**, M L Adrian, P Yeh, G Winkert, J Lobell, A F Vinas, D G Simpson

0800h **SM11B-1578 POSTER** Interaction between solar wind and mini-magnetosphere of magnetized objects: **M Nakamura**

0800h **SM11B-1579 POSTER** Estimation of Sq variation by means of multiresolution and principal component analyses: **I Maslova**, P Kokoszka, J J Sojka, L Zhu

0800h **SM11B-1580 POSTER** Dst Estimates from DMSP Magnetic Field Measurements: W J Burke, **G R Wilson**, C S Lin

0800h **SM11B-1581 POSTER** USGS One-Minute Dst — Definitive and Real-time: **J L Gannon**, J J Love

0800h **SM11B-1582 POSTER** On the definition of geomagnetic activity: Case study at the auroral Sodankylä station: **D Martini**, K Mursula, T Ulich, J Kultima

0800h **SM11B-1583 POSTER** The World's Largest Real Time Magnetometer Array: MAGDAS: **G Maeda**, K Yumoto, S Abe, T Uozumi

0800h **SM11B-1584 POSTER** Hybrid AC/DC Magnetoresistive magnetometer: **M Mansour**, C Coillot, A Roux, P Leroy

0800h **SM11B-1585 POSTER** An Enhanced Magnetometer Network in the United States for Magnetoseismic Research: **P J Chi**, W A Bristow, F K Chun, M J Engebretson, M R Hairston, C T Russell, D K Scherrer, K Takahashi, S Wing, L I Winkler

0800h **SM11B-1586 POSTER** Numerical Modeling and Analysis of Space-Based Electric Antennas via Plasma Particle Simulation: **Y Miyake**, H Usui, H Kojima

0800h **SM11B-1587 POSTER** Comments on Rising Electron Flux during Rising Electron Temperature in Spacecraft Charging: **S T Lai**

0800h **SM11B-1588 POSTER** The MineTool Software Suite: A Novel Data Mining Palette of Tools for Automated Modeling of Space Physics Data: **T Sipes**, H Karimabadi, A Roberts

0800h **SM11B-1589 POSTER** SciVis: Domain Customized, Scalable Visualization Software for Space Sciences: **B Loring**, H Karimabadi

0800h **SM11B-1590 POSTER** Technical overview of the Space Environment and Effects Tool for STK (STK-SEET): **R A Quinn**, P P Whelan, C Roth, N Bonito

0800h **SM43C-07 POSTER** Detecting Small-Scale ULF Waves with GPS TEC: **D Murr**, G S Bust, L Dyrud, M J Engebretson, V Pilipenko

SM11C Moscone South: 303 Monday 0800h
Jupiter's Magnetosphere and Satellites I (*joint with P*)

Presiding: **M A McGrath**, NASA Marshall Space Flight Center; **K K Khurana**, University of California at Los Angeles

0800h **SM11C-01** Jupiter's Aurora: Outstanding Questions for Future Missions (*Invited*): **J T Clarke**

0815h **SM11C-02** The Spatial Morphology of Equatorial Electron Beams Near Io: **S Jacobsen**, J S Saur, F M Neubauer, B Bonfond, J M Gerard, D C Grodent

0825h **SM11C-03** Supplying the Io plasma torus: Local versus extended plasma sources: **R Winglee**, E M Harnett, A Kidder, D S Snowden

0835h **SM11C-04** The Plasma Environments of Europa, Ganymede and Callisto: **W R Paterson**

0845h **SM11C-05** Jovian magnetospheric plasma effects at Europa and Ganymede (*Invited*): **R E Johnson**, T A Cassidy, A R Hendrix, C Paranicas, F Cipriani, F Leblanc, J F Cooper

0900h **SM11C-06** Coupling between the magnetospheres of Ganymede and Jupiter (*Invited*): **C S Paty**, K D Retherford, R Winglee, W R Paterson

0915h **SM11C-07** Review of the Jovian Trapped Particle Environment Models: Past, Present, and Future (*Invited*): **I Jun**, H B Garrett, M Kokorowski

0930h **SM11C-08** The Galileo Heavy Ion Environment as Modeled by the HIC Experiment: **H B Garrett**, R W Evans, M Kokorowski, I Jun, C M Cohen, E C Stone

0940h **SM11C-09** Models of the Plasma Sheet at Jupiter: **F Bagenal**

0950h **SM11C-10** Angular momentum transfer at Jupiter: boundary conditions required by field-aligned potential: **V M Vasyliunas**

SM11D Moscone South: 305 Monday 0800h
System Level Science for Geospace: Bridging Reductionism and Natural Complexity I (*joint with SA, SH*)

Presiding: **E F Donovan**; **M W Liemohn**

0800h **SM11D-01** System-level musings about system-level science (*Invited*): **W Liu**

0820h **SM11D-02** Go With the Flow: The Reductionist View of Geospace at the System Level (*Invited*): **M W Liemohn**, P C Brandt, M H Denton, E F Donovan, H U Frey, M Lester, W Liu, S E Milan, N Ostgaard, M M Palmroth, A J Ridley, V M Uritsky, X Zhang

0840h **SM11D-03** A system level view of the substorm. (*Invited*): **M P Freeman**

0900h **SM11D-04** Exploring Solar-Wind/Magnetosphere/Ionosphere Connections (*Invited*): **J E Borovsky**, M H Denton, B Lavraud

0920h **SM11D-05** Prioritized System Science Targets for Heliophysics: J F Spann, **A B Christensen**, O C St Cyr, A Posner, B L Giles

0940h **SM11D-06** An initial investigation of the magnetosphere at a system level using auroral oval radius and ring current intensity as state variables: **S E Milan**, J Hutchinson, P D Boakes, B A Hubert

Study of Earth's Deep Interior (DI)

DI11A Moscone West: 2003 Monday 0800h
Seismic Discontinuities, Phase Transitions, and Compositional Boundaries in the Earth's Mantle I (*joint with MR, S, T*)

Presiding: **A F Deuss**, University of Cambridge; **A Khan**, Niels Bohr Institute

0800h **DI11A-01** Trans-Pacific Whole Mantle Structure: **D V Helmberger**, L Liu, Y Tan, D Sun

0815h **DI11A-02** Continental lithosphere structure in Africa from S receiver functions: **A Li**, K Lew, S ma

0830h **DI11A-03** Seismological consequences and observability of melt-lubricated (millefeuille) asthenosphere and a LAB above (*Invited*): **H Kawakatsu**, A Takeo, Y Takei, P Kumar

0845h **DI11A-04** Resolving Lithospheric Interfaces Using SS Waveform Stacks: **C A Rychert**, P M Shearer

0900h **DI11A-05** The lithosphere-asthenosphere boundary beneath Australia imaged by Sp phases: **H A Ford**, K M Fischer, D L Abt, L T Elkins-Tanton, C A Rychert

0915h **DI11A-06** Impact of Phase Transitions on P Wave Velocities (*Invited*): **L Li**, D J Weidner

0930h **DI11A-07** Phase relations in harzburgite: stagnation of harzburgite at the lower part of the mantle transition zone and interpretation of seismic discontinuity at 600 km depth: **N Nishiyama**, T Kato, T Irifune, K Wada
 0945h **DI11A-08** Spin transitions, element partitioning, and deep mantle heterogeneities (*Invited*): **J Badro**, A Corgne

Mineral and Rock Physics

MR11A Moscone West: 2006 Monday 0800h
Advanced Technologies for Advanced Characterizations of Minerals Under High Pressure I (*joint with DI, V*)

Presiding: **H Liu**, Harbin Institute of Technology; **W Crichton**, ESRF

0800h **MR11A-01** Recent Developments in High-Pressure Research at GSECARS (*Invited*): **M L Rivers**, V Prakapenka, Y Wang, P K Dera, P Eng, M Newville, S R Sutton

0820h **MR11A-02** Direct density measurements under mantle and core conditions and chemical characterization of high-PT samples (*Invited*): **Y Fei**

0840h **MR11A-03** Limitations in quantifying absorbance from spectroscopic measurements in the diamond anvil cell: **A Hofmeister**

0855h **MR11A-04** High-pressure beamline (PLANET) at the spallation neutron source, J-PARC (*Invited*): **H Kagi**, T Hattori, H Arima, W S Utsumi, K Komatsu, T Nagai, T Yagi

0915h **MR11A-05** Melting curve of NaCl determined using synchrotron x-ray radiography: **J Chen**, T Yu, H Long, L Wang, J Garai

0930h **MR11A-06** Nanoscale diffraction and imaging techniques for high pressure sciences: **W Yang**, G Shen, M Guthrie, H Liu, H Mao

0945h **MR11A-07** Advanced Flat Top Laser Heating System for High Pressure Research: **V Prakapenka**, I Kantor, A Kuznetsov, P K Dera, M L Rivers, S R Sutton

Seismology

SI1A Moscone South: Poster Hall Monday 0800h
Seismic Anisotropy, Mantle Flow, and Fault Mechanics: The Silver Lining I Posters (*joint with T, DI, G*)

Presiding: **S C Solomon**, Carnegie Inst of Washington; **D E James**, Carnegie Institution

0800h **S11A-1682 POSTER** Depth-dependent anisotropy and rift-induced lithospheric delamination beneath the Rwenzori Mountains, East Africa: **G Rumpker**, M Lindenfeld, H Schmeling, H Wallner

0800h **S11A-1683 POSTER** Upper Crustal Anisotropy in Southern California from Local Earthquake Shear Wave Splitting: **A F Sheehan**, P M Shearer, Z Yang

0800h **S11A-1684 POSTER** SKS Splitting and Upper Mantle Geodynamics Under California: M Bonnin, G Barruol, **G Bokelmann**

0800h **S11A-1685 POSTER** Regional variations of mantle anisotropy across the Canadian Cordillera from teleseismic shear-wave splitting: G Zandt, **A M Frassetto**, J F Cassidy, M G Bostock

0800h **S11A-1686 POSTER** Crustal thickness and V_p/V_s ratio variations beneath the Colorado Plateau: **L Bashir**, K H Liu, S S Gao

0800h **S11A-1687 POSTER** Rayleigh Wave Azimuthal Anisotropy Observed during the Hawaiian PLUME Project: **P Chojnacki**, G Laske, J A Orcutt, C J Wolfe, J A Collins, S C Solomon, R S Detrick, D Bercovici, E H Hauri

0800h **S11A-1688 POSTER** Upper Mantle Seismic Anisotropy in the South American Stable Platform from SKS Splitting: a Test of Asthenospheric Flow Models Beneath the Lithosphere: **M Guarido**, M Assumpcao, S van der Lee, J C Dourado

0800h **S11A-1689 POSTER** Impact of the Hapagea surpercontinental aggregation on American Cordilleras and the seafloor age distribution: **L Husson**, C P Conrad

0800h **S11A-1690 POSTER** Very Little Crustal Anisotropy in Eastern Tibet from Regional S phases, the Game's Over: **D S Weeraratne**, S Karalliyadda, P G Silver

0800h **S11A-1691 POSTER** Mantle Flow in the Rivera-Cocos Subduction Zone: **G Leon Soto**, J F Ni, S P Grand, E A Sandvol, R Valenzuela Wong, M Guzman-Speziale, J M Gomez Gonzalez, T Dominguez Reyes

0800h **S11A-1692 POSTER** Trench-parallel Anisotropy in Subduction Zones: Evaluating the Contributions of Olivine Fabric Transitions and Flow Around Slab Edge in Numerical Flow Models: **L G Montesi**, M D Behn, M D Long, K J Miller

0800h **S11A-1693 POSTER** Effects of viscosity anisotropy on global mantle flow, plate motion, geoid and topography: **L Wen**

0800h **S11A-1694 POSTER** Detection of Upper Mantle Reflectors at 50-150 km Depth From SS and PP Precursors: The Lithosphere-Asthenosphere Boundary?: **N C Schmerr**, P G Silver

0800h **S11A-1695 POSTER** Time dependent post-seismic processes associated with the 2004 Sumatra-Andaman and 2005 Nias earthquakes: **W Yu**, P G Silver, T Song

SI1B Moscone South: Poster Hall Monday 0800h
Seismic Networks and Instrumentation Posters

Presiding: **J D Otero**, SIO (UCSD); **D S Neuhauser**, UC Berkeley

0800h **S11B-1696 POSTER** Comprehensive Seismic Monitoring for Emergency Response and Hazards Assessment: Recent Developments at the USGS National Earthquake Information Center: **R P Buland**, M Guy, D Kragness, J Patton, B Erickson, M Morrison, C Bryon, D Ketchum, H Benz

0800h **S11B-1697 POSTER** OMG Earthquake! Can Twitter improve earthquake response?: **P S Earle**, M Guy, C Ostrum, S Horvath, R A Buckmaster

0800h **S11B-1698 POSTER** Products and Services Available from the Southern California Earthquake Data Center (SCEDC) and the Southern California Seismic Network (SCSN): **E Yu**, S Chen, F Chowdhury, A Bhaskaran, K Hutton, D Given, E Hauksson, R W Clayton

0800h **S11B-1699 POSTER** Modernization of the Caltech/USGS Southern California Seismic Network: **R Bhadha**, A Devora, E Hauksson, D Johnson, V Thomas, M Watkins, R Yip, E Yu, D Given, G Cone, C Koesterer

0800h **S11B-1700 POSTER** Robust Distributed Earthquake Monitoring with CISN software in Northern California: **D S Neuhauser**, P N Lombard, L D Dietz, S Zuzlewski, J H Luetgert, W Kohler, M Hellweg, D H Oppenheimer, B A Romanowicz

0800h **S11B-1701 POSTER** Alaska Seismic Network Upgrade and Expansion: **J M Sandru**, R A Hansen, S A Estes, M Fowler

0800h **S11B-1702 POSTER** Unravelling Responses for the Canadian National Seismic Network: **T L Mulder**

0800h **S11B-1703 POSTER** A Web-Based Borehole Strong-motion Data Dissemination Portal: **J H Steidl**, S Seale, H Ratzesberger, F Civilini, N Vaughan

0800h **S11B-1704 POSTER** The Waveform Suite: A robust platform for accessing and manipulating seismic waveforms in MATLAB: **C G Reyes**, M E West, S R McNutt

0800h **S11B-1705 POSTER** NSF EarthScope USArray Transportable Array Catalog and Magnitude Comparisons: **J A Eakins**, F L Vernon, L Astiz, V G Martynov, T A Cox, R L Newman, G A Davis, B Battistuzzi, J Reyes

0800h **S11B-1706 POSTER** Calibration Response of the NSF EarthScope USArray Transportable Array: **F L Vernon**, D Harvey, J A Eakins, R W Busby, L Astiz, R L Newman, J Reyes

0800h **S11B-1707 POSTER** NetQuakes – A new approach to urban strong-motion seismology: **J H Luetgert**, J R Evans, J Hamilton, C R Hutt, E G Jensen, D H Oppenheimer

0800h **S11B-1708 POSTER** Spend Less, Get More? Using Low-Cost Accelerometers to Calculate Building Responses: **A I Chung**, J F Lawrence, G Prieto, M D Kohler, E S Cochran

0800h **S11B-1709 POSTER** Development of a Miniature Laser Interferometric Seismic Sensor: **D W Carr**, G Bogart, J Zhang, D Robinson, H Milburn, P Baldwin

0800h **S11B-1710 POSTER** Response of Robust Torsion Balances to Teleseismic Events: **T G Madziwa-Nussinov**, R Cowsik, K Wagoner, D A Wiens, M E Wyssession

0800h **S11B-1711 POSTER** Optical Seismometers: Borehole and Vault Applications: **J D Otero**, J Berger, F K Wyatt, M A Zumberge

0800h **S11B-1712 POSTER** Seismic Installations and Observations of the Broadband Downhole Network in the Taipei Basin, Northern Taiwan: **W Huang**, B Huang, K Chen, J Wang, S Tsao

0800h **S11B-1713 POSTER** Real Time Seismic Prediction while Drilling: **F R Schilling**, T Bohlen, T Edelmann, A Kassel, A Heim, M Gehring, S Lüth, R Giese, K Jaksch, A Rechlin, M Kopf, J Stahlmann, J Gattermann, B Bruns

S11C Moscone West: 2005 Monday 0800h
Joint Inversion of Seismic and Multidisciplinary Geophysical Data I (*joint with GP, DI, T, V*)

Presiding: **M Moorkamp**, IFM-GEOMAR; **E Roux**, DIAS

0800h **S11C-01** A Stochastic Seismic Model for the European Arctic: **J Hauser**, K Dyer, M E Pasyanos, H Bungum, J I Faleide, S A Clark

0815h **S11C-02** A Pair of Puzzles in EarthScope TA-Derived Crustal Structure: **A R Lowry**

0830h **S11C-03** Simultaneous, Joint Inversion of Seismic Body Wave Travel Times and Satellite Gravity Data for Three-Dimensional Tomographic Imaging of Western Colombia: V Dionicio, **C A Rowe**, M Maceira, H Zhang, J Londoño

0845h **S11C-04** Joint Nonlinear Inversion of Traveltime, Gravity and Normal Mode Anomalies: **D Fischer**

0900h **S11C-05** 3D Structure of Iran and Surrounding Areas From The Simultaneous Inversion of Complementary Geophysical Observations: C J Ammon, **M Maceira**, M Cleveland

0915h **S11C-06** Cluster analysis applied to velocity, attenuation and gravity tomography: the case of Campanian district volcanoes (southern Italy): **A Troiano**, M Di Giuseppe, Z Petrillo, L De Siena, A Siniscalchi, G Berrino

0930h **S11C-07** Using swath bathymetry as an a priori constraint in a 3D full wavefield tomographic inversion of seismic data across oceanic crust: **J V Morgan**, G L Christeson, M Warner

0945h **S11C-08** A Cross-Gradient Constrained Inversion of Seismic and Magnetotelluric Data in the Parkfield Region of California: **N L Bennington**, C H Thurber, P A Bedrosian

Tectonophysics

T11A Moscone South: Poster Hall Monday 0800h
Earthquake Geology and Seismotectonics of the 2008 Wenchuan Earthquake I Posters (*joint with S, NH*)

Presiding: **Y Ran**, institute of geology, China earthquake administration; **C Chang**, Ctr Space & Remote Sensing Res.; **W Chen**, National Taiwan University

0800h **T11A-1758 POSTER** Holocene paleoearthquake activity along the 2008 Wenchuan Earthquake ruptures of the Beichuan and Pengguan faults, eastern Sichuan, China: **W Chen**, Y Ran, X Xu

0800h **T11A-1759 POSTER** The investigation of horizontal shortening and amount of reverse-faulting from trenching across the surface rupture of the eastern Sichuan Mw7.9 earthquake: **H Wang**, Y Ran, L Chen, X Shi, R Liu, X Xu

0800h **T11A-1760 POSTER** Topographic characteristics of rupture surface associated with the Wenchuan earthquake of Mw7.9, in May 12, 2008: **Z Wei**, H He, F Shi, S Dong

0800h **T11A-1761 POSTER** Structural heterogeneity of the Longmenshan fault zone and the mechanism of the 2008 Wenchuan earthquake (Ms 8.0): **J Lei**, D Zhao

0800h **T11A-1762 POSTER** Coupling between coseismic deformation of Wenchuan earthquake and the deep tectonics: **S Zhang**, F Xie, Z Huang, J Ren

0800h **T11A-1763 POSTER** Near-field post-seismic deformation along the rupture of the 2008 Wenchuan earthquake and its implication: **H He**, Z Wei, F Shi, H Sun

0800h **T11A-1764 POSTER** Estimation of Fault Slip Rates in the Vicinity of the 2008 Wenchuan Earthquake Using Viscoelastic Earthquake Cycle Models, GPS Data, and Geologic Uplift Rates: **S Chatterjee**, K M Johnson

0800h **T11A-1765 POSTER** Three dimensional surface slip partitioning of the Sichuan earthquake from Synthetic Aperture Radar: **M de Michele**, D Raucoles, J de Sigoyer, M Pubellier, C Lasserre, E Pathier, Y Klinger, J van der Woerd

0800h **T11A-1766 POSTER** Fault Slip Distribution of the Mw 7.9 Wenchuan Earthquake Estimated from GPS and ALOS/PALSAR Measurements: **G Feng**, E A Hetland, X Ding, Z Li

0800h **T11A-1767 POSTER** Slip Distribution of the Wenchuan Earthquake Estimated from InSAR Data: **M Enomoto**, M Hashimoto, Y Fukahata, Y Fukushima

0800h **T11A-1768 POSTER** Coseismic fault slip of the 2008 Wenchuan Ms8.0 earthquake inverted jointly from InSAR and GPS measurements: **G Zhang**

0800h **T11A-1769 POSTER** Fault Geometry based on Coseismic Ground Displacements from Satellite Images for the 2008 Wenchuan Earthquake, Sichuan, China: **Y Kuo**, Y Chen, M Huang, J Suppe, J Avouac, S Leprince, F Ayoub, Y Kuo

0800h **T11A-1770 POSTER** Dynamic modeling of stress evolution and crustal deformation associated with the seismogenic process of the 2008 Mw7.9 Wenchuan, China earthquake: **W Tao**, Y Wan, K Wang, Y Zeng, Z Shen

0800h **T11A-1771 POSTER** Numerical Modeling on Co-seismic Influence of Wenchuan 8.0 Earthquake in Sichuan-Yunnan Area, China: **L Chen**, H Li, Y Lu, Y Li, J Ye

0800h **T11A-1772 POSTER** Fault-scarp related features and cascade-rupturing model for the Wenchuan earthquake (Mw7.9), eastern Tibetan Plateau, China: **G Yu**, X Xu, Y Klinger, G Diao, G Chen, X Feng, C Li, A Zhu, R Yuan, T Guo, X Sun, X Tan, Y An

0800h **T11A-1773 POSTER ANALYSIS ON THE GROUND DESTROYED FEATURES AND TECTONIC STRESS FIELD OF THE 2008 WENCHUAN EARTHQUAKE AND OUR TREATING TACTICS:** **Y Guo**, H Wang, Z Deng, H You

0800h **T11A-1774 POSTER** High-Velocity Friction Experiments on the Longmenshan Fault Gouge towards the Understanding of Dynamic Rupture Propagation of the 2008 Wenchuan Earthquake: **T Togo**, T Shimamoto, S Ma, X Wen, T Hirose, X Lei

0800h **T11A-1775 POSTER** Estimate of thermal history within clayey characteristics from Hole-A of Taiwan Chelungpu fault Drilling Project (TCDP): **L Kuo**, S Song, L Huang, E Yeh, H Chen

0800h **T11A-1776 POSTER** Areal strain and hydrological changes in Taiwan induced by 2008 Wenchuan earthquake: **J Hu**, C Chen, C Liu, H Huang, W Liang, K Lin

0800h **T11A-1777 POSTER** Groundwater Level Changes Associated with the Wenchuan Earthquake of May 12, 2008: **T Lee**, Y Chia, R Lee

0800h **T11A-1778 POSTER** A synthetic Cross Section of the Longmen Shan (PRC): **M Pubellier**, A Robert, J de Sigoyer, A Billerot, R Cattin, J Zhu, J Vergne, Y Zhang, N R Chamot-Rooke

0800h **T11A-1779 POSTER** Ambient seismic noise tomography and radial anisotropy from a dense array in SW China: **H Huang**, Y Li, Q Liu, J Chen, H Yao, R D van der Hilst

0800h **T11A-1780 POSTER** Seismic Observations of Rock Damage and Heal on the Longman-Shan Fault of the M8 Wenchuan Earthquake and the Parkfield San Andreas Fault: **Y Li**, J Sue, T Chen, J E Vidale, E S Cochran, P E Malin

0800h **T11A-1781 POSTER** Monitoring of major aftershocks and probing deep structure of the Whchuan M8.0 earthquake by using electromagnetic measurements*: **W Lifeng**, Z Yan

0800h **T11A-1782 POSTER** Analyzing the characteristics of focal mechanism solutions of Wenchuan earthquake sequence: **X Cui**, X Hu, F Xie, C YU, Y Wang

0800h **T11A-1783 POSTER** Rupture Directivity Analysis for the 2008 Wenchuan (China) Earthquake Inferred from the Rayleigh-Wave Phase Velocity: **W Chang**, R Hwang, J Chang, J Wu

0800h **T11A-1784 POSTER** Seismogenic Stress Field for the Wenchuan M8 Earthquake Affected by Regional Stress Field in the Yangtze Block: **J Xu**, Z Zhao, Z Zhao

0800h **T11A-1785 POSTER** Rupture Properties of the 2008 Mw=7.9 Wenchuan Earthquake: Analysis from Seismological and Geological Data: **Y Wen**, K Ma

0800h **T11A-1786 POSTER** Electricomagnetic Coseismic signal associated with aftershock of Wenchuan Ms 8.0 earthquake: **J Tang**, Z Yan, L Wang, Z Dong, Z Guoze, X Chen, X Qibin, J Wang, G Xu

0800h **T11A-1787 POSTER** Seismotectonics of the Longmenshan Thrust Nappe Zone and the M8.0 Wenchuan Earthquake Sequence: **A Zhu**, X Xu, G Diao

0800h **T11A-1788 POSTER** Estimates of source parameters for the Mw7.9 Wenchuan earthquake of 12 May 2008 from near-field seismograms: X Chen, **J Wen**

0800h **T11A-1789 WITHDRAWN**

T11B Moscone South: Poster Hall Monday 0800h
Lithospheric Structure of East Asia I Posters (joint with S, NH)

Presiding: **X Liang**, Peking University

0800h **T11B-1790 POSTER** Seismic imaging in the crust and upper mantle under Southwest China: **Z Wang**, Y Fukao

0800h **T11B-1791 POSTER** SinoProbe: China's new effort to explore the crust and upper mantle beneath continental China: **S Dong**, T Li, L Zeng, S L Klemperer, M Liu, R Gao

0800h **T11B-1792 POSTER** Crustal and Upper Mantle Structure Beneath Northeast China Revealed from Receiver Function Analysis of Regional Seismic Networks: **H Liu**, F Niu, B Wang

0800h **T11B-1793 POSTER** The LAB beneath the far-east Eurasian plate: a final frontier?: **M M Landes**, T Hong

0800h **T11B-1794 POSTER** Crust and Upper Mantle Characteristic of Northern Tibet: Receiver function results of Indepth IV array: **H Yue**, Y J Chen, E A Sandvol, T M Hearn, S Zhou, Z Ge, Y Wang, Y Tang, X Liang, S S Wei, H Wang, J F Ni, Y Feng

0800h **T11B-1795 POSTER** Across-strike and along-strike crustal architecture of the Banggong-Nuijiang suture from INDEPTH magnetotelluric profiles: **J Vozar**, A G Jones, F Le Pape, M J Unsworth

0800h **T11B-1796 POSTER** Crustal structure and tectonics of the northeast Honshu arc, Japan, revealed from detailed gravity anomalies and late Cenozoic caldera distribution: **T Kudo**, T Yoshida, A Yamamoto, R Shichi

0800h **T11B-1797 POSTER** Modeling Wide-Angle Seismic Data from the Hi-CLIMB Experiment in Tibet: **R L Nowack**, J D Griffin, T Tseng, W Chen

0800h **T11B-1798 POSTER** Numerical Modeling of Frequency-Dependent Characteristics of Pn Propagation with Applications to Data from Project Hi-CLIMB in Tibet: **A C Bakir**, R L Nowack, W Chen

0800h **T11B-1799 POSTER** Fast and Improved Monte-Carlo Adaptive Moving Window Method and its Application in Sichuan and Yunnan Region: **Y Xiao**, Y Sun, M N Toksoz, F Morgan

0800h **T11B-1800 POSTER** Configuration of the subducting Philippine Sea slab in the eastern part of southwestern Japan: **T Iidaka**, T Igarashi, T Iwasaki

0800h **T11B-1801 POSTER** Indepth IV Passive Seismic Array: Locating Regional Earthquakes in Northern Tibet: **S S Wei**, Y J Chen, H Yue, G Jin, X Liang, S Zhou, Z Ge, Y Feng, Y Wang, Y Tang, H Wang, W Fan, Y Cao, P Li, R Wang, E A Sandvol, T M Hearn, J F Ni

0800h **T11B-1802 POSTER** Lithospheric Structure of Mongolia and Surroundings: A Surface-Wave Study: D Middleton, M R Agius, **S Lebedev**

0800h **T11B-1803 POSTER** Seismic Anisotropy of Northern Tibet: Combine data from Indepth IV array and permanent stations: **H Wang**, Y J Chen, E A Sandvol, S Zhou, Z Ge, Y Feng, Y Wang, H Yue, Y Tang, S S Wei, W Fan, Y Cao, P Li, R Wang, T M Hearn, J F Ni

0800h **T11B-1804 WITHDRAWN**

0800h **T11B-1805 POSTER** Provenancial correlation between Kanmon Group and Tetori Group, SW Japan and Gyeongsan Supergroup, Korea by age distributions of detrital zircon: **A KATSUBE**, Y Hayasaka

0800h **T11B-1806 POSTER** Ambient Noise and Surface Wave Tomography in North China: **Y Tang**, Y J Chen, Y Yang, Z Ding

0800h **T11B-1807 POSTER** US-China collaborative study of Western Tibet: progress report and initial results: **A Shokoohi Razi**, G Huang, V L Levin, S W Roecker, X Ping, Z Cao

0800h **T11B-1808 POSTER** Shallow and deep crustal velocity models of Northeast Tibet: **M Karplus**, S L Klemperer, J Mechie, D Shi, W Zhao, L D Brown, Z Wu

0800h **T11B-1809 POSTER** Teleseismic P-wave Tomography Image for Northeastern Tibet: **H Chow**, F J Tilmann, K F Priestley, W Zhao, Z Wu, D Shi, E A Sandvol, J F Ni, J Mechie, J Chen

0800h **T11B-1810 POSTER** Lithosphere structure of the west Qinling orogenic belt revealed by deep seismic reflection profile: **H Wang**

0800h **T11B-1811 POSTER** Strength of the lithosphere along two edges of the Tibetan plateau: **G Huang**, V L Levin, S W Roecker

0800h **T11B-1812 POSTER** Relocation of Iran Earthquakes Using the National Seismic Networks: **X Zeng**, Y Sun, M N Toksoz

0800h **T11B-1813 POSTER** The Deep Electromagnetic Structure of the Wenchuan Ms8.0 Earthquake Region and Its Geodynamic Implications: **X Chen**, G Zhao, Q Xiao, Y Zhan, L Wang, J Tang, J Wang

0800h **T11B-1814 POSTER** Tomographic Imaging of Pn and Sn Velocities in the Middle East and Central Asia: **S Pei**, Y Sun, M N Toksoz

0800h **T11B-1815 POSTER** Uppermost Mantle Structure beneath the Dabie Mountain: **M Zhou**, Y Sun, M N Toksoz

0800h **T11B-1816 POSTER** The Shillong Plateau Uplift: **S Mitra**, N Hazarika, K F Priestley, A Kumar, V K Gaur

0800h **T11B-1817 POSTER** Crustal structure of the Darjeeling-Sikkim Himalaya: **C Acton**, K F Priestley, S Mitra, V K Gaur

T11C Moscone South: Poster Hall Monday 0800h
The Many Faces of Slow Slip, Tremor, and Earthquakes I
Posters (*joint with G, H, MR, NH, V, S, NG*)

Presiding: **H Houston**, University of Washington

0800h **T11C-1818 POSTER** Comprehensive understanding of a deep transition zone from an unstable- to stable-slip regime of the megathrust interplate earthquake: **A Kato**, T Iidaka, R Ikuta, Y Yoshida, K Katsumata, T Iwasaki, S Sakai, K Yamaoka, T Watanabe, T Kunitomo, F Yamazaki, N Tsumura, K Nozaki, M Okubo, S Suzuki, N Hirata, H Zhang, C H Thurber

0800h **T11C-1819 POSTER** Further evidence for *P*-wave complexity in regions with slow slip events: **S L Dougherty**, Z Zhan, D V Helmberger, R Chu, T Chen, R W Clayton, H Kanamori

0800h **T11C-1820 POSTER** Dynamic Stress Modeling for the Triggering of Non-Volcanic Tremors: **A A Velasco**, H Gonzalez-Huizar, S Hernandez

0800h **T11C-1821 POSTER** Systematic analysis of triggered and ambient tremor beneath the Central Range in Taiwan: **K Chao**, Z Peng, C Lin, C Tang

0800h **T11C-1822 POSTER** Cascadia-wide tremor locations: **A Wech**, K C Creager

0800h **T11C-1823 POSTER** Tremor bands sweep Cascadia: **A Ghosh**, J E Vidale, J R Sweet, K C Creager, A Wech, H Houston

0800h **T11C-1824 POSTER** 1-D Tremor Streaks: Implications for a Streak Source Model: **H Houston**, A Ghosh, J E Vidale

0800h **T11C-1825 POSTER** Low-Frequency Earthquakes in Cascadia: **J R Sweet**, K C Creager, A Ghosh, J E Vidale

0800h **T11C-1826 POSTER** Field and Laboratory Observations on Fluid Budget of the Cascadia Episodic Tremor and Slip System, Olympic Peninsula, Washington: **H Rotman**, C G Mattinson

0800h **T11C-1827 POSTER** Non-volcanic tremor in Cascadia: Segmented along strike, anti-correlated with earthquakes, and offset from the locked zone: **D C Boyarko**, M R Brudzinski, R M Allen, R W Porritt

0800h **T11C-1828 POSTER** Tidal Modulation of Deep Non-Volcanic Tremor: **K Foster**, K C Creager, A Wech, J E Vidale

0800h **T11C-1829 POSTER** Development of a new time-dependent slip inversion of Slow Slip Events: application to the 2006 Guerrero SSE: **M Radiguet**, F Cotton, M M Vergnolle, M Campillo, V Kostoglodov, N Cotte

0800h **T11C-1830 POSTER** Episodic Tremor and Slip along the Oaxaca segment of the Middle America Subduction Zone and Comparisons to Cascadia and Nankai: **K M Schlanser**, M R Brudzinski, H R Hinojosa, E Cabral-Cano, A Arciniega-Ceballos, O Diaz-Molina, C DeMets

0800h **T11C-1831 POSTER** A slow slip event along the northern Ecuadorian subduction zone: **J Nocquet**, P A Mothes, M Vallee, M Regnier

0800h **T11C-1832 POSTER** Anomalous crustal movement detected through seafloor geodetic observation at accretionary wedge in the central Ryukyu Trench: **M Nakamura**, K Tadokoro, T Okuda, M Ando, T Watanabe, S Sugimoto, K Miyata, T Matsumoto, M Furukawa

0800h **T11C-1833 POSTER** Precise hypocenter distribution of deep low-frequency earthquakes and its relationship to the local geometry of the subducting plate in Nankai subduction zone, Japan: **K Ohta**, S Ide

0800h **T11C-1834 POSTER** Spatial and temporal stress change due to short-term slow slip events inferred from observations of deep non-volcanic tremors in western Shikoku, southwest Japan: **R Nakata**, N Suda, T Hori, S Tanaka

0800h **T11C-1835 POSTER** Reevaluation of nonvolcanic tremor activity based on the hybrid method: **K Obara**, S Tanaka, T Maeda

0800h **T11C-1836 POSTER** Electromagnetic survey and monitoring to reveal the characteristics around tremor source area beneath Nankai subduction zone: **F Yamashita**, K Obara

0800h **T11C-1837 POSTER** Seismic explosion survey around slow events in the Tokai region, Japan: **T UENO**, T Takeda, K Obara, Y Asano

0800h **T11C-1838 POSTER** Time variation in amplitude-frequency distribution of deep non-volcanic tremors in the Bungo Channel region, southwest Japan: **Y Hanakawa**, N Suda

0800h **T11C-1839 POSTER** Deep very low frequency seismic activity in low frequency tremor zone: Monitoring by broadband seismic array analysis in Western Japan: **Y Ishihara**, N Suda, R Nakata, A Kubo, H Kawakatsu

0800h **T11C-1840 POSTER** The small Boso slow slip event in 2000 detected by small repeating earthquakes: **H Kimura**, T Takeda, K Obara, K Kasahara

0800h **T11C-1841 POSTER** Slow slip events in the Kii Peninsula and Shikoku, Japan detected by strain changes at the integrated observatories of Geological Survey of Japan, AIST: **S Itaba**, R Ohtani, Y Kitagawa, N Matsumoto, N Koizumi

T11D Moscone West: 2009 Monday 0800h
Earthquakes at the Edge: Observing and Understanding Transitions of Seismogenic Properties and Processes Along Subduction Zones I (*joint with G, S*)

Presiding: **G A Spinelli**, New Mexico Tech; **S Saito**, JAMSTEC

0800h **T11D-01** Links Between Geologic Conditions and Lateral Seismicity Variations in Circum-Pacific Subduction Zones (*Invited*): **S L Bilek**, J Stankova-Pursley

0815h **T11D-02** Seismogenic Behaviours of Smoothly and Roughly Coupled Subduction Faults (*Invited*): **K Wang**

0830h **T11D-03** The Updip Seismic/Aseismic Transition of the Sumatra Megathrust: **F J Tilmann**, T Craig, I Grevenmeyer, B W Suwargadi, H Kopp, E R Flueh, R Collings, D Lange, D H Natawidjaja

0845h **T11D-04** Structure and Lateral Variation of the West Sumatran Subduction Zone as Revealed by Local Seismicity: **D Lange**, F Tilmann, A Rietbrock, R Collings, D H Natawidjaja, B W Suwargadi, T Henstock, T Ryberg

0900h **T11D-05** Deep Seismic Reflection Images of the Sumatra Seismic and Aseismic Gaps: **S C Singh**, N D Hananto, A Chauhan, H D Carton, S Midenet, Y Djajadihardja

0915h **T11D-06** 3-D Seismic Tomographic Inversion to Image Segmentation of the Sumatra Subduction Zone near Simeulue Island: **G Tang**, P J Barton, S M Dean, P M Vermeesch, M D Jusuf, T Henstock, Y Djajadihardja, L C McNeill, H Permana

0930h **T11D-07** Earthquake Clusters and Persistent Segmentation Near the Boundary of the 2004 and 2005 Sunda Megathrust Ruptures: **A J Meltzner**, K E Sieh, H Chiang, C Shen, B Philiposian, B W Suwargadi, D H Natawidjaja

0945h **T11D-08** How wide is the seismogenic zone of the Lesser Antilles forearc?: **M Gutscher**, G K Westbrook, B Marcaillou, D Graindorge, A Gailler, T Pichot, R Maury

T11E Moscone West: 2007 Monday 0800h
Lithosphere and Asthenosphere Interaction: Top Down or Bottom Up? I (*joint with MR, V*)

Presiding: **R Meyer**, Massachusetts Institute of Technology; **J W Van Wijk**, University of Houston

0800h **T11E-01** Experimental constraints for the generation of alkaline lavas in extension zone: a summary: **S Pilet**

0815h **T11E-02** Lithosphere-asthenosphere interactions the East African Rift beneath Ethiopia: Assessing various melt migration and deformation mechanisms and their potential signatures in seismic velocity. (*Invited*): **B K Holtzman**, J M Kendall, J B Gaherty, A Tommasi, V Hjorleifsdottir

0830h **T11E-03** Dynamics of melt extraction channels? Evidence from the Beni Bousera ultramafic massif. (*Invited*): **O E Jagoutz**, J Stanley, A Gysi, G Hirth

0845h **T11E-04** Moving (transient) lithosphere-asthenosphere boundaries: Coupling between partial melting, melt transport, and deformation: **J Bodinier**, **A Tommasi**, V Soustelle, V Le Roux, A R Vauchez, C J Garrido

0900h **T11E-05** The role of lithosphere-asthenosphere interactions in global mantle dynamics (*Invited*): **T Höink**, A Lenardic, M Jellinek

0915h **T11E-06** A comparison of surface wave tomography in the Atlantic Ocean with the plate model: mismatches and implications for the lithosphere-asthenosphere system: **S Fishwick**, A G Crosby

0930h **T11E-07** Constraints on upper-mantle boundary layers from comparison of global seismic attenuation and velocity models with experimental observations (*Invited*): **C A Dalton**, U H Faul

0945h **T11E-08** Why are Global Mountain Belts High? Hot Backarcs and Thermal Isostasy: **R D Hyndman**, C A Currie, S Mazzotti

T11F Moscone West: 2011 Monday 0800h
Tectonic Processes at Continental Transform Faults I (*joint with S, NH, G*)

Presiding: **P M Fulton**, Oregon State University; **R N Harris**, Oregon State University

0800h **T11F-01** Development of the New Zealand and San Andreas Continental Transforms: From Plate Kinematics to Lithospheric Geodynamics (*Invited*): **K P Furlong**

0815h **T11F-02** Evolution of the Walker Lane: An Incipient Transform Fault and Future Pacific-North America Plate Boundary: **J E Faulds**, C D Henry

0830h **T11F-03** Spatial and temporal variation in deformation magnitude adjacent to the San Andreas Fault system, Santa Cruz Mountains, California: **E M Horsman**, R W Graymer, R C Jachens

0845h **T11F-04** New Quaternary slip-rate estimates for the central Garlock fault in SE California – Evidence for large transient slip-rates: **W M Rittase**, D Walker, E Kirby, E McDonald

0900h **T11F-05** LATE QUATERNARY SLIP HISTORY OF THE CENTRAL ALTYN TAGH FAULT, NW CHINA, DERIVED FROM FAULTED TERRACE RISERS: **R D Gold**, E Cowgill, R Arrowsmith, X Chen, J Gosse, W D Sharp, K M Cooper, X Wang

0915h **T11F-06** Geometrical and material properties of large transform fault zone structures (*Invited*): **Y Ben-Zion**

0930h **T11F-07** Asymmetric Interseismic Deformation and Structure Along Evolving Strike-Slip Faults: the Role of Lateral Contrasts in Lithosphere Rheology: **Y Finzi**, E H Hearn

0945h **T11F-08** How fault geometric constraints and structural complexity effect earthquake frequency-size relations and maximum earthquake size: **O Zielke**, R Arrowsmith

Volcanology, Geochemistry and Petrology

V11A Moscone South: Poster Hall Monday 0800h
Mechanistic Understanding of Factors Influencing Non-Mass-Dependent Fractionation I Posters

Presiding: **K Kritee**, Princeton University; **B A Bergquist**, University of Toronto

0800h **V11A-1929 POSTER** Non-mass-dependent Oxygen Isotope Effects in Ozone Formation: Bath Gas and Pressure Dependence: **K L Feilberg**, K A Boering

0800h **V11A-1930 POSTER** The Anomalous Oxygen Isotopic Composition of Carbon Dioxide: Photochemical Experiments, Kinetics Modeling, and Stratospheric Observations: **A A Wiegel**, K J Hoag, A S Cole, K A Boering

0800h **V11A-1931 POSTER** Isotopic Fractionation of Mercury in Great Lakes Precipitation: **L E Gratz**, G J Keeler, J D Blum, L S Sherman

0800h **V11A-1932 POSTER** Theoretical Investigations for Anomalous Fractionation of Sulfur Isotopes during a surface reaction: **T Otake**, A C Lasaga, Y Watanabe, H Ohmoto

0800h **V11A-1933 POSTER** Estimation of nuclear volume dependent fractionation of mercury isotopes: **B A Bergquist**, S Ghosh, G Lacrampe-Couloume, E A Schauble, J D Blum

0800h **V11A-1934 POSTER** Mass-independent fractionation of mercury isotopes during photochemical reduction in freshwater systems: **C H Rose**, B A Bergquist, J D Blum

V11B Moscone South: Poster Hall Monday 0800h
Physical Volcanology Posters

Presiding: **P J Wallace**, University of Oregon

0800h **V11B-1935** WITHDRAWN

0800h **V11B-1936 POSTER** Volcanic Diapirs: Evidence of Volatile Driven Convection within Jurassic Flood Basalt Flows, Paterson, New Jersey: **J H Puffer**, **C Laskowich**

0800h **V11B-1937 POSTER** Gravitational Failures of Lava Domes at Intersections With Tectonic Faults: Examples from Tatun Volcanic Group, Northern Taiwan: **M Belousova**, A Belousov, C Chen

0800h **V11B-1938 POSTER** Recent Eruptive History of the Tatun Volcanic Group, Northern Taiwan: Hazard-related Issues: **A Belousov**, M Belousova, C Chen

0800h **V11B-1939 POSTER** CRUSTAL STRUCTURE BENEATH THE TUXTLA VOLCANIC FIELD (VERACRUZ, MEXICO) FROM RECEIVER FUNCTIONS AND GRAVITY DATA: **J Espindola**, A Zamora-Camacho, M Godinez

0800h **V11B-1940 POSTER** Recent activity of Anatahan volcano, Northern Mariana Islands, and its magma plumbing system: **S Nakada**, Y Morita, T Matsushima, T Tabei, A Watanabe, F Maeno, J T Camacho

0800h **V11B-1941 POSTER** Thermal erosion of felsic ground by the laminar flow of a basaltic lava, with application to the Cave Basalt, Mount St. Helens, Washington: **R C Kerr**

0800h **V11B-1942 POSTER** Cooling and solidification of channelized viscoplastic lava flows: **J C Robertson**, R C Kerr

0800h **V11B-1943 POSTER** VISCOSITY AND EXPLOSIVE VOLCANISM: THE CASE OF ARENAL VOLCANO (COSTA RICA): **S Bertolino**, C Cigolini, G E Alvarado

0800h **V11B-1944 POSTER** Precise integrated topography of Dokdo, East Sea, Korea, using LIDAR DEM and Multi-beam echo sounding data: **C Kim**, J Park, H Joo, C Park, E Jeong, S Lee, H Kim

0800h **V11B-1945 POSTER** Fluid dynamic simulations of the convection at Erebus lava lake, Antarctica: **I Molina**, A Burgisser

0800h **V11B-1946 POSTER** Influence of the Fragmentation Process on the Eruptive Dynamics of Vulcanian Eruptions: an Experimental Approach: **M A Alatorre-Ibarguengoitia**, A Arciniega-Ceballos, D B Dingwell, D Richard, B Scheu, U Kueppers, H Delgado-Granados, M Navarrete Montesinos

0800h **V11B-1947 POSTER** Vent Processes and Deposits of a Hiatus in a Violent Eruption: Quilotoa Volcano, Ecuador: **J A Best**, J Bustillos, M H Ort, K V Cashman, P A Mothes, A Di Muro, M Rosi

0800h **V11B-1948 POSTER** Magnetotelluric results from the Ohaaki Geothermal System, Taupo Volcanic Zone, New Zealand: **G J Hill**, T G Caldwell, S Bennie, W Heise, E Mroczek, G Bignall

0800h **V11B-1949 POSTER** Rockfalls and Block-and-Ash Flows at Augustine Volcano, 2003-2009: **N DeRoin**, S R McNutt

0800h **V11B-1950 POSTER** Characteristics of a young lava-hyaloclastite sheet, Snaebylisheidi, Iceland: **J D White**, C F Gorný, M T Gudmundsson

0800h **V11B-1951 POSTER** Late Pleistocene-Holocene Volcanism of the Mexico Basin and Assessment of Volcanic Hazards in One of the World's Largest Cities: **P W Layer**, J Macías, J Arce, F García

0800h **V11B-1952 POSTER** Energy Partitioning in the Phreatomagmatic Basaltic Eruption of Grímsvötn in 2004: **M T Gudmundsson**, B Zimanowski, T C Jude-Eton, B Oddsson, R Buettner, P Dellino, T Thordarson, G Larsen

0800h **V11B-1953 POSTER** Using analog flow experiments to model morphologies developed during episodic dome growth: A case study of Mount St Helens, 1980-1986: **K M Altman**, R Teasdale

0800h **V11B-1954 POSTER** The 2-ka Eruption of Misti Volcano, Southern Peru: **C J Harpel**

0800h **V23C-2072 POSTER** 2500 pyroclast puzzle: probing eruptive scenarios at Volcán de Colima, Mexico: **U Kueppers**, N R Varley, M A Alatorre-Ibarguengoitia, Y Lavalée, S Becker, N Berninger, F Goldstein, J B Hanson, S Kolzenburg, D B Dingwell

0800h **V23B-2039 POSTER** Experiments on a turbulent plume: shape analyses: **S Kitamura**, I Sumita

V11C Moscone South: Poster Hall Monday 0800h **Recent Developments in Nontraditional Stable Isotope Geochemistry I Posters**

Presiding: **C Lundstrom**, University of Illinois; **F Teng**, Univ. of Arkansas

0800h **V11C-1955 POSTER** $\delta^7\text{Li}$ variation along a continental volcanic Suite: evidences for the Li characteristic of the involved reservoir: **C Hamelin**, J Barrat, H Seitz, L Dosso, M Chaussidon

0800h **V11C-1956 POSTER** Fractionation of Sulfur Isotopes in the Formation of Mars: **N T Foley**, A Shahar, M Liu

0800h **V11C-1957 POSTER** Sulfur Mass-Independent Fractionation in Atmospheric Formation of Volcanic Sulfate: **A Lanciki**, J Cole-Dai, M H Thiemens, J P Savarino

0800h **V11C-1958 POSTER** Chondritic magnesium isotopic composition of the terrestrial mantle: A case study of peridotite xenoliths from the North China craton: **W Yang**, F Teng, H Zhang

0800h **V11C-1959 POSTER** Chondritic Mg isotope composition of the Earth: **B Bourdon**, E T Tipper, C Fitoussi, A Stracke

0800h **V11C-1960 POSTER** Spinel-silicate Mg and Fe stable isotope fractionation: a model system to explore isotope partitioning in the deep Earth: **E D Young**, E A Schauble, C Macris

0800h **V11C-1961 POSTER** Mg isotopic compositions of basal dolomitic claystones from ODP Site 650, Mediterranean Sea: **G D Kamenov**, V M Dekov, C Savelli

0800h **V11C-1962 POSTER** Magnesium isotopic composition of the upper continental crust: **W Li**, F Teng, S Ke, R L Rudnick, S Gao, F Wu, B W CHAPPELL

0800h **V11C-1963 POSTER** Magnesium isotope fractionation during differentiation of Harney Peak granite: **S Ke**, F Teng, R J Walker

0800h **V11C-1964 POSTER** Variations in $\delta^{56}\text{Fe}$ during magma differentiation at Cedar Butte volcano: signatures of thermal diffusion?: **X Li**, C Lundstrom, Z Zhang, M O McCurry

0800h **V11C-1965 POSTER** Ca Isotopic Ratios in Igneous Rocks: Some Preliminary Results: **S Huang**, J Farkas, S B Jacobsen

0800h **V11C-1966 WITHDRAWN**

0800h **V11C-1967 POSTER** Equilibrium carbon and hydrogen isotope fractionation in iron: **E A Schauble**

0800h **V11C-1968 POSTER** Theoretical estimation for equilibrium Mo isotope fractionations between dissolved Mo species and the adsorbed complexes on (Fe,Mn)-oxyhydroxides: **M TANG**, Y Liu

0800h **V11C-1969 POSTER** Modeling of Elemental Isotopic Fractionations Induced By Thermal Gradients in Melts: **G Dominguez**, G A Wilkins, M H Thiemens

0800h **V11C-1970 POSTER** Solute Isotope Fractionation by Diffusion in Liquid Water: **I C Bourg**, G Sposito

0800h **V11C-1971 POSTER** Potential Effects of Speciation on Equilibrium $\text{Fe}^{3+}/\text{Fe}^{2+}$ Isotopic Fractionation, based on Ab Initio Models of Aqueous Fe-Cl and Fe-S Complexes: **P S Hill**, E A Schauble

0800h **V11C-1972 POSTER** Modeling Large Zinc Isotope Fractionations Associated with Reaction Kinetics: **J R Black**, S John, A Kavner

0800h **V11C-1973 POSTER** Mechanisms for Redox Driven Copper Isotope Fractionation: **J A Crawford**, J R Black, S John, A Kavner

0800h **V11C-1974 POSTER** High-Temperature Fractionation of Ni Stable Isotopes Between Metal and Silicates: Constraints from Experimental Study at 800°C and 10 kbar: **M C Huh**, C Lazar, E D Young, C E Manning

0800h **V11C-1975 POSTER** Fe isotope fractionation in the Fe-S system at low temperature: **R Guilbaud**, R M Ellam, I B Butler, D Rickard

0800h **V11C-1976 POSTER** Experimental Study of Copper Isotope Fractionation During the Formation of Cu and Cu-Fe Sulfides in Aqueous Solutions at 40-200 °C: **M Pekala**, D Asael, I B Butler, A Matthews, D Rickard

0800h **V11C-1977 POSTER** Cd Isotope Fractionation During Adsorption Varies with Salinity: **L E Wasylenki**, G Montanez, A D Anbar

0800h **V11C-1978 POSTER** Cr stable isotope fractionation and reaction kinetics in aqueous milieu: **S Zink**, R Schoenberg, M Staubwasser

0800h **V11C-1979 POSTER** Molybdenum isotopes in sediments from a dynamic basin: the Mediterranean Sea: **K D Scheiderich**, R J Walker

0800h **V11C-1980 POSTER** Ca Isotope Fractionation During Gypsum Precipitation in a Sulfidic Cave: **M S Fantle**, J L Macalady, A Eisenhauer

0800h **V11C-1981 POSTER** Calcium Isotope Fractionation in Hydrothermal Systems: **S T Brown**, D J Depaolo, A V Turchyn, B M Kennedy, J Alt, J H Bedard, T Skulski

VIID Moscone South: Poster Hall Monday 0800h
Volatiles in the Earth: From Past to Present I Posters (*joint with MR, P, DI, T*)

Presiding: **H M Gonnermann**, Rice University; **R Dasgupta**, Rice University

0800h **V11D-1982 POSTER** The Influence of Cooling History on the Redox Conditions of Subduction Zone Magmas: **B H Parks**, K A Kelley, E Cottrell, E S Posner

0800h **V11D-1983 POSTER** Micro-XANES Determination of Fe Oxidation State in MORB and its Relationship to Water Content: E S Posner, **E Cottrell**, K A Kelley, E Ruebush

0800h **V11D-1984 POSTER** Methane-bearing fluids in subduction zones: an experimental study of abiogenic methanogenesis during serpentinization at 12 kbar and 300 °C: **C Lazar**, C E Manning

0800h **V11D-1985 POSTER** High-pressure Cr solubility in chlorites and its implications for clinocllore stability: **J K Fischer**, P Fumagalli, M Merlini, S Poli

0800h **V11D-1986 POSTER** The effect of the oxygen fugacity on carbon speciation in the Earth's mantle: **V Stagno**, D J Frost, C A McCammon

0800h **V11D-1987 POSTER** The Deep Carbon Cycle and CO₂ Sequestration: **N B Filipovitch**, W L Mao, I Chou, K Mu

0800h **V11D-1988 POSTER** Melting Phase Relation of Nominally Anhydrous, Carbonated Pelite at Sub-arc Depths and Cycling of Sedimentary Carbon in Subduction Zones: **K Tsuno**, R Dasgupta

0800h **V11D-1989 POSTER** Subsolvus and melting phase relations in the system CaCO₃-MgCO₃-FeCO₃ at 35 kbar: from experiments to predictions based on a thermodynamic model: **E Franzolin**, M W Schmidt, S Poli

0800h **V11D-1990 POSTER** The compressibility of K₂CO₃-Na₂CO₃-Li₂CO₃-CaCO₃ liquids derived from sound speed measurements: implications for the fusion curve of CaCO₃: **M C O'Leary**, R A Lange, Y Ai

0800h **V11D-1991 POSTER** Solubility and speciation of S in hydrous magmas: Effects of composition and redox conditions at 1050 °C and 200 MPa: **R E Botcharnikov**, M Wilke, P J Jugo, F Holtz

0800h **V11D-1992 POSTER** Preliminary Investigations of C-O-H Solubility at Reduced Condition in a Haplobasaltic Liquid: **P Ardia**, M M Hirschmann

0800h **V11D-1993 POSTER** Fluorine partitioning between nominally anhydrous minerals (cpx, ol) and latite and minette liquids: **S N Guggino**, R L Hervig, D R Bell

0800h **V11D-1994 POSTER** Geophysical and petrological detection of subduction-related metasomatism in the Slave cratonic lithosphere: **C Chen**, S Rondenay, R L Evans, D B Snyder

0800h **V11D-1995 POSTER** Water Depth Estimates Using the Volatile Content of Volcanic Glass from the AND-1B Drill Core: **B I Cameron**, S R Krans

0800h **V11D-1996 POSTER** Water content in intraplate basaltic magmas from the Longgang area, NE China: **F Mizobuchi**, T Kuritani, T Yoshida, T Miyamoto, Y Nagahashi, H Taniguchi

0800h **V11D-1997 POSTER** The persistent and pernicious myth of the early CO₂-N₂ atmospheres of terrestrial planets: **G H Shaw**

VIIE Moscone West: 2016 Monday 0800h
Chemical Evolution of the Mantle: Timing and Tempo? I (*joint with MR*)

Presiding: **V C Bennett**, J D Vervoort, Washington State University; **A Lenardic**

0800h **V11E-01** A Subchondritic Bulk Sm/Nd For The Earth Constrained By Nd Isotope Systematics Of Lunar Basalts: Implications For Evolving Terrestrial Mantle Reservoirs: **A D Brandon**

0815h **V11E-02** Sm-Nd and Lu-Hf isotope composition of chondritic components: **A Bouvier**, J D Vervoort, P J Patchett, C Gopel

0830h **V11E-03** Evolution of Earth's Mantle: Pathological development versus congenital abnormalities (*Invited*): **D J Depaolo**

0845h **V11E-04** Osmium Isotopic Evolution in Cumulate Piles at the Core-Mantle Boundary: **M Humayun**

0900h **V11E-05** Dynamical Evolution and Chemistry of the Mantle (*Invited*): **G F Davies**

0915h **V11E-06** Hadean to Modern Mantle Evolution from a ¹⁴²Nd-¹⁴³Nd-¹⁷⁶Hf Isotopic Perspective: **V C Bennett**, A D Brandon, J Hiess, Y Wan, A Nutman

0930h **V11E-07** A 'heavy' noble gas framework for understanding mantle volatile origin and evolution (*Invited*): **C J Ballentine**, G Holland, R Burgess, H Sumino, P E Van Keken, J P Brandenburg, E H Hauri

0945h **V11E-08** Xenon isotope constraints on the thermal evolution of the early Earth: **N Coltice**, B Marty, R Yokochi

VIIF Moscone West: 2020 Monday 0800h
Crystals, Glass, Cracks, and Bubbles: Degassing and Crystallization in Silicic Conduits and Lavas I (*joint with MR*)

Presiding: **J M Castro**, Smithsonian Institution; **B M Kennedy**, University of Canterbury; **H Tuffen**, Lancaster University

0800h **V11F-01** Bubble expansion, gas percolation and preservation of pyroclasts (*Invited*): **A Rust**, K V Cashman, H M Wright

0815h **V11F-02** Mechanical interactions between bubbles in experimentally decompressed H₂O-saturated rhyolite melts: **J M Castro**, A Burgisser, J E Gardner

0830h **V11F-03** Gas transport through magma near the percolation threshold (*Invited*): **E W Llewellyn**, J Blower, D Leslie

0845h **V11F-04** Bubble Nucleation in Hydrous Magmas: The Impact of Melt Composition, Water Content, and Temperature: **J E Gardner**, A E Lewis

0900h **V11F-05** Pre-explosive Conduit Conditions of the 1997 Vulcanian Explosions at Soufrière Hills Volcano (Montserrat): Pressure and Vesicularity Distributions: **A Burgisser**, S Poussineau, L Arbaret, T H Druitt, T Giachetti, J Bourdier

0915h **V11F-06** Modeling Magma Decompression During the 1912 Plinian Eruption at Novarupta, Alaska: **H M Gonnermann**, B F Houghton, N K Adams, E W Hildreth

0930h **V11F-07** Cooling history of water-rich tube pumice: a calorimetric determination: **D B Dingwell**, D Richard, J Marti

0945h **V11F-08** On the Interaction of a Vigorous Hydrothermal System with an Active Magma Chamber: The Puna Magma Chamber, Kilauea East Rift, Hawaii: R T Gregory, **B D Marsh**, W Teplow, J Fournelle

V I G Moscone West: 2018 Monday 0800h
Volcanism in the East African Rift System (EARS) I (*joint with T*)

Presiding: **T P Fischer**, University of New Mexico; **D R Hilton**, UCSD

0800h **V11G-01** A Xenolith Perspective on the Composition and Age of the Northern Tanzanian Lithosphere (*Invited*): **R L Rudnick**, S Aulbach, J J Bellucci, M S Blondes, J Chesley, C Lee, A T Mansur, S Many, W F McDonough

0815h **V11G-02** Helium and carbon isotope systematics of Rungwe geothermal gases and fluids; southern Tanzania: **P H Barry**

0830h **V11G-03** Osmium isotopic evidence for recycled oceanic crust in East African Rift Volcanism: **W R Nelson**, T Furman, S B Shirey

0845h **V11G-04** ^{238}U - ^{230}Th - ^{226}Ra - ^{210}Pb disequilibria study of the Nyiragongo volcanics from the East African Rift: implications for timescales of magmatic processes and eruption ages: **R Chakrabarti**, K W Sims, A R Basu, M K Reagan, J Durieux

0900h **V11G-05** Geochemically Deduced Mantle Dynamics Beneath the Main Ethiopian Rift. (*Invited*): **T O Rooney**, B B Hanan, D W Graham, T Furman

0915h **V11G-06** Oldoinyo Lengai gas chemistry from 2005 to 2009: Insights to carbonatite-nephelinite volcanism: **T P Fischer**, P Burnard, B Marty, J de Moor, D R Hilton, A M Shaw, P H Barry, C Ramirez, F Mangasini

0930h **V11G-07** Recent explosive eruptions in the Rungwe Volcanic Province, Tanzania: **K Fontijn**, G G Ernst, M A Elburg, D Williamson, P Jacobs

0945h **V11G-08** Rifting, volcanism, and magma genesis at the northern end of the Danakil Depression: The Alid volcanic center of Eritrea (*Invited*): **J B Lowenstern**, M A Clynne, W A Duffield, J G Smith, L Woldegiorgis

Union

U12A Moscone South: 103 Monday 1020h
An Earthquake in an Ancient City: The April 2009 L'Aquila (Central Italy) Seismic Sequence I (*joint with S, G, T, NH*)

Presiding: **L Chiaraluce**, Istituto Nazionale di Geofisica e Vulcanologia; **T Parsons**, USGS

1023h **U12A-01** Continuous waveform data stream analysis: Detection and location of the L'Aquila earthquake sequence: A Maggi, **A Michelini**

1035h **U12A-02** Real-time operative earthquake forecasting: the case of L'Aquila sequence: **W Marzocchi**, A Lombardi

1050h **U12A-03** Fault-based earthquake rupture forecast in Central Italy: lessons learned with the L'Aquila Mw 6.3 event: **B Pace**, L Peruzza, F Visini

1105h **U12A-04** The 2009 L'Aquila seismic sequence (Central Italy): fault system geometry and kinematics: **L Valoroso**, A Amato, M Cattaneo, G Cecere, C Chiarabba, L Chiaraluce, P De Gori, A Delladio, G De Luca, M Di Bona, R Di Stefano, A Govoni, F P Lucente, L Margheriti, S Mazza, G Monachesi, M Moretti, M Olivieri, N Piana Agostinetti, G Selvaggi, L Improta, D Piccinini, A Mariscal, C Pequegnat, A Schlagenhauf, G Salaun, P Traversa, C Voisin, L Zuccarello, R Azzaro

1120h **U12A-05** The preparatory phase of the April 6th 2009, Mw 6.3, L'Aquila earthquake: Seismological observations: **F P Lucente**, P De Gori, L Margheriti, D Piccinini, M DiBona, C Chiarabba, N Piana Agostinetti

1135h **U12A-06** Identification of the high pressure fluid source driving the L'Aquila earthquake sequence: **T Terakawa**, A Zoporowski, B Galvan, S A Miller

1150h **U12A-07** Looking for surface faulting ancestors of the L'Aquila April 6, 2009 event: preliminary paleoseismological data and seismic hazard implications: **F R Cinti**, R Civico, L Cucci, P De Martini, D Pantosti, S Pierdominici, S Pucci, C Brunori, U Fracassi, F Villani

1205h **U12A-08** Details of a slow earthquake following the 2009/04/06 L'Aquila earthquake, as observed by paired laser extensometers in Gran Sasso, Italy: **A Amoroso**, L Crescentini

U12B Moscone South: 104 Monday 1020h
Geophysical Monitoring, Verification, and Accounting for Geologic Carbon Sequestration I

Presiding: **L Huang**, Los Alamos National Laboratory; **W P Harbert**

1020h **U12B-01** An Expanded Role for Geophysics in CCS Site Characterization and Simulation (*Invited*): **D Paddock**, C M Sayers, A L Brown, M Verliac

1035h **U12B-02** Satellite-based measurements of surface deformation reveal fluid flow associated with the geological storage of carbon dioxide (*Invited*): **D Vasco**, A Rucci, A Ferretti, F Novali, R Bissell, P Ringrose, A Mathieson, I Wright

1050h **U12B-03** Noninvasive monitoring of CO₂ sequestration sites using airborne EM technology: **V Kaminski**, W P Harbert, J M Legault

1105h **U12B-04** REAL TIME CONTINUOUS MEASUREMENTS OF [CO₂] AND $\delta^{13}\text{C}$ AT MULTIPLE LOCATIONS USING CAVITY ENHANCED LASER ABSORPTION: W I McAlexander, G H Rau, L Dobeck, L Spangler

1120h **U12B-05** Quantitative Monitoring of the CO₂ injection plume at Sleipner, North Sea: meeting the regulatory requirement. (*Invited*): **A Chadwick**

1135h **U12B-06** Walkaway VSP Monitoring of CO₂ Injection at the SACROC Oil Field in Texas: **L Huang**, J T Rutledge, Y Wang, H Denli, Z Zhang, A C Cheng, J Peron, M Zhao, B J McPherson, R Grigg

1150h **U12B-07** Microseismic Monitoring of a Carbon Sequestration Field Test: **T I Urbancic**, J Daugherty, A M Baig

1205h **U12B-08** Inventory Verification and Leakage Assessment: A Quantitative Comparison of Complementary Strategies for Verification of Geological Sequestration Projects (*Invited*): **S M Benson**

Atmospheric Sciences

A12A Moscone West: 3006 Monday 1020h **Aerosols and Climate in Asia I: Overview** (*joint with GC, H*)

Presiding: **Z Li**, Univ of Maryland; **J Huang**, College of Atmospheric Science

1020h **A12A-01** Impact of Climate Mitigation on Aerosol Concentrations and Health Effects in Asia: **N E Selin**, C Wang, J M Reilly, S Paltsev, R G Prinn

1035h **A12A-02** Containing Climate Change With Black Carbon Reductions: A Grand Challenge Field Experiment: **V Ramanathan**

1055h **A12A-03** Aerosols in Asia and Global-to-Continental-scale Climate Change (*Invited*): **V Ramaswamy**

1115h **A12A-04** Changes in snow cover and water cycle over the Tibetan plateau induced by absorbing aerosols: **W K Lau**, M Kim, K Kim, W Lee

1135h **A12A-05** Estimation of black carbon deposition from particulate data in the atmosphere at NCO-P site in Himalayas during pre-monsoon season and its implication to snow surface albedo reduction: **T J Yasunari**, P Bonasoni, P Laj, K Fujita, E Vuillermoz, A Marinoni, P Cristofanelli, F Calzolari, R Duchi, G Tartari, W K Lau

1150h **A12A-06** Heavy pollution suppresses light rain in China: Observations and modeling: **Y Qian**, D Gong, J Fan, L Leung, R Bennartz, D Chen, W Wang

1205h **A12A-07** Aerosols and Regional Climate Changes: **S C Liu**

A12B Moscone West: 3002 Monday 1020h **Atmospheric Acoustics for the Geosciences I** (*joint with OS, S, SA, V*)

Presiding: **D P Drob**, Naval Research Laboratory; **C D deGroot-Hedlin**, Scripps Institution of Oceanography

1020h **A12B-01** On the current state of our understanding of the microbarom noise peak (*Invited*): **R Waxler**, C H Hetzer, C L Talmadge, K E Gilbert

1035h **A12B-02** Towards a near real-time estimate of the detection capability of the global IMS infrasound network (*Invited*): **A LE PICHON**, J Vergoz, L Ceranna, D Brown, G Aubert, P Mialle, N Brachet

1050h **A12B-03** A Decade of Progress in Geophysical Acoustics (*Invited*): **M Garces**

1105h **A12B-04** Probing the atmosphere and atmospheric events using dense seismic networks (*Invited*): **M A Hedlin**, D P Drob, C D deGroot-Hedlin, K T Walker

1120h **A12B-05** Infrasonic ambient noise interferometry from correlations of microbaroms: **M M Haney**, K T Decker

1135h **A12B-06** The infrasonic signature of the 2009 major Sudden Stratospheric Warming: **L Evers**, P Siegmund

1150h **A12B-07** Observation of Vertical Acoustic Resonance Effect on the Ground and in the Ionosphere During July 22 Total Eclipse: **T Iyemori**, R Chiba, D Han, M Iguchi, W Kanda, M Matsumura, J J Mori, M Nishioka, M Nose, Y Odagi, N Oshiman, A Saito, Y Sanoo, H Shinagawa, K Taira, A Takemura, Y Tanaka, H Toh, I Tomizawa, M Takeda, M Utsugi, D Yang, Y Gong, Q Li

1205h **A12B-08** The Numerical Simulation of Infrasound Generated by Convective Storms: **D Schecter**, M E Nicholls

A12C Moscone West: 3004 Monday 1020h **Development and Application of Simulators for Aerosol-Cloud-Precipitation Observation From Space I**

Presiding: **G L Stephens**, Colorado State University; **S Tanelli**, Jet Propulsion Laboratory

1020h **A12C-01** The EarthCARE Simulator (*Invited*): **D P Donovan**, G van Zadelhoff, D Lajas, M Eisinger, R Franco

1035h **A12C-02** An overview on the JCSDA Community Radiative Transfer Model (CRTM): **F Weng**

1050h **A12C-03** Evaluation of a Lidar Simulator for Assessment of Model Cloudiness: **D M Winker**, H Chepfer, M Vaughan

1105h **A12C-04** Global Aerosol Spatial Scales in Observations and Models: Considerations for Future Satellite Missions: **P R Colarco**, E J Welton, R A Kahn, L A Remer, A da Silva, M M Rienecker

1120h **A12C-05** Doppler and Multiple Scattering simulations for spaceborne cloud profiling radars: **A Battaglia**, S Tanelli, P Kollias

1135h **A12C-06** Characterizing Single-Scattering Properties of Non-Spherical Ice-Crystal Ensembles: **K Kuo**, Q Han, E A Smith

1150h **A12C-07** Using a database of multi-frequency radar reflectivity profiles to quantify the benefits of 35GHz+94GHz retrievals of rain characteristics: **Z Haddad**, K Park

1205h **A12C-08** Development of Spaceborne Radar Simulator by NICT and JAXA using JMA Cloud-resolving Model: **T Kubota**, H Eito, K Aonashi, A Hashimoto, T Iguchi, H Hanado, S Shimizu, N Yoshida, R Oki

A12D Moscone West: 3008 Monday 1020h **Ocean-Land-Atmosphere Interactions in the Eastern Tropical Oceans II** (*joint with OS*)

Presiding: **R Wood**, University of Washington; **S Spak**, University of Iowa; **H Coe**, The University of Manchester; **C R Mechoso**

1020h **A12D-01** Aerosol-Cloud-Precipitation Interactions during VOCALS-REx (*Invited*): **G Feingold**, H Wang, J Kazil

1050h **A12D-02** Atmospheric Chemistry of Halogen Oxides and Oxygenated VOCs over the Tropical Pacific Ocean (*Invited*): **R Volkamer**

1120h **A12D-03** Aerosol Interactions with Extensive Stratus Cloud During VOCALS: **A D Clarke**, C S McNaughton, S Freitag, S Howell, V Kapustin, J Snider, T L Campos, D Leon, L Shank, R Wood

1135h **A12D-04** Biogenic DMS Dominates the Sulfur Budget in the VOCALS Region of the Southeast Pacific: **B J Huebert**, B Blomquist, M Yang, A R Bandy

1150h **A12D-05** Morphology and Organic Functional Group Composition of Submicron Single Particles Collected in the Continentally-Influenced Marine Boundary Layer of the Southeast Pacific during VOCALS-REx 2008: **L N Hawkins**, L M Russell, D Covert, P Quinn, T S Bates

1205h **A12D-06** Aerosol Indirect Effects on Stratocumulus Clouds in the Southeast Pacific: **C H Twohy**, A Adams, D W Toohey, J Anderson, L Shank, S Howell, A D Clarke, R Wood

Biogeosciences

B12A Moscone West: 3018 Monday 1020h **Early Oxygen I** (*joint with PP, G*)

Presiding: **M Claire**, Virtual Planetary Laboratory; **T W Lyons**, Univ of Calif Riverside; **A D Anbar**

1020h **B12A-01** Late Archean Surface Ocean Oxygenation (*Invited*): **B Kendall**, C Reinhard, T W Lyons, A J Kaufman, A D Anbar

1035h **B12A-02** Weathering in the late Archean and perturbations by oxygenic photosynthesis (*Invited*): **D A Sverjensky**, N Lee, R M Hazen

1050h **B12A-03** Oxidative Weathering and Euxinia in the Late Archean (*Invited*): **C Reinhard**, R Raiswell, C Scott, A D Anbar, T W Lyons

1105h **B12A-04** A Methanogenic Origin for Molybdenum-Nitrogenase (*Invited*): **E Boyd**, S Miller, T Hamilton, M Lavin, J Peters

1120h **B12A-05** Does Microbial Zonation Recapitulate Phylogeny? A Possible Role for Biogenic Sulphur Gases in the Transition from Methane to Free Oxygen: **K J Zahnle**, D C Catling, M Claire

1135h **B12A-06** Growth of *E. coli* at Nanomolar Concentrations of Oxygen: **D A Stolper**, N Revsbech, D E Canfield

1150h **B12A-07** The Role of Sulfur in Regulating the Exogenic Cycles of Carbon and Oxygen on Early Earth: Lessons Learned From Modern Lakes and Cretaceous Oceanic Anoxic Event 2: **M T Hurtgen**, D D Adams, B B Sageman, M L Gomes

1205h **B12A-08** Alteration of submarine volcanic rocks in oxygenated Archean oceans: **H Ohmoto**, D Bevacqua, Y Watanabe

B12B Moscone West: 3016 Monday 1020h
The Bioatmospheric N Cycle: N Emissions, Transformations, Deposition, and Terrestrial and Aquatic Ecosystem Impacts II (*joint with PA, A, GC, OS, H*)

Presiding: **E M Elliott**, University of Pittsburgh; **S B Weiss**, Creekside center for Earth Observation

1020h **B12B-01** The Global, Nitrogen Cycle in the Climate System: Models and Observations (*Invited*): **E A Holland**

1035h **B12B-02** Quantifying nitrogen fluxes and their influence on the greenhouse gas balance – recent findings of the NitroEurope Integrated Project: M A Sutton, **E Nemitz**, S Reis, C Beier, K Butterbach-Bahl, P Cellier, M Cotrufo, J Erisman, U Skiba, W de Vries, S Zechmeister-Boltenstern, A Bleeker, P S Calanca, T Dalgaard, U Dragosits, J Duyzer, P Gundersen, A Hensen, H Kros, A Leip, J Olesen, G J Phillips, R M Rees, P Smith, J Soussana, S Tang, M R Theobald, W Winiwarter, M van Oijen, T Vesala

1050h **B12B-03** The terrestrial nitrogen budget of the United Kingdom: M Whelan, **F Worrall**, T P Burt, N J Howden

1105h **B12B-04** Soil nitrogen emissions in a changing climate: Implications for arid regions: **C K McCalley**, J P Sparks

1120h **B12B-05** Soil nitrifying and denitrifying capacities are altered by global change factors in a California annual grassland: **A Niboyet**, X Le Roux, L Barthes, B Hungate, P Dijkstra, J C Blankinship, J R Brown, C B Field, P W Leadley

1135h **B12B-06** Assessing biogeochemical cycling and transient storage of surface water in Eastern Siberian streams using short-term solute additions: **J D Schade**, E Seybold, T W Drake, E B Bulygina, A G Bunn, S Chandra, S Davydov, K E Frey, R M Holmes, W V Sobczak, V V Spector, S A Zimov, N Zimov

1150h **B12B-07** Reducing Nitrous Oxide Emissions from US Row-Crop Agriculture through Nitrogen Fertilizer Management: Development of an Nitrous Oxide Emissions Reduction Protocol: **N Millar**, G P Robertson, P R Grace, R Gehl, J Hoben, K Kahmark, S Bohm

1205h **B12B-08** Nitrous oxide abatement potential from the wastewater sector and the monetary value of the emissions credits: **J S Wang**, S P Hamburg, D Pryor

Cryosphere

C12A Moscone West: 3014 Monday 1020h
Monitoring and Quantifying Glacier Dynamics II (*joint with G, GC, H, S*)

Presiding: **S O'Neel**, USGS; **D C Finnegan**, Cold Regions Research & Eng. Lab

1020h **C12A-01** Rapid expansion of marginal ice-contact lakes at the Vatnajökull ice cap, Iceland: **A Schomacker**

1035h **C12A-02** Mountain glacier velocity variation during a retreat-advance cycle quantified using high-precision analysis of ASTER images: B Anderson, **F Herman**, S Leprince

1050h **C12A-03** Ice loss and sea level rise contribution from Alaskan glaciers: E Berthier, E Schiefer, **G K Clarke**, B Menounos, F Rémy, A A Cazenave

1105h **C12A-04** An analogue model for subglacial hydrology (*Invited*): **G A Catania**, J L Buttle, D C Mohrig

1120h **C12A-05** Passive icemology: seismic signals related to glacier dynamics at Bench Glacier, Alaska: **T D Mikesell**, K Van Wijk, J H Bradford, M M Haney

1135h **C12A-06** Icequake Tremors During Glacier Calving (*Invited*): **F Walter**, S O'Neel, J N Bassis, H A Fricker, W T Pfeffer

1150h **C12A-07** Geophysical Investigation of Yaktse Glacier, Alaska USA (*Invited*): **C F Larsen**, T C Bartholomew, S O'Neel, M E West, F Walter, D Kluskiewicz

1205h **C12A-08** Mapping the Tidewater Submarine and Ice-Marginal Environment Using Interferometric Bathymetry, Ground-Based LiDAR and Current Velocities; Hubbard Glacier, Alaska: **D C Finnegan**, D E Lawson, W Butler, T Waller, T Pratt

Education and Human Resources

ED12A Moscone West: 3020 Monday 1020h
Innovative Practices in K-12 Pre-Service and In-Service Geoscience Teacher Professional Development II (*joint with A, C, GC, NH, EP*)

Presiding: **R J Myers**, Institute for Global Environmental Strategies; **T G Schwerin**, Institute for Global Environmental Strategies (IGES)

1020h **ED12A-01** A Progress Report on the TeXas Earth and Space Science (TXESS) Revolution: **K K Ellins**, E Snow, H C Olson, M R Odell, E Stocks

1035h **ED12A-02** Backwards Faded Scaffolding Impact on Pre-Service Teachers' Cognition: **T F Slater**, S J Slater

1050h **ED12A-03** Contextualizing Earth Science Professional Development Courses for Geoscience Teachers in Boston: **R F Chen**, P Pelletier, J Dorsen, E M Douglas, M S Pringle, J Karp

1105h **ED12A-04** Lessons learned: Pacific CRYSTAL approaches to K-12 Pre and In-service teacher professional development in Earth science: **E Van der Flier-Keller**

1120h **ED12A-05** Connecting Scientists with K-12 Educators to Confront Climate Change in the Classroom: An Effective Teacher Professional Development Model: **D Atwood-Blaine**

1135h **ED12A-06** Training Teachers to Use Technology and Inquiry-based Learning Practices in the Geosciences through an Industry-University Partnership: **K McNeal**, R Buell, L Eiland

1150h **ED12A-07** Teaching science to science teachers: Lessons taught and lessons learned: **E M Douglas**, E A Hashimoto-Martell, S Balicki, D R Oglavie

1205h **ED12A-08** Design and Delivery of Professional Development Through Partnerships: Long-Term, Short-Term, and Everything In-Between: **M L Urquhart**, B Curry, M R Hairston

Hydrology

H12A Moscone West: 3011 Monday 1020h **Applications of Hydrologic Remote Sensing Data II: Advances Toward Snow Cover and Rainfall Mapping and Modeling**

Presiding: **J D Bolten**, NASA GSFC; **H Xie**, Univ Texas San Antonio

1020h **H12A-01** New Directions for the TRMM Multi-Satellite Products (*Invited*): **G J Huffman**, R F Adler, D T Bolvin, E J Nelkin

1035h **H12A-02** Evaluation of TRMM-TMPA satellite rainfall estimates over arid regions: E H Habib, **N Nasrollahi**

1050h **H12A-03** Monitoring Multitemporal Soil Moisture, Rainfall, and ET in Lake Manatee Watershed, South Florida under Global Changes: **N Chang**

1105h **H12A-04** Application of Satellite Based Laser Altimetry to Estimation of River Hydraulics and Remote Estimation of River Discharge: **D M Bjerklie**, C M Birkett, Y Li, M A Hofton

1120h **H12A-05** Rainfall Estimates from Radar, Satellite, Gauge, and Combinations: Intercomparison and Evaluation with Hydrologic Simulations: Z Flamig, **J J Gourley**, Y Hong, J Wang

1135h **H12A-06** Examination of the implications of snow model complexity, stratigraphy and grain-size representation on SWE estimation via passive microwave radiance data assimilation (*Invited*): **S A Margulis**, C Huang, K N Musselman, M T Durand

1150h **H12A-07** COUPLED ASSIMILATION OF SATELLITE AND GROUND-BASED SNOW DATA IN DISTRIBUTED PHYSICALLY BASED MODEL OF SNOW COVER AND RUNOFF GENERATION: **L Kuchment**, P Romanov, A N Gelfan, V Demidov

1205h **H12A-08** Estimating snow cover onset date, end date and duration from MODIS, AMSR-E and blended snow cover products: **H Xie**, Y Gao, T Yao, T Liang

H12B Moscone West: 3007 Monday 1020h **CO₂-Water-Rock Interactions in Geologic Storage Formations and Secondary Migration Sites I (joint with B, GC)**

Presiding: **C Zhu**, Indiana University; **E H Keating**, Los Alamos National Laboratory; **A Hakala**, National Energy Technology Laboratory; **J A Apps**, Berkeley Lab.

1020h **H12B-01** Nanoscale Controls on CO₂-water-rock Interactions in Saline Reservoirs: **J DeYoreo**, D J Depaolo

1035h **H12B-02** Bridging the Basic-Applied Gap to Provide the Science Base That Ensures Successful CO₂ Sequestration (*Invited*): **G D Guthrie**

1050h **H12B-03** How Well Can We Model Water-rock-CO₂ Interaction for CCS?: **C Zhu**

1105h **H12B-04** Evaluation of the reactive mineral surface area during geological storage of CO₂-rich fluids: **A R Scislawski**, P Zuddas

1120h **H12B-05** Transient Changes in Shallow Groundwater Chemistry During the MSU-ZERT CO₂ Injection Experiment: **L Zheng**, J A Apps, N Spycher, J T Birkholzer, Y K Kharaka, J J Thordsen, E Kakouros, R C Trautz

1135h **H12B-06** The development of geochemical MVA tools and predictive modeling of CO₂-water-rock reactions in shallow groundwater aquifers: Coupling sequential extraction data and reactive transport simulations: **A Hakala**, E H Keating, I Johnson, J W Carey

1150h **H12B-07** A modeling study of the long-term mineral trapping in deep saline marine sands aquifers (*Invited*): **P Aagaard**, V Pham, H Hellevang

1205h **H12B-08** Rates of mineral dissolution and carbonation in peridotite and basalt: **P B Kelemen**, J M Matter

H12C Moscone West: 3009 Monday 1020h **Flow and Transport in Complex Porous Media II**

Presiding: **S M Hassanizadeh**, Utrecht University; **R Helmig**, Universitaet Stuttgart

1020h **H12C-01** Predicting Dissolution of Entrapped NAPL in Heterogeneous Aquifers Using New Relative Permeability Correlations: **I Nambi**, P Mukunda, S Kumar N

1035h **H12C-02** Thermo-osmosis coupled-flow characterization in clay-rocks: experiments and modeling: **J Tremosa**, J Goncalves, J Matray, S VIOLETTE

1050h **H12C-03** Modeling of compositional flow in coupled porous media - free-flow domains: **R Helmig**, K Mosthaf, B Flemisch, T Leijnse, H Class, J Niessner, I Rybak, B Wohlmuth

1105h **H12C-04** A homogenized model for solute dispersion in unsaturated double-porosity medium: numerical and experimental applications: **T Tran Ngoc**, J Lewandowska, M Vauclin, H Bertin, S Gentier

1120h **H12C-05** Should tortuosity still be used in upscaling?: **F J Valdes-Parada**, M L Porter, B D Wood

1135h **H12C-06** Modeling Transverse Chemotaxis in Porous Media: **M L Porter**, F J Valdés-Parada, B D Wood

1150h **H12C-07** Effect of gas accumulation and biofilm growth on the dispersivity of porous media: **S Ye**, B E Sleep, C Chien

1205h **H12C-08** Estimation of the hydraulic conductivity of a two-dimensional fracture network using effective medium theory and power-law averaging: **R W Zimmerman**, C T Leung

H12D Moscone West: 3005 Monday 1020h **Hydrologic Predictions in a Changing Environment II (joint with B, GC)**

Presiding: **N Basu**, University of Iowa; **M A Hassan**, Univ British Columbia

1020h **H12D-01** Exploring Emergent Hydrologic and Biogeochemical Patterns in Catchments at Multiple Scales: **P C Rao**, M Sivapalan, N B Basu, M A Hassan, A I Packman, G S McGrath

1040h **H12D-02** Non-linearities in hydrological connectivity and microbiological flux in nested catchments - implications of environmental change: **D Tetzlaff**, C Soulsby, C Birkel, R Capell, M Speed

1100h **H12D-03** Diagnostic analysis of multi-scale interactions between hydrological and biogeochemical processes in a mid-west agricultural catchment: **H Li**, M Sivapalan, F Tian, D Liu

1120h **H12D-04** The importance of being coupled: Stable states, transitions and responses to changing forcings in tidal bio-morphodynamics (*Invited*): **M Marani**, A D'Alpaos, C Da Lio, L Carniello, S Lanzoni, A Rinaldo

1140h **H12D-05** Controls on Stormwater Runoff Quality and Quantity in Semi-arid, Urban Catchments: **E L Gallo**, P D Brooks, K A Lohse

1200h **H12D-06** Characterization of the Unregulated Spring Snowmelt Recession in the Sierra Nevada, California, and Potential Changes with Regional Climate Warming: **J H Viers**, G Epke, S Yarnell, J F Mount

Earth and Space Science Informatics

IN12A Moscone South: 102 Monday 1020h
GIScience I (*joint with G, GC, H, NH, EP, PA*)

Presiding: **B D Branch**, Elizabeth City State University; **O Wilhelmi**, NCAR

1020h **IN12A-01** The Applicability of Geographic Information Systems (GIS) and Remote Sensing in Identifying Polybrominated Diphenyl Ethers (PBDEs) sources using NOAA National Status & Trends Mussel Watch Program Data (*Invited*): **P L Bly**, M Edwards, B D Branch

1035h **IN12A-02** Flash Floods: A Spatial and Temporal Analysis A Case Study of the Flash Floods in Southwestern Missouri: **D A Pollak**

1050h **IN12A-03** Enabling data access and interoperability at the EOS Land Processes Distributed Active Archive Center: **D J Meyer**, K P Gallo

1105h **IN12A-04** A spatio-temporal database for diagnosing drought vulnerability in the Upper Colorado River Basin, Colorado: **K M Sampson**, O Wilhelmi

1120h **IN12A-05** Integration of Weather Research Forecast (WRF) Hurricane model with socio-economic data in an interactive web mapping service: **J Boehnert**, O Wilhelmi, K M Sampson

1135h **IN12A-06** Application Composition based on WMS Layers for Supporting Spatial Data Infrastructure: **Z Li**, H Wu, C Yang

1150h **IN12A-07** Recent Release of the ASTER Global DEM Product: **J Behnke**, A Hall, D Meyer, T Sohre, C Doescher

1205h **IN12A-08** Bridging social and geo-sciences data with GIS (*Invited*): **O Wilhelmi**, M Hayden

Natural Hazards

NH12A Moscone West: 3001 Monday 1020h
Multidisciplinary Approach to Earthquake Forecast and Prediction II (*joint with A, G, GP, T, SA, S, MR, V*)

Presiding: **V G Kossobokov**, Intl Inst Earthquake Prediction Theory & Math Geoph, RAS; **M Parrot**, LPC2E

1020h **NH12A-01** Validation of atmospheric signals associated with major earthquake activities. A statistical study: **D P Ouzounov**, S A Pulinets, J G Liu, K Hattori, P T Taylor, M Kafatos

1035h **NH12A-02** Evidences of seismo-generated electric field: **J G Liu**

1050h **NH12A-03** RST (Robust Satellite Techniques) analysis for monitoring earth emitted radiation at the time of the Hector Mine 16th October 1999 earthquake: M Lisi, C Filizzola, N Genzano, G Mazzeo, N Pergola, **V Tramutoli**

1105h **NH12A-04** Decade Plan (2010-2020) for the Study on Earthquake Predictability: Challenges and Opportunities in China (*Invited*): **Z Wu**, G Liu, H Ma, C Jiang, L Zhou, Z Shao, Y Wu, R Yan, W Yan, Y Li, H Peng

1120h **NH12A-05** Role of the Internet in Anticipating and Mitigating Earthquake Catastrophes, and the Emergence of Personal Risk Management (*Invited*): **J B Rundle**, J R Holliday, A Donnellan, W Graves, K F Tiampo, W Klein

1135h **NH12A-06** The SISMA prototype system: integrating Geophysical Modeling and Earth Observation for time dependent seismic hazard assessment: **A Peresan**, G F Panza, R Sabadini, R Barzaghi, A Amodio, G Bianco

1150h **NH12A-07** Report of the International Commission on Earthquake Forecasting for Civil Protection (*Invited*): **T H Jordan**

1205h **NH12A-08** Predicting casualties implied by TIPs: G Trendafiloski, **M Wyss**, B M Wyss

Ocean Sciences

OS12A Moscone West: 3003 Monday 1020h
New Insights From Integrated Multidisciplinary Studies of Oceanic Spreading Center Processes: Ridge 2000 Research II (*joint with T, B, V*)

Presiding: **D J Fornari**; **T M Shank**, Woods Hole Oceanographic Institution

1020h **OS12A-01** Integrated biogeochemistry of mid-ocean ridge hydrothermal plumes (*Invited*): **B M Toner**, S C Fakra, J B Sylvan, M A Marcus, O Rouxel, K J Edwards, C R German, J A Breier

1035h **OS12A-02** Using numerical models and volume rendering to interpret acoustic imaging of hydrothermal flow: **K G Bemis**, K Bennett, J Takle, P A Rona, D Silver

1050h **OS12A-03** Hydrothermal vent flow and turbulence measurements with acoustic scintillation instrumentation: **D Di Iorio**, G Xu

1105h **OS12A-04** Parameterization of and Brine Storage in MOR Hydrothermal Systems: **J Hoover**, R P Lowell, K B Cummings

1120h **OS12A-05** Recent Hydrothermal Fluid Chemistry from EPR 13°N: Phase Equilibria Constraints with Applicability to the Integrated Study of Basalt-Hosted Hydrothermal Systems: **N J Pester**, K Ding, W E Seyfried

1135h **OS12A-06** Quantifying net microbial metabolism in the sub-seafloor using the chemical composition of adjacent hot and warm vent fluids: **D A Butterfield**, J F Holden, K K Roe, M D Lilley, E J Olson, H C Ver Eecke, A D Opatkiewicz, J A Huber

1150h **OS12A-07** Modeling the Growth of Hyperthermophiles in Deep-sea Hydrothermal Diffuse Fluids and Sulfide Deposits: **H C Ver Eecke**, D M Oslowski, D A Butterfield, E J Olson, M D Lilley, J F Holden

1205h **OS12A-08** Molecular Diversity and Activity of Methanogens in the Subseafloor at Deep-Sea Hydrothermal Vents of the Pacific Ocean (*Invited*): **J A Huber**, A Merkel, J F Holden, M D Lilley, D A Butterfield

Planetary Sciences

P12A Moscone South: 309 Monday 1020h
A Detailed Look at Alteration Processes on Mars I (*joint with EP, V*)

Presiding: **P Niles**, NASA- Johnson Space Center; **H Y McSween**, University of Tennessee

1020h **P12A-01** Mineralogies of Martian Soils as Indicators of Alteration: **H Y McSween**, I McGlynn

1035h **P12A-02** The Role of Aqueous Alteration in the Formation of Martian Soils: **J L Bandfield**, D Rogers, C S Edwards

1050h **P12A-03** Tyrrhena Terra: tens of phyllosilicate-bearing crater ejecta on Mars: **D Loizeau**, J Carter, N Mangold, F Poulet, F Costard, S Bouley, J Bibring, B Gondet

1105h **P12A-04** Sulfur Distribution on the Martian Surface Determined by Mars Odyssey Gamma Ray Spectroscopy: **S M McLennan**, W V Boynton, B C Hahn, S Karunatillake, J Taylor

1120h **P12A-05** Linking sulfate and phyllosilicate formation at Mawrth Vallis: Weathering in ancient low-latitude ice deposits: **P B Niles**, J Michalski

1135h **P12A-06** The Salar Llamara, Chile: A Possible Analogue for Etched Terrain on Mars: **R Amundson**, A M Heimsath, M Jungers, G Chong, C Demergasso

1150h **P12A-07** Aqueous Alteration and Martian Bulk Chemical Composition: **J Taylor**, W V Boynton, S M McLennan

1205h **P12A-08** Modeling and Laboratory Investigations of Evaporites on Mars: **M A Bullock**, J M Moore

P12B Moscone South: 307 Monday 1020h
Early Solar System

Presiding: **I H Leubner**, Rochester Institute for Fundamental Research; **B E Schmidt**, UCLA-IGPP

1020h **P12B-01** EVIDENCE FOR TWO-STAGE MELTING IN THE BRAHIN PALLASITE PARENT BODY: **Y Sonzogni**, B Devouard, A Provost, J Devidal

1035h **P12B-02** Ba Isotopes in Allende CAIs and Eucrites Birmingham, K. R.¹ and Mezger, K.¹ ¹Zentrallabor für Geochronologie, Institut für Mineralogie, Universität Münster, Germany: K Mezger, **K R Bermingham**

1050h **P12B-03** THE AGE OF THE SOLAR SYSTEM REVISITED: **M Wadhwa**, A Bouvier

1105h **P12B-04** Orbital Stability Limits for Vulcanoids: **J Gayon-Markt**, J J Lissauer

1120h **P12B-05** Thermodynamical Structure of Protoplanetary Disks: **S Hirose**, N Turner

1135h **P12B-06** Orbital Ellipticity and Final Steps of Planet Separation: **I H Leubner**

1150h **P12B-07** Using Animations to Study the Formation of Gas Giant Planets via the Core Accretion Model: **O Hubickyj**, J J Lissauer, P Bodenheimer, G D'Angelo

1205h **P12B-08** The thermal evolution of large water-rich asteroids: **B E Schmidt**, J C Castillo

Paleoceanography and Paleoclimatology

PP12A Moscone West: 2004 Monday 1020h
Late Pleistocene Variability in Ventilation of Deep and Intermediate Water Masses II (*joint with GC, OS*)

Presiding: **F Mekik**, Grand Valley State University; **R F Anderson**, Lamont-Doherty Earth Observatory

1020h **PP12A-01** Deep and bottom water renewal from southern sources on glacial to interglacial time scales (*Invited*): **I N McCave**

1035h **PP12A-02** Deep Water Renewal in the Ross Sea during the Last Glacial Period: **R F Anderson**, M Q Fleisher, P Malone

1050h **PP12A-03** Model Comparison of Subantarctic Mode and Antarctic Intermediate Water In The Southeast Pacific During The Present And Last Glacial Maximum: **C A Hartin**, R A Fine, A C Clement, I V Kamenkovich, L C Peterson

1105h **PP12A-04** Continental ice sheet altering north-south atmospheric teleconnection and implication on southern ocean ventilation: **S Lee**, J C Chiang

1120h **PP12A-05** Equatorward Southern Westerlies and Reduced Deep Ocean Ventilation During the Last Glacial: J R Toggweiler, **R Zech**

1135h **PP12A-06** Support for a deeper glacial oceanic respired carbon pool from the Equatorial Pacific: **L I Bradtmiller**, R F Anderson, M Q Fleisher

1150h **PP12A-07** Ventilation of the Deeps During the Deglaciation: Records from Tropical and Subtropical Cores: **F Mekik**, R F Anderson

1205h **PP12A-08** Late Pleistocene Carbonate Cycles And Estimates Of Deep Ocean Carbonate Ion Saturation (*Invited*): **H Elderfield**, J Yu, R E Rickaby, R F Anderson, F Mekik, W S Broecker

PP12B Moscone West: 2002 Monday 1020h
New Approaches to Cenozoic Terrestrial Ecosystem and Climate Reconstructions II (*joint with GC*)

Presiding: **M T Hren**, Yale University; **J E Nichols**, Brown University; **S P Harrison**; **B J Tipple**, University of Utah

1020h **PP12B-01** 'Clumped isotope' paleothermometry of soil carbonates: a status report: **B H Passey**, J M Eiler, M Daëron, J Quade, C N Garzione, J J Smith, T E Cerling, N Levin

1035h **PP12B-02** Reconstructing Weathering Intensity and Climate Change from Cenozoic Paleosols (*Invited*): **N D Sheldon**

1050h **PP12B-03** Methane release from the terrestrial ecosystems of greenhouse climates: Challenges and potential (*Invited*): **R D Pancost**, M Collinson, R P Evershed, E Bingham, H Talbot, J Weijers, V Wilde, W Riegel

1105h **PP12B-04** Peatland Archives of Carbon and Hydrology (PARCH): an international research initiative: **S T Jackson**

1120h **PP12B-05** Simulating long-term carbon and water dynamics in northern peatlands (*Invited*): **S E Frolking**, N T Roulet, A Quillet, E Tuittila, J L Bubier

1135h **PP12B-06** The role of peatlands in interglacial carbon cycle dynamics - a modeling perspective (*Invited*): **T Kleinen**, V Brovkin

1150h **PP12B-07** Coupling past climates to wetlands: uncertainties in modelling CH₄ fluxes. (*Invited*): **C Berrittella**, K J van Huissteden, H Dolman

1205h **PP12B-08** Thaw lakes in the geological record and their contribution to methane emissions during glacial warming intervals. (*Invited*): C Berrittella, **K J van Huissteden**

PP12C Moscone West: 2008 Monday 1020h
Paleoclimate Records of North Pacific Climate Variability: Ocean-Atmosphere Interactions I (*joint with OS*)

Presiding: **E C Osterberg**, Dartmouth College; **C P Wake**

1020h **PP12C-01** North Pacific Climate Variability over the Past Millennium from Long Tree-Ring Records (*Invited*): **E R Cook**

1035h **PP12C-02** Trans-Pacific climate variability over the past millennium (*Invited*): **K J Kreutz**, E C Osterberg, N Bertler, A M Lorrey, C P Wake, S B Das, D A Fisher, P A Mayewski, A Putnam

1050h **PP12C-03** SEDIMENTARY EVIDENCE FOR A LINK BETWEEN EL NIÑO AND TROPICAL CYCLONE ACTIVITY IN THE WESTERN NORTH PACIFIC OVER THE LAST 6500 YEARS: **J D Woodruff**, T H Jagger, J Donnelly, A Okusu

1105h **PP12C-04** Holocene hydrologic variability in the Sierra Nevada from D/H ratios in leaf waxes: **J H Street**, A L Sessions, R S Anderson, J M Welker, A Paytan

1120h **PP12C-05** Anomalous export of tropical water vapor to western North America during the current decade: **M B Berkelhammer**, L D Stott, K Yoshimura

1135h **PP12C-06** Late Quaternary Climate and Marine Productivity Changes Along the California Margin. (*Invited*): **V Pospelova**, T F Pedersen

1150h **PP12C-07** Could the Cordilleran Ice Sheet destabilize the North Pacific during deglaciation? (*Invited*): **I L Hendy**, A S Chang

1205h **PP12C-08** Holocene Oscillations in Temperature and Salinity of the Subpolar North Atlantic: Underlying Mechanisms and Their Link to North Pacific Climate (*Invited*): **D J Thornalley**, H Elderfield, I N McCave

SPA - Aeronomy

SA12A Moscone South: 301 Monday 1020h **Active Experiments in the Ionosphere Using Chemical Releases From the Space Shuttle and Rockets I** (*joint with SM*)

Presiding: P A Bernhardt, Naval Research Laboratory; A Bhatt, MIT Haystack Observatory

1020h **SA12A-01** Recent Advances in Studies of Ionospheric Modification Using Rocket Exhaust (*Invited*): P A Bernhardt

1035h **SA12A-02** Space Shuttle Exhaust Modifications of the Mid-Latitude Ionospheric Plasma As Diagnosed By Ground Based Radar: F D Lind, P J Erickson, A Bhatt, P A Bernhardt

1050h **SA12A-03** Measurements of the ionospheric reaction to exhaust from dedicated burns of the space shuttle's orbital maneuvering system engines over Kwajalein: R G Caton, K M Groves, T R Pedersen, D L Hysell, C S Carrano, P A Bernhardt, R T Tsunoda, A J Coster

1105h **SA12A-04** A ROCKET EXHAUST DEPLETION (RED) OF IONOSPHERIC TOTAL ELECTRON CONTENT DETECTED BY MULTIPLE DIAGNOSTICS: J L Baumgardner, S M Smith, M Mendillo, C R Martinis, A J Coster, P J Erickson

SA12B Moscone South: 301 Monday 1125h **Meteoroids and Their Atmospheric Effects I** (*joint with P*)

Presiding: L P Dyrud, Johns Hopkins University APL; M M Oppenheim, Boston University

1125h **SA12B-01** The Sporadic Meteoroid Environment: Radar and Optical Fluxes: M D Campbell-Brown, D Braid

1140h **SA12B-02** Differential Meteoric Ablation and its affects in the atmosphere (*Invited*): J M Plane, S L Broadley, C L Whalley, R W Saunders, J Gomez Martin, D Janches, L Dyrud

1155h **SA12B-03** Asteroids Shedding Meteoroids...or Becoming Bolides (*Invited*): C R Chapman

1210h **SA12B-04** The Recent Meteor Radar at Penn State: Design, Implementation, and Observations: J V Urbina, L Dyrud, R Seal

SPA - Solar and Heliospheric Physics

SH12A Moscone West: 3022 Monday 1020h **Solar Wind and Interplanetary Magnetic Field I**

Presiding: I Mann, School of Science and Engineering; C T Russell, University of California, Los Angeles

1025h **SH12A-01** Radial Evolution of Large-Scale Solar Wind Structures (*Invited*): L Jian

1050h **SH12A-02** Alfvénic fluctuations in the solar wind and the orientation of the underlying heliospheric magnetic field: J T Gosling, W Teh

1105h **SH12A-03** Alfvén/Ion-Cyclotron Waves Observed on the Earthward Side of a Solar Wind Reconnection Exhaust?: S Eriksson, D Krauss-Varban, J P Eastwood, J T Gosling, H Reme, W Teh

1120h **SH12A-04** A Solar Electron Burst Spanning a Stream Interface: ACE Observations: J T Steinberg, R M Skoug, D J McComas

1135h **SH12A-05** Probing the Large-Scale Topology of the Heliospheric Magnetic Field Using Jovian Electrons: M J Owens, T S Horbury, C N Arge

1150h **SH12A-06** Measurements of Zodiacal-light brightness from the Solar Mass Ejection Imager (SMEI): A Buffington, M M Bisi, J M Clover, P P Hick, B Jackson

1205h **SH12A-07** The flux of nano dust near 1 AU: I Mann, A CZECHOWSKI, N Meyer-Vernet

SPA - Magnetospheric Physics

SM12A Moscone South: 305 Monday 1020h **Boundary Layer Processes I** (*joint with SH*)

Presiding: S A Fuselier, Lockheed Martin Advanced Technology Center; S Wing, The Johns Hopkins University

1020h **SM12A-01** Magnetic topology of the magnetopause and low-latitude boundary layer deduced from THEMIS high-resolution electron and ion measurements: M Oieroset, T Phan, M Fujimoto, V Angelopoulos, J P McFadden, D E Larson, K Glassmeier

1035h **SM12A-02** HEAVY ION EFFECTS ON MAGNETOPAUSE TRANSPORT: J Johnson, A Otto, Y Lin, S Wing, E Kim

1050h **SM12A-03** Boundary layer plasma flows from high-latitude reconnection in the summer hemisphere for northward IMF: THEMIS multipoint observations: H Hasegawa, J P McFadden, D O Constantinescu, Y V Bogdanova, J Wang, M W Dunlop, V Angelopoulos, H U Frey, T Takada, B Lavraud, E Panov

1105h **SM12A-04** "Crater" Flux Transfer Events: Highroad to the X-line?: C J Farrugia, R B Torbert, D J Southwood, S W Cowley, A Vrublevskis, A Vaivads, M Andre, C J Owen, D G Sibeck, P Decreau, J Dorelli, E A Lucek, C Mouikis, C W Smith

1120h **SM12A-05** Kelvin-Helmholtz Modes and Plasma Entry into the Earth's Plasma Sheet for Northward IMF: X Ma, A Otto, K Nykyri

1135h **SM12A-06** Formation of a broad plasma mixing layer by forward and inverse energy cascades of the Kelvin-Helmholtz instability: Y Matsumoto, K Seki

1150h **SM12A-07** Plasma Instabilities and nonlinear evolution in boundary layers of earth's magnetosphere: T Ogino

1205h **SM12A-08** Heating of low energy electrons in the boundary layer at the interface between magnetosphere and magnetosheath: A F TESTE, G K Parks, M Wilber

SM12B Moscone South: 303 Monday 1020h **Comparison of Different Modes of Geomagnetic Activity I**

Presiding: T Hsu, UCLA; E L Kepko, Space Science Center; R L McPherron, Univ Calif Los Angeles

1020h **SM12B-01** Global Sawtooth Oscillations: The Solar Wind, the Magnetosphere, and the Ionosphere (*Invited*): J E Borovsky

1040h **SM12B-02** The magnetotail parameters and polar cap magnetic flux during sawtooth events, isolated substorms, and steady magnetospheric convection events: C Huang, A D DeJong, X Cai

1055h **SM12B-03** Quantifying the open flux content of the polar cap to understand the modes of solar wind-magnetosphere coupling (*Invited*): S E Milan

1115h **SM12B-04** Movie-maps of low-latitude storm-time magnetic disturbance: J J Love, J L Gannon

1130h **SM12B-05** Modes of energy transfer from the solar wind to the inner magnetosphere: D Vassiliadis, M Tornquist, M E Koepke

1145h **SM12B-06** Global Modeling of Different Modes of Geomagnetic Activity (*Invited*): M J Wiltberger, J Lyon, C C Goodrich

1205h **SM12B-07** Solar wind density influence on the efficiency of geomagnetic response to the interplanetary electric field: R S Weigel

Study of Earth's Deep Interior (DI)

DI12A Moscone West: 2003 Monday 1020h
Seismic Discontinuities, Phase Transitions, and Compositional Boundaries in the Earth's Mantle II (*joint with MR, S, T*)

Presiding: J W Hernlund, University of California, Berkeley; S Shim, Massachusetts Inst Tech

1020h **DI12A-01** Elastic properties of Fe-bearing wadsleyite at high pressures: **Z Mao**, S D Jacobsen, F Jiang, J R Smyth, C M Holl, D J Frost, T Duffy

1035h **DI12A-02** High resolution mantle discontinuity imaging with SS precursors: the transition zone beneath Hawaii. (*Invited*): **R D van der Hilst**, Q Cao, P Wang, M V De Hoop, S Shim

1050h **DI12A-03** Statistical characterization of Earth's heterogeneities from seismic scattering: **Y Zheng**, R Wu

1105h **DI12A-04** Volume collapse of iron,aluminum-bearing perovskite at mid-lower mantle pressures: **K Catalli**, S Shim, P K Dera, V Prakapenka, J Zhao, W Sturhahn, P Chow, Y Xiao, H Cynn, W J Evans

1120h **DI12A-05** Mantle mixing and mantle flow from an isotopic perspective (*Invited*): **S Mukhopadhyay**, H M Gonnermann

1135h **DI12A-06** Is the D" reflector a phase transition? (*Invited*): **C Thomas**, T Fieseler, J Wookey, U Hansen

1150h **DI12A-07** Temperature profile in the lowermost mantle: Seismological and mineral physical joint modeling: **K Kawai**, T Tsuchiya

1205h **DI12A-08** On the Fixity of the Thermo-Chemical Piles at the Base of Mantle: **E Tan**, W Leng, S Zhong, M Gurnis

Mineral and Rock Physics

MR12A Moscone West: 2006 Monday 1020h
Dynamic Induced Phase Transformation Processes in Terrestrial and Planetary Materials I (*joint with P, DI*)

Presiding: T G Sharp, Arizona State University; O D Tschauner

1020h **MR12A-01** Shock experiments for understanding natural impact phenomena (*Invited*): **T Sekine**

1035h **MR12A-02** 3D conductive cooling models of shock melts in meteorites: resolving the discrepancy between calculations and experiment (*Invited*): **E Walton**, C Shaw

1050h **MR12A-03** Shock-Induced Melting of Maskelynite and the High-pressure Mineral Inventory of Shergottites: Implications to Evaluation of the Shock History of Martian Meteorites: **A El Goresy**

1105h **MR12A-04** Martian Meteorite Chronology and Effects of Impact Metamorphism (*Invited*): **A Bouvier**, J Blichert-Toft, F Albarede

1120h **MR12A-05** U-Pb dating of baddeleyites in two shergottites and a chassignite after careful petrographic characterization: **S Ozawa**, T R Ireland, A El Goresy, E Ohtani

1131h **MR12A-06** Formation of High Pressure Polymorphs of Olivine and Pyroxene in Shocked Meteorites and Collision in Their Parent Bodies (*Invited*): **E Ohtani**, M Miyahara, S Ozawa, M Kimura, A El Goresy

1147h **MR12A-07** Discrepancies Between Laboratory Shock Experiments on Minerals and Natural Events: **P S De Carli**, Z Xie, T G Sharp

1158h **MR12A-08** Structure transition of Fe₃-xTiO₄ solid solution under pressures: **T Yamanaka**, A Kyono, S A Kharlamova, V Struzhkin, M Ahart, B O Mysen, H Mao, R Hemley

1209h **MR12A-09** Strain Memory of the Verwey Transition and its Application for Estimating Pressures in Meteorite Impact Craters: **L Carporzen**, S A Gilder

Seismology

S12A Moscone West: 2005 Monday 1020h
Joint Inversion of Seismic and Multidisciplinary Geophysical Data II (*joint with GP, DI, T, V*)

Presiding: M Moorkamp, IFM-GEOMAR; E Roux, DIAS

1020h **S12A-01** Joint Geophysical Inversion: Seismic/MT/CSEM: **P Tarits**, S Hautot

1035h **S12A-02** Joint Inversion of Magnetotelluric and Surface Wave Data in an Anisotropic Earth: **E Roux**, M Moorkamp, A G Jones

1050h **S12A-03** Comparison of different coupling strategies in joint inversions: **B Heincke**, M D Jegen, M Moorkamp, J Chen

1105h **S12A-04** Mantle xenoliths may be non-representative of the cratonic mantle: Geophysical vs petrologic evidence on mantle densities and velocities: **I M Artemieva**

1120h **S12A-05** How Porosity Controls Seismic Velocities in the Upper Oceanic Crust: Implications for the Layer 2/3 Transition: **R L Carlson**

1135h **S12A-06** Earthquake Rupture Process Inferred from Joint Inversion of 1-Hz GPS and Strong Motion Data: The 2008 Iwate-Miyagi Nairiku, Japan, Earthquake: **Y Yokota**, K Koketsu, K Hikima, S Miyazaki

1150h **S12A-07** Slip History of the 2008 Mw 7.9 Wenchuan Earthquake Constrained by Joint Inverting Seismic, Geodetic, and Geological Observations: **G Shao**, C Ji, Z Lu, K W Hudnut, J Liu, W Zhang

1205h **S12A-08** Slip inversion of the L'Aquila (Italy) April 9, 2009 earthquake (Mw 6.3) from strong motion, teleseismic, and InSAR data: **J Balestra**, B Delouis

Tectonophysics

T12A Moscone West: 2009 Monday 1020h
Earthquakes at the Edge: Observing and Understanding Transitions of Seismogenic Properties and Processes Along Subduction Zones II (*joint with G, S*)

Presiding: S P Gulick, University of Texas at Austin; R N Harris, Oregon State University

1020h **T12A-01** The IODP NanTroSEIZE Transect: Accomplishments and Future Plans: **H J Tobin**, M Kinoshita, E Araki, T B Byrne, G Kimura, L C McNeill, G F Moore, D M Saffer, M Underwood, S Saito

1035h **T12A-02** Evolution of the Miocene to Quaternary Nankai forearc from drilling results within the Kumano forearc basin (IODP Expedition 319): **T B Byrne**, L C McNeill, D M Saffer, E Araki, N O Eguchi, S Toczko, K Takahashi, P B Flemings, Y Kano, K Kameo, D M Buchs, S Jiang, K Kawabata, C Buret, D Cukur, A M Schleicher, N Efimenko, M Underwood, G F Moore, E 319 Scientists

1050h **T12A-03** ARCHITECTURE AND ALONG-STRIKE VARIATION OF THE NANKAI MEGASPLAY FAULT: RESULTS FROM IODP EXPEDITION 319: **P B Flemings**, Y Kano, M Conin, D M Saffer, D M Buchs, D Cukur, G Huftile, K Kawabata, C Moore, K Moe, S Toczko, E Araki, L C McNeill, T B Byrne, G F Moore, S Expedition 319, K Darnell

1105h **T12A-04** Vertical Seismic Profiling at riser drilling site in the rupture area of the 1944 Tonankai Earthquake, Japan (*Invited*): **R Hino**, M Kinoshita, E Araki, T B Byrne, L C McNeill, D M Saffer, N O Eguchi, K Takahashi, S Toczko

1120h **T12A-05** Subduction inputs within the NanTroSEIZE transect area: Results from Expedition 322 of the Integrated Ocean Drilling Program: **M Underwood**, S Saito, Y Kubo

1135h **T12A-06** Complex thrusting at the toe of the Nankai accretionary prism, NanTroSEIZE Kumano transect: **G F Moore**, J Park, S Kodaira, Y Kaneda

1150h **T12A-07** Influence of Stress History on Elastic and Frictional Properties of Core Material from IODP Expeditions 315 and 316, NanTroSEIZE Transect: Implications for the Nankai Trough Accretionary Prism: **M W Knuth**, H J Tobin, C Marone, D M Saffer, Y Hashimoto

1205h **T12A-08** Paleo-thermal condition of the shallow megasplay fault based on vitrinite reflectance: Core analysis of IODP NanTroSEIZE stage 1: **A Sakaguchi**, F M Chester, O Fabbri, D L Goldsby, C Li, G Kimura, A Tsutsumi, K Ujiie, A Yamaguchi, D Curewitz

T12B Moscone West: 2007 Monday 1020h
Fault Processes in Nature and Laboratory: From Microscale to 3-D Regional Observations and Models I (*joint with MR, NS, S, NH*)

Presiding: C M Krawczyk, LIAG; E Masana, Universitat de Barcelona

1020h **T12B-01** Theoretical Study on Response of Fault Zones to Nearby Rupture: Overestimation of the Width of Fault Zones in Previous InSAR Analyses: B Duan, **J Kang**

1035h **T12B-02** Development of self-similar duplex systems. Atacama Fault System, Chile: **E Jensen**, J M Cembrano, E E Veloso

1050h **T12B-03** Inferring earthquake mechanics from exhumed faults (*Invited*): **G Di Toro**, A Griffith, S B Nielsen, S A Smith, A R Niemeijer, A Bistacchi, S Mittempergher

1105h **T12B-04** Hexagonal anorthite in pseudotachylite: a new finding to constrain the thermal history during a seismic event: **F Nestola**, S Mittempergher, G Di Toro, F Zorzi, D Pedron

1120h **T12B-05** Stress-weakening effect on friction and a major revision of evolution law for contact state: **K Nagata**, M Nakatani, S Yoshida

1135h **T12B-06** Nojima Fault Zone Revisited: High-Velocity Friction Experiments and BET Surface-Area Measurements of Fault Rocks: **M Sawai**, T Shimamoto, T Togo

1150h **T12B-07** Earthquake-Like Slip Events on a Laboratory Fault: **J C Chang**, Z Reches, D A Lockner, M W Totten, Jr.

1205h **T12B-08** Experimental Investigation of Radiated Ground Motion Due to Supershear Earthquake Ruptures: **M Mello**, H Bhat, H Kanamori, A Rosakis

T12C Moscone West: 2011 Monday 1020h
Tectonic Processes at Continental Transform Faults II (*joint with S, G, NH*)

Presiding: P M Fulton, Oregon State University; G M Schmalzle, University of Washington

1020h **T12C-01** Self-consistent Models of Postseismic and Interseismic Deformation due to Mature Strike-slip Faults (*Invited*): **Y A Fialko**

1035h **T12C-02** Mechanics of Continental Transform Faults: From Necking of a Plastic lithosphere to Uplift of Transverse Ranges: **A Agnon**

1050h **T12C-03** Direct observation of strain localization along the differentially exhumed SEMP fault system, Austria: **E Frost**, J F Dolan, B R Hacker, L Ratschbacher, C G Sammis, G Seward, J Cole

1105h **T12C-04** The brittle and ductile strength of the San Andreas fault system, California: **S Carena**, C Moder

1120h **T12C-05** New experimental insights into the frictional behavior of the San Andreas Fault: **B M Carpenter**, S H Haines, C Marone, D M Saffer

1135h **T12C-06** Transpressive Deformation Along a Continuous Curve: Slip-partitioning on the Denali Fault and Quaternary Growth of the Alaska Range: **S P Bemis**, R Weldon

1150h **T12C-07** An example of complex fault geometries in a young, rapidly deforming transform fault system: The Maacama Fault in northern California: **R D Schroeder**, R J Brady

1205h **T12C-08** Fault zone structure from topography: Signatures of en echelon subsidiary fault slip at Mustang Ridge on the creeping San Andreas Fault, Monterey County, California, USA: **S DeLong**, M J Rymer

Volcanology, Geochemistry and Petrology

V12A Moscone West: 2020 Monday 1020h
Crystals, Glass, Cracks, and Bubbles: Degassing and Crystallization in Silicic Conduits and Lavas II (*joint with MR*)

Presiding: J M Castro, Smithsonian Institution; B M Kennedy, University of Canterbury; H Tuffen, Lancaster University

1020h **V12A-01** Dissection of a composite volcanic earthquake at the silicic dome of Santiaguito (Guatemala) (*Invited*): **J B Johnson**, R W Sanderson, J J Lyons, R P Escobar-Wolf, G P Waite, J M Lees

1035h **V12A-02** The 2004-2008 Mount St Helens Lava Dome: An experimental study of the influence of time and temperature on mechanical behaviour and earthquakes: **R Smith**, P Sammonds, H Tuffen, P G Meredith

1050h **V12A-03** Deformation-induced magma degassing (*Invited*): **L Caricchi**, A Pommier, M Pistone, J M Castro, A Burgisser

1105h **V12A-04** Residual Porosity as An Explanation for Ductile-Brittle Behaviour During Dome Extrusion: Experimental Constraints: **L Kennedy**, J K Russell, E Nelles

1120h **V12A-05** Magma ascent and lava dome evolution at Volcán de Colima, Mexico: **N R Varley**, R Arámbula, Y Lavallée, M Bernstein, A G Ryan, A Maskell

1135h **V12A-06** The brittle onset of crystal bearing magmas: **B Cordonnier**, L Caricchi, M Pistone, K Hess, D B Dingwell, S Gottschaller, L Burlini

1150h **V12A-07** Deformation timescales in volcanic conduits: implications for timing of Vulcanian-style eruptions: **S Quane**, K Russell

1205h **V12A-08** Time, temperature and water pressure dependent reheating of volcanic plugs, conduits and domes: **B M Kennedy**, M Jellinek, K Russell

V12B Moscone West: 2016 Monday 1020h
Early Earth I (*joint with MR, DI*)

Presiding: J Badro, IMPMC - CNRS; F J Ryerson, Lawrence Livermore National Laboratory

1020h **V12B-01** The Earth's mantle before convection: Effects of magma oceans and the Moon (*Invited*): **L T Elkins-Tanton**, S E Smrekar, G Tobie

1035h **V12B-02** Thermodynamics of silicate liquids in the deep Earth (*Invited*): **L P Stixrude**

1050h **V12B-03** Earliest step of core-mantle separation: Shock melting experiment of chondrite-like materials: **T Eiichi**, Y Tsumagari, M Nishio, T Sekine

1105h **V12B-04** Multiphase model of metal segregation and core formation in growing planetesimals and planetary embryos: F Dubuffet, **O Sramek**, Y R Ricard

1120h **V12B-05** The lead isotopic age of the Earth can be explained by core formation alone: **B J Wood**, M Rehkamper, A N Halliday

1135h **V12B-06** The non-chondritic composition of the Earth and its consequences for chemical geodynamics (*Invited*): **G Caro**, B Bourdon

1150h **V12B-07** A Reappraisal of Combined ^{147,146}Sm-^{143,142}Nd Systematics for Eoarchean Rocks from the Nuvvuagittuq Supracrustal Belt, northern Québec (Canada): **A S Roth**, M Touboul, B Bourdon, T Kleine, S J Mojzsis

1205h **V12B-08** Hadean Thermobarometry Revisited: **M Hopkins**, T M Harrison, C E Manning

V12C Moscone West: 2018 Monday 1020h
Quantitative Modeling and Cyberinfrastructure in Volcanology, Geochemistry, and Petrology I (*joint with MR*)

Presiding: **W A Bohrsen**, Central Washington University; **M S Ghiorso**, OFM Research Inc.; **F J Spera**

1020h **V12C-01** EarthChem: Next Developments to Meet New Demands (*Invited*): **K A Lehnert**, D Walker, K A Block, J M Ash, C Chan

1035h **V12C-02** VHub – Cyberinfrastructure for volcano eruption and hazards modeling and simulation: **G A Valentine**, M D Jones, M I Bursik, E S Calder, S M Gallo, C Connor, S A Carn, W I Rose, D A Moore-Russo, C S Renschler, B Pitman, M F Sheridan

1050h **V12C-03** Emergent Flow Dynamics in Volcanic Flows: Insight From Multiphase Modeling (*Invited*): **J Dufek**

1105h **V12C-04** A depth-averaged, two-phase flow code for hazard mapping that satisfies both hydraulic and granular flow extremes: **G A Cordoba**, M F Sheridan, B Pitman

1120h **V12C-05** Putting Phase Equilibria into Geodynamic Models: An Equation of State Approach (*Invited*): **J Connolly**

1135h **V12C-06** CMAS pyroxenes coexisting with mafic melts: new activity-composition models for THERMOCALC: **E C Green**, T Holland, R Powell

1150h **V12C-08** Geomaterials under extreme conditions: Recent advances and implications for modeling deep Earth processes (*Invited*): **T S Duffy**

Monday P.M.

Union

U13A Moscone South: Poster Hall Monday 1340h
Neoproterozoic Low-Latitude Glaciations: Trigger, Timing, Termination, and Biotic Consequences Posters

Presiding: **J U Fucugauchi**, Universidad Nacional A de Mexico; **R I Trindade**; **M T Hurtgen**, Northwestern University; **G P Halverson**

1340h **U13A-0039 POSTER** Modelling the snowball Earth: from its inception to its aftermath: **G Ramstein**, G LE HIR, Y Donnadieu, Y Godderis

1340h **U13A-0040 POSTER** Organic carbon cycling as the keystone of Neoproterozoic climate evolution (*Invited*): **R Pierrehumbert**

1340h **U13A-0041 POSTER** A consideration of the effects of dust aerosol and surface dust on Snowball Earth deglaciation: **D S Abbot**, I Halevy, R Pierrehumbert

1340h **U13A-0042 POSTER** Look at Marinoan global glaciation from an extra dimension: the ¹⁷O anomaly (*Invited*): **H Bao**

1340h **U13A-0043 POSTER** The origin of 17O-depleted barite in Neoproterozoic cap carbonates in South China: A sedimentological perspective: **C Zhou**, H Bao, X Yuan

1340h **U13A-0044 POSTER** Documenting and describing the redox evolution of the Neoproterozoic ocean: lessons from the Canadian Cordillera (*Invited*): **D T Johnston**, S W Poulton, C H Langmuir, F A Macdonald, Z Chen, A Knoll

1340h **U13A-0045 POSTER** The Relationship Between the Geochemical Cycles of Carbon and Sulfur during the Neoproterozoic Interglacial Interval: **J C Gouldey**, M T Hurtgen, G P Halverson

1340h **U13A-0046 POSTER** The low-latitude Rapitan glaciation (*Invited*): **F A Macdonald**, M D Schmitz, J L Crowley, C Roots, A C Maloof, D S Jones, J Strauss

1340h **U13A-0047 POSTER** Platinum Group Element and Re-Os Isotope Systematics of Cryogenian Glacial Terminations: **C A Waters**, B Peucker-Ehrenbrink, P F Hoffman

1340h **U13A-0048 POSTER** Cryogenian cap carbonates – what do laminar scale investigations reveal about formation?: **N R Miller**, C R Maupin, J W Partin, T Quinn, J Giddings

1340h **U13A-0049 POSTER** The Basal Ediacaran Noonday Formation, Eastern California, and implications for Laurentian equivalents: **R Pettersen**, A R Prave, B P Wernicke

U13B Moscone South: Poster Hall Monday 1340h
Understanding the Impacts of Climate Change on the Western United States II Posters

Presiding: **G L Dana**, Desert Research Institute; **P Mote**, Oregon Climate Change Research Institute

1340h **U13B-0050 POSTER** Development and Assessment of Streamflow Projections Under Changing Climate Scenarios Over the Colorado River Basin: **W P Miller**, T C Piechota

1340h **U13B-0051 POSTER** Characterizing water flows in irrigated valleys of northern New Mexico: **C G Ochoa**, A Fernald, S Guldán, V C Tidwell

1340h **U13B-0052 POSTER** Water yield loss in the Upper Colorado River basin driven by dust radiative forcing in snow: **T H Painter**, J S Deems, J Belnap, A F Hamlet, C Landry, B Udall

1340h **U13B-0053 POSTER** Vulnerability of the Snake River Basin and subbasins to climatic changes: **D J Hoekema**, S Sinnathamby, X Jin, V R Sridhar

1340h **U13B-0054 POSTER** Snake-Salmon River basin hydrological modeling driven by climate model outputs: **X Jin**, V R Sridhar, B Moore, V P Walden

1340h **U13B-0055 POSTER** Near term hydrological changes in the Western United States: **M Ashfaq**, L C Bowling, N S Duffenbaugh

1340h **U13B-0056 POSTER** Localized Climate Change Scenarios Using a Downscaling Methodology with a Distributed Hydrology Model: **J Boll**, J W Machala, E Brooks, A Edstrom

1340h **U13B-0057 POSTER** The influence of PDO and ONI on the timing of snowmelt in Idaho: **M L Kunkel**, J L Pierce

1340h **U13B-0058 POSTER** How well do the GCMs replicate the historical precipitation variability in the Colorado River Basin?: **G Guentchev**, J J Barsugli, J Eischeid, D A Raff, L Brekke

1340h **U13B-0059** POSTER Statistical Downscaling of CMIP5 Global Climate Model Simulations for Use in Regional Impact Studies: **B Thrasher**, P Duffy, E P Maurer, K White, T Das, L D Brekke, E H Girvetz

1340h **U13B-0060** POSTER Earlier North American Monsoon Onset in a Warmer World?: **S A Rauscher**, A Seth, T Ringler, M Rojas, B Liebmann

1340h **U13B-0061** POSTER Downscaling of Minimum Surface Temperature in the Semi-arid Great Basin Region and Implications for Bio-geophysical Processes: **B J Hatchett**, R Vellore, D Koracin

1340h **U13B-0062** POSTER Variability of Climate Predictions Relevant to Hydrological Resources: **D Koracin**, R Vellore, B J Hatchett, T McCord, J Koracin, K Horvath, R Belu

1340h **U13B-0063** POSTER Comparing Past and Future Elevational vs. Latitudinal Migrations in Mountains of the Western U.S: **K L Cole**, K Ironside, N Cobb

1340h **U13B-0064** POSTER Plant Physiological Effects on Summer Drought in the Western U.S: **B S Felzer**, T Cronin, D W Kicklighter, C A Schlosser, J M Melillo

1340h **U13B-0065** POSTER Modeling forest fire severity in California, USA: **A Keyser**, A L Westerling

1340h **U13B-0066** POSTER LiDAR DEM validation in shrub areas at Reynolds Mountain East subwatershed: **H Huang**, A M Smith, T E Link, D G Marks

1340h **U13B-0067** POSTER Urban Runoff Response due to Climate Change: **A Acharya**, T C Piechota

1340h **U13B-0068** POSTER A Model for Climate Change Adaptation: **D Pasqualini**, G N Keating

1340h **U13B-0069** POSTER Mitigation of climate change impacts by hydrologic and cultural components of traditional acequia irrigation systems: **A Fernald**

1340h **U13B-0070** POSTER Climate Change and Adaptation Planning on the Los Angeles Aqueduct: **S B Roy**, R C Bales, M C Costa-Cabral, L Chen, E P Maurer, N L Miller, W B Mills

1340h **U13B-0071** POSTER Air quality and changes in inversion characteristics in the Western United States: **A Raudzens Bailey**, T N Chase

1340h **U13B-0072** POSTER Infrastructure Improvements for Snowmelt Runoff Forecasting and Assessments of Climate Change Impacts on Water Supplies in the Rio Grande Basin: **A Rango**, C M Steele, L Demouche

1340h **U13B-0073** POSTER Nevada Infrastructure for Climate Change Science, Education, and Outreach: **G L Dana**, T C Piechota, N Lancaster, S A Mensing

1340h **U13B-0074** POSTER Forests, fire, floods and fish: nonlinear biophysical responses to changing climate: **J L Pierce**, C Baxter, E M Yager, A K Fremier, B T Crosby, A M Smith, B Kennedy, J A Hicke, K Feris

1340h **U13B-0075** POSTER Water resources in a changing climate: An Idaho research initiative: **V P Walden**

1340h **U13B-0076** POSTER How can resource managers cope with a disappearing snowpack? (*Invited*): **J D Lundquist**

U13C Moscone South: I03 Monday 1340h
An Earthquake in an Ancient City: The April 2009 L'Aquila (Central Italy) Seismic Sequence II (*joint with S, G, T, NH*)

Presiding: **S Atzori**, INGV; **C Voisin**, CNRS

1343h **U13C-01** The April 6, 2009, Mw 6.3 L'Aquila earthquake (central Italy): pre - earthquake, co-and post- seismic deformation from GPS measurements: **A Marco**, E Boschi, V Cannelli, R Devoti, D Melini, G Pietrantonio, F Riguzzi, E Serpelloni, A Esposito, V Sepe, A Galvani

1355h **U13C-02** Finite fault inversion of DInSAR coseismic displacement of the 2009 L'Aquila earthquake (central Italy): **S Atzori**, I Hunstad, M Chini, S Salvi, C Tolomei, C Bignami, S Stramondo, E Trasatti, A Antonioli

1410h **U13C-03** Coseismic and initial postseismic slip of the 2009 Mw 6.3 L'Aquila earthquake, from GPS measurements: **D Cheloni**, N D'Agostino, E D'Anastasio, A Avallone, S Mantenuto, R Giuliani, M Mattone, S Calcaterra, P Gambino, D Dominici, F Radicioni, F Fastellini

1425h **U13C-04** Rupture Process of the 2009 L'Aquila, Italy, Earthquake Inferred from the Inversion of Multiple Seismological Datasets: **N Poiata**, K Koketsu, A Vuan, H Miyake

1440h **U13C-05** The Rupture History of the 2009 L'Aquila earthquake by non-linear joint inversion of strong motion and GPS data: **A Piatanesi**, A Cirella, M Cocco, E Tinti, L Scognamiglio, A Michelini, A Lomax

1455h **U13C-06** 10Hz GPS Seismology for moderate magnitude earthquakes: the case of the Mw 6.3 L'Aquila event: **A Avallone**, M Marzario, A Cirella, A Piatanesi, A Rovelli, C Di Alessandro, E D'Anastasio, N D'Agostino

1510h **U13C-07** Supershear During Nucleation of the 2009 M 6.3 L'Aquila, Italy Earthquake: **W L Ellsworth**, L Chiaraluce

1525h **U13C-08** SEISMIC SITE RESPONSE ESTIMATION IN THE NEAR SOURCE REGION OF THE 2009 L'AQUILA, ITALY, EARTHQUAKE: **E Bertrand**, R Azzara, F Bergamashi, P Bordini, F Cara, R Cogliano, G Cultrera, G Di Giulio, A Duval, A Fodarella, G Milana, S Pucillo, J Régnier, G Riccio, J Salichon

U13D Moscone South: I04 Monday 1340h
Climate Services in a Changing Climate: Approaches for User Engagement I

Presiding: **T Owen**, NOAA/NCDC; **M M Timofeyeva**, NOAA/NWS

1340h **U13D-01** Climate Services for Adaptation Support: Sectors, Regions, and Product Lines (*Invited*): **T Owen**, E E Shea

1350h **U13D-02** NOAA Climate Users Engagement Using Training Activities: **M M Timofeyeva**, J P Verdin, J Jones, R S Pulwarty

1400h **U13D-03** A Look into the National Drought Mitigation Center: Providing 15 Years of Drought Services (*Invited*): **M D Svoboda**, M J Hayes, C L Knutson, B D Wardlow

1410h **U13D-04** CIRUN: Climate Information Responding to User Needs: **A J Busalacchi**

1420h **U13D-05** Experimental climate information services in support of risk management: **R S Webb**, R S Pulwarty, M A Davidson, E E Shea, C Nierenberg, R M Dole

1445h **U13D-06** Environmental Knowledge and Society: The Climate Service Center-Germany: **G P Brasseur**

1455h **U13D-07** Developing and Evaluating Workshop Frameworks to Improve Climate Literacy: **K Averyt**, C Alvord, L A Joyce, J Lukas, J J Barsugli, G Owen, B Udall

1505h **U13D-08** NASA's Earth Observing Data and Information System: **A E Mitchell**, J Behnke, D Lowe, H K Ramapriyan

1515h **U13D-09** REGIONAL COORDINATION OF NOAA/ NATIONAL WEATHER SERVICE CLIMATE SERVICES IN THE WEST (*Invited*): **A Bair**

U13E Moscone South: Poster Hall Monday 1340h
The 2009 Samoan and Sumatran Earthquakes: Origins, Impacts and Consequences I Posters

Presiding: J McCloskey, University of Ulster; L J Ruff, University of Michigan

- 1340h **U13E-2077 POSTER** A Field Assessment of the Effects of the M7.6 Earthquake, 30 September 2009, beneath Padang, Western Sumatra, Indonesia: **W D Mooney**, A McGarr, S Sumarso, F Fauzi, I Amarizal, S Rudianto, G Deierlein
- 1340h **U13E-2078 POSTER** Simulation of the minor tsunami generated by the September 30 2009 earthquake near Padang, Sumatra: **C Wekerle**, S Harig, W Pranowo, J Behrens, A Androsof, J Schroeter, W Hiller
- 1340h **U13E-2079 POSTER** The Relation of the 30 September 2009 Mw 7.6 Earthquake to the Structure of the West Sumatran Subduction Zone: **D Lange**, F J Tilmann, A Rietbrock, D H Natawidjaja
- 1340h **U13E-2080 POSTER** Identification of stress fields from stress orientations in tsunamigenic zones: SUMATRA and SAMOA: **J Irsa**, A Galybin, S A Mukhamediev
- 1340h **U13E-2081 POSTER** The Consequences Of The 2009 M7.6 Padang Intermediate Depth Earthquake: Rethinking Loss Estimation In Subduction Zones: **M Wyss**, G Trendafiloski, P Rosset
- 1340h **U13E-2082 POSTER** Moment Tensor, Depth, and Source Time Function of the 2009 Sept. 29 Samoa Great Earthquake: **L J Ruff**, J E Ritsema
- 1340h **U13E-2083 POSTER** The Pacific Tsunami Warning Center response to the Mw8.1 Samoan earthquake of September 29, 2009: **B F Hirshorn**, N Becker, S Weinstein
- 1340h **U13E-2084 POSTER** LIDAR Investigations of the 2009 American Samoa Tsunami: **J L Donahue**, M J Olsen
- 1340h **U13E-2085 POSTER** Atmospheric Baseline Monitoring Data Losses Due to the Samoa Earthquake: **R C Schnell**, M C Cunningham, B A Vasel, J H Butler
- 1340h **U13E-2086 POSTER** The Importance of the Initial Rise and Fall of the Shoreline in Preparing People to Respond to Earthquake-Generated Tsunamis: **C E Gregg**, B F Houghton, J Huffman
- 1340h **U13E-2087 POSTER** Atmospheric Processes Associated with the M8.0 Samoan Earthquake of September 29, 2009: **D P Ouzounov**, S A Pulinets, M Parrot
- 1340h **U13E-2088 POSTER** Visualizing the 2009 Samoan and Sumatran Earthquakes using Google Earth-based COLLADA models: **D G De Paor**, W D Brooks, M Dordevic, N R Ranasinghe, S C Wild
- 1340h **U21D-02 POSTER** Ground Motions from the 29 September 2009 Samoa M8.0 Earthquake and Aftershocks: **D E McNamara**, M D Petersen, M E Meremonte, J Fox, A Leeds

Atmospheric Sciences

A13A Moscone South: Poster Hall Monday 1340h
Aerosol and Cloud Radiative Properties and Climate Effects I Posters

Presiding: S A Ackerman, University of Wisconsin - Madison

- 1340h **A13A-0179 POSTER** Spectroscopic and Light Scattering Studies of Mineral Dust Aerosol: **B Meland**, P K Hudson, V H Grassian, M Young, P Kleiber
- 1340h **A13A-0180 POSTER** Optical properties of subvisual cirrus from OSIRIS: **T Wiensz**, D A Degenstein, A E Bourassa

1340h **A13A-0181 POSTER** A Study on Optical Properties of Nitrate Aerosol and Its Direct Radiative Forcing in China: **H Zhang**, P Z Shen

1340h **A13A-0182 POSTER** The Contribution of Black Carbon Above Clouds to Global Average Forcing: **C Zarzycki**, T C Bond

1340h **A13A-0183 POSTER** Aerosol Absorption Measurements with MODIS: **L Zhu**, J Martins, L A Remer

1340h **A13A-0184 POSTER** A software package for a database of the single-scattering properties of dust-like aerosols: **Z Meng**, P Yang, G W Kattawar, L Bi

1340h **A13A-0185 POSTER** Aerosol absorption coefficient and single scattering albedo from combined irradiance and actinic flux density measurements: **E Bierwirth**, M Wendisch, A Ehrlich, E Jäkel, S Schmidt, P Pilewskie, H Stark

1340h **A13A-0186 WITHDRAWN**

1340h **A13A-0187 POSTER** Comparison of Aerosol optical properties derived from column averaged and near surface observations at Bermuda during Spring 2009: **R P Aryal**, K J Voss, P A Terman, E J Welton, B N Holben, W C Keene

1340h **A13A-0188 POSTER** Multiscale Variations of Surface Cloud Radiative Forcing and Cloud Fraction over the ARM SGP Site: Observations vs. Reanalyses: **W Wu**, Y Liu

1340h **A13A-0189 POSTER** Physical and Radiative Properties of Aerosol Particles across the Caribbean Basin: A Comparison between Clean and Perturbed African Dust and Volcanic Ash Air Masses: **H Rivera**, J A Ogren, P J Sheridan, O Mayol-Bracero

1340h **A13A-0190 POSTER** AN INITIAL ASSESSMENT OF THE CLIMATE IMPACT OF SECONDARY ORGANIC AEROSOLS: **D O'Donnell**, J Feichter

1340h **A13A-0191 POSTER** T-Matrix Optical Scattering Calculations for Atmospheric Aerosol Fractal Soot Aggregates Over a Wide Range of Fractal Dimension: **D A Boness**, B Canion

1340h **A13A-0192 POSTER** Variability in Aerosol Optical and Physical Properties at a Coastal Industrial City in India, deduced from OMI and MODIS data: **B Das**, C Ahn, O Torres

1340h **A13A-0193 POSTER** Global surface reflectivity study relating 340 nm SBUV narrow band LER to 412 nm SeaWiFS broadband LER using OMI spectrally resolved data: **W Qin**, J R Herman, G R Jaross, G J Labow

1340h **A13A-0194 POSTER** Retrieval of visibility from particulate matter and relative humidity using the Mie theory: **W Jeong**, J Kim, Y Kim

1340h **A13A-0195 POSTER** Application of the Discontinuous Galerkin method to computation of ice crystal scattering properties: **G Tang**, R L Panetta, P Yang

1340h **A13A-0196 POSTER** Light scattering from impurity enhanced liquid layers in polycrystalline ice: **E S Thomson**, J S Wettlaufer, L A Wilen

A13B Moscone South: Poster Hall Monday 1340h
Aerosol Properties and Physical Processes I Posters

Presiding: C A Brock, NOAA Earth System Research Laboratory

1340h **A13B-0197 POSTER** A full year of aerosol hygroscopicity measurements at the High Alpine Research Station Jungfraujoch (3580 m asl.): **L Kammermann**, M Gysel, E Weingartner, U Baltensperger

1340h **A13B-0198 POSTER** The kinetics of hydroxyl radical oxidation of a stearic acid monolayer as a proxy for a cloud droplet organic film. A neutron reflectivity study: **C O Lucas**, M D King, A Rennie, C Pfrang, A Hughes

- 1340h **A13B-0199 POSTER** Resolving The Primary Or Secondary Origin Of Individual Organic Compounds In Aerosols: Application To The 2- Methyltetrols: **N J Gonzalez Cantu**, A Borg- Karlsson, J Petersson Redeby, B Noziere, R Krejci, P P Artaxo
- 1340h **A13B-0200 POSTER** Modeling sea-salt aerosol in a coupled climate and sectional microphysical model: optical depth and number concentration: **T Fan**, O B Toon
- 1340h **A13B-0201 POSTER** Quantum Chemical Investigation of Cluster Ions as Atmospheric Aerosol Formation Precursor: **A Kawano**, Y Kawamura, K Kusano
- 1340h **A13B-0202 POSTER** The OSIRIS Database of Global Stratospheric Sulphate Aerosol Extinctions: **D A Degenstein**, A E Bourassa, E J Llewellyn, T Wiensz
- 1340h **A13B-0203 POSTER** Aerosol Hygroscopicity Distribution and Mixing State Determined by Cloud Condensation Nuclei (CCN) Measurements: **H Su**, D Rose, Y Cheng, S S Gunthe, A Wiedensohler, M O Andreae, U Pöschl
- 1340h **A13B-0204 POSTER** Evidence for Novel Atmospheric Organic Aerosol Measured in a Bornean Rainforest: **N H Robinson**, J F Hamilton, J D Allan, B Langford, D E Oram, Q Chen, M W Ward, C N Hewitt, S T Martin, H Coe, G B McFiggans
- 1340h **A13B-0205 POSTER** Measurements at the Mt. Rainier IMPROVE Site of Aerosol Mass, Size and Composition and their Correlation with Particle Hygroscopicity: **M L Alexander**, M Newburn, D H Lowenthal, B Zielinska, S Samy, D R Collins, N Taylor, N Kumar
- 1340h **A13B-0206 POSTER** Spatial distribution and temporal variation of chemical species in the bulk atmospheric aerosols collected at the Okinawa archipelago, Japan: **D Handa**, Y Somada, M Ijyu, S Azechi, F Nakaema, T Arakaki, A Tanahara
- 1340h **A13B-0207 POSTER** Atmospheric Data over a Solar Cycle: No Connection between Galactic Cosmic Rays and Particle Formation in Boreal Forest: **I Riipinen**, M T Kulmala, T Nieminen, M Hultkonen, L Sogacheva, H Manninen, P Paasonen, T T Petdjd, M Dal Maso, P Aalto, A Viljanen, I Usoskin, R O Vainio, S Mirme, A Mirme, A Minikin, A Petzold, U Horrak, C Plass-Duelmer, W Birmili, V Kerminen
- 1340h **A13B-0208 POSTER** Cloud Condensation Nuclei in Cumulus Humilis – Selected Case Study During the CHAPS Campaign: **X Yu**, L K Berg, C M Berkowitz, M L Alexander, Y Lee, A Laskin, J A Ogren, B Andrews
- 1340h **A13B-0209 POSTER** Understanding the tropospheric residence time and transport of SO₂ and SO₄ using cosmogenic ³⁵S and oxygen anomaly (Δ¹⁷O): A Pandey, G Dominguez, M H Thiemens
- 1340h **A13B-0210 POSTER** Effect of Organic Sea Spray Aerosol on Global and Regional Cloud Condensation Nuclei Concentrations: **D M Westervelt**, A Nenes, R Moore, P J Adams
- 1340h **A13B-0211 POSTER** Observation and modeling of dust aerosol effect: **B Yi**, P Yang, X Liu, N M Mahowald
- 1340h **A13B-0212 POSTER** A new approach for on-line measurements of the chemistry of individual ultrafine particles: **M D Zauscher**, G S Lewis, S V Hering, K A Prather
- 1340h **A13B-0213 POSTER** Fast Airborne Size Distribution Measurements of an Aerosol Processes and Aging: **V Kapustin**, A D Clarke, J Zhou, V Brekhovskikh, C S McNaughton, S Howell
- 1340h **A13B-0214 POSTER** Impact of modeled versus satellite measured tropical precipitation on regional smoke optical thickness in an aerosol transport model: **P Xian**, J S Reid, J Turk, E J Hyer, D L Westphal
- 1340h **A13B-0215 POSTER** Case study of the 9 April 2009 ‘brown’ cloud: Observations of usually high cloud droplet concentrations in Saudi Arabia: **D J Delene**
- 1340h **A13B-0216 POSTER** Simulation of the effect of mineral dust and black carbon deposition on snow surface: **T Y Tanaka**, T Aoki, M Hosaka, Y Adachi
- 1340h **A13B-0217 WITHDRAWN**
- 1340h **A13B-0218 POSTER** CCN Study at Urban Supersite (T0) During MILAGRO: the Essential Information for Prediction of Aerosol CCN Concentrations: **J Wang**, M Cubison, A C Aiken, J L Jimenez, D R Collins
- 1340h **A13B-0219 POSTER** Competing Effects of Composition and Temperature on Surface Tension of Organic Aerosols: **E F Aumann**, L M Hildemann, A Tabazadeh
- 1340h **A13B-0220 POSTER** Reversible Wetting of NaCl Nanoparticles at Relative Humidities below Deliquescence Observed by Environmental Non-Contact AFM: **D A Bruzewicz**, A Checco, B M Ocko, E Lewis, R L McGraw, S E Schwartz
- 1340h **A13B-0221 POSTER** Net Oxidation Rates of Gaseous Elemental Mercury in Simulated Urban Smog: **K M Shakya**, A P Rutter, R M Lehr, A Parman, J J Schauer, R J Griffin
- 1340h **A13B-0222 POSTER** Global modeling of SOA formation from different mechanisms: **G Lin**, S Sillman, J E Penner
- 1340h **A13B-0223 POSTER** The Effect of Temperature on Hygroscopic Growth of Organic Aerosols Over The 273-303K Range as Derived From Bulk Solution Experiments: **L I Rodriguez**, A Tabazadeh, D M Golden, M Z Jacobson
- 1340h **A13B-0224 POSTER** Inorganic Chemical Tracers of Biomass Burning: Laboratory Experiments on Pinus Strobus: **D Padilla**, J C Steiner
- 1340h **A13B-0225 POSTER** Rapid aerosol particle growth and increase of cloud condensation nucleus activity by secondary aerosol formation and condensation: A case study for regional air pollution in northeastern China: **A Wiedensohler**, Y Cheng, A Nowak, B Wehner, P Achtert, M Berghof, W Birmili, Z Wu, M Hu, T Zhu, N Takegawa, K Kita, Y Kondo, S Lou, A Hofzumahaus, F Holland, A Wahner, S S Gunthe, D Rose, H Su, U Pöschl
- 1340h **A13B-0226 POSTER** Chemical Composition of Atmospheric Aerosol in Asian Dust Events Measured at Whistler Peak 2002-2008: **A Macdonald**, R Leaitch, E Dabek, D Toom-Sauntry, V Celo
- 1340h **A13B-0227 POSTER** Aerosol Optical Properties at the Elevated Site of the Storm Peak Laboratory (3200 m a.s.l.), Colorado during Winter and Spring 2007-2008: **C Mazzoleni**, J Cook, M K Dubey, T A Rahn, I McCubbin, G Hallar
- 1340h **A13B-0228 POSTER** Organic Aerosol Simulations Using WRF-CHEM model in Mexico City during MCMA-2006/Milagro Campaign: M A Zavala, **G Li**, W Lei, A Tsimpidi, V Karydis, S N Pandis
- 1340h **A13B-0229 POSTER** Persistent Daily Aerosol Nucleation Events at Mountain-Top Location: **A G Hallar**, C Wiedinmyer, D H Lowenthal
- 1340h **A13B-0230 POSTER** Effect of Hydrophilic Organic Seed Aerosols on the Formation of Secondary Organic Aerosol from α-Pinene Ozonolysis in Dry and Humid Conditions: C Song, R A Zaveri, L Alexander, M Newburn
- 1340h **A13B-0231 POSTER** Challenging HYSPLIT trajectories in the equatorial Free Troposphere during PASE: Visualizing In-situ Tracers of Continental Sources and Convective Influence: **S Freitag**, A D Clarke, T L Campos, J Zhou, S Howell, V Kapustin
- 1340h **A13B-0232 POSTER** Emissions of Black Carbon Particles in Anthropogenic and Biomass Plumes over California during CARB 2008: **L K Sahu**, Y Kondo, N Moteki, N Takegawa, Y Zhao, S A Vay, G S Diskin, A Wisthaler, L G Huey

A13C Moscone South: Poster Hall Monday 1340h
Aging of Atmospheric Soot: Laboratory and Field Studies I Posters

Presiding: C Reed, Texas A&M University; A F Khalizov, Texas A & M Univ

1340h **A13C-0233 POSTER** Effect of Substrate Character on Heterogeneous Ozone Reaction Rate with Individual PAHs and Their Reaction Mixtures: **B A Holmen**, T Stevens

1340h **A13C-0234 POSTER** PHOTOENHANCED UPTAKE OF NO₂ ON SOOT: B D'anna, **C George**, M Monge, M Ammann, D J Donaldson

1340h **A13C-0235 POSTER** Effect of Coatings on the Uptake Rate and HONO Yield in Heterogeneous Reaction of Soot with NO₂: **M Cruz-Quinones**, A F Khalizov, R Zhang

1340h **A13C-0236 POSTER** Effect of aging on morphology, hygroscopicity, and optical properties of soot aerosol: **A F Khalizov**, H Xue, J Pagels, P H McMurry, R Zhang

1340h **A13C-0237 POSTER** Ambient Observations of the Soot Aging Process during the SHARP Intensive Field Campaign: **C Reed**, D R Collins, A F Khalizov, J Zheng, R Zhang

1340h **A13C-0238 POSTER** Fast Soot Aging and Pronounced Diurnal Evolution of Size-dependent Soot Mixing State in the Megacity Beijing: **Y Cheng**, H Su, A Wiedensohler, M Berghof, B Wehner, P Achtert, A Nowak, Y Zhang, M Shao, T Zhu, L Zeng, G R Carmichael

1340h **A13C-0239 POSTER** Light Absorption By Coated Soot: **A J Sedlacek**, J Lee, T B Onasch, P Davidovits, E S Cross

1340h **A13C-0240 POSTER** Optical Properties of Coated Soot Measured by Photoacoustic Spectrometry: **P A Bueno**, D Havey, G Mulholland, J Hodges, K Gillis, R R Dickerson, M Zachariah

1340h **A13C-0241 POSTER** The Determination of Humic Like Substance (HULIS) Content in Absorbing Aerosols by FTIR Spectroscopy: **N A Marley**, J S Gaffney, K L Kelley, A Sarkar, G L Bridges

1340h **A13C-0242 POSTER** Carbonaceous Aerosol Removal During Precipitation Events: Climate Implications: **J S Gaffney**, N A Marley, G L Bridges, A Marchany-Rivera, M Begum

A13D Moscone South: Poster Hall Monday 1340h
Atmospheric Acoustics for the Geosciences II Posters (*joint with OS, S, SA, V*)

Presiding: D P Drob, Naval Research Laboratory

1340h **A13D-0243 POSTER** Use of Numerical Weather Research and Forecasting Specifications in Infrasound Propagation Modeling of Local and Regional Sources – Preliminary Investigations: **S Nava**, S E Masters, D Norris

1340h **A13D-0244 POSTER** Current Status of Infrasound Pilot Observation at Japanese Islands and SYOWA Antarctica, and Development of New Infrasound Sensor using Optical Sensing Method: **Y Ishihara**, M Yamamoto, M Kanao

1340h **A13D-0245 POSTER** Pattern recognition approach for unsupervised clustering of infrasound events at Mt. Etna volcano: **P Montalto**, M Aliotta, A Cannata, G Nunnari, D Patanè, E Privitera

1340h **A13D-0246 POSTER** Experimental Infrasound Studies in Nevada: **E T Herrin**, P T Negraru, P Golden, A Williams

1340h **A13D-0247 POSTER** Thermospheric signals from Tungurahua volcano, Ecuador: **J D Assink**, R Waxler, D P Drob, D Fee, A Aydin

1340h **A13D-0248 POSTER** Probing the Atmosphere in Antarctica using continuous microbarom recordings: **L Ceranna**, A LE PICHON, E Blanc

1340h **A13D-0249 POSTER** Experimental Characterization of Seasonal Variations of Infrasonic Travel Times on the Korean Peninsula: **I Che**, B Stump

1340h **A13D-0250 POSTER** The effect of low-altitude meteorology on long-range infrasound propagation: **X Di**, C H Hetzer, R Waxler, C L Talmadge, K E Gilbert

1340h **A13D-0251 POSTER** Infrasound Observation of the Apparent North Korean Nuclear Test of 25 May 2009: J Jeon, **I Che**, T Kim, H Lee

1340h **A13D-0252 POSTER** Microbarom Source Strengths from Spectral Ocean Surface Wave Models: **J E Stopa**, K Cheung, M A Garces, D Fee, R Waxler, C H Hetzer

1340h **A13D-0253 POSTER** Finite-difference time-domain modeling of infrasound from pulsating auroras and comparison with recent experiments: **S de Larquier**, V P Pasko, H C Stenbaek-Nielsen, C R Wilson, J V Olson

1340h **A13D-0254 POSTER** Synthesis of wind-affected long-period seismoacoustic waves: **N Kobayashi**, H Nagao, Y Fukao

1340h **A13D-0255 POSTER** Radiation of Atmospheric waves from the ground motion: Observation and Theory From an Array of Co-located Microbarometers and Broadband Seismometers in Japan: **S Watada**, S Sekiguchi, K Nishida, M Obayashi

A13E Moscone South: Poster Hall Monday 1340h
Climate Teleconnections in Past, Present, and Future
Climates: Observations and Mechanisms II Posters (*joint with PP*)

Presiding: F Vimeux, IRD-HSM-LSCE

1340h **A13E-0256 POSTER** Patterns Of Intraseasonal Temperature Variability And Their Relations With Enhanced Local Predictability: **G Naumann**, W M Vargas

1340h **A13E-0257 POSTER** Teleconnection of IOD to the Tibetan Plateau in Early Winter: **C Yuan**, T Tozuka, T Yamagata

1340h **A13E-0258 POSTER** Influence of tropical circulation on the summer 2003 heat wave over Europe: **S Bielli**, C Cassou, H Douville

1340h **A13E-0259 POSTER** Dynamical feedbacks and the persistence of the NAO: **E A Barnes**, D L Hartmann

1340h **A13E-0260 POSTER** Subtropical Pacific SST Variability Related to the Local Hadley Circulation During the Premature Stage of ENSO: **Y Chikamoto**, Y Tanimoto, H Mukougawa, M Kimoto

1340h **A13E-0261 WITHDRAWN**

1340h **A13E-0262 POSTER** Effects of the Indian Ocean Temperature on Nile River Flow Volumes: **R Becker**, M Sultan, D Becker

1340h **A13E-0263 POSTER** Downstream Development of the North Atlantic Oscillation and Its Extended Impacts on the East Asian Winter Monsoon: **M Sung**, G Lim, J KUG

1340h **A13E-0264 POSTER** THE 1983 DROUGHT IN THE WEST SAHEL - A CASE STUDY: **J Bader**, M Latif

1340h **A13E-0265 POSTER** Winter precipitation system around Nepal revealed by atmospheric circulations, moisture budget and teleconnections: **M Sigdel**, M Ikeda

1340h **A13E-0266 POSTER** Local Climate Reconstruction and Significant but Non-Stable Teleconnections on the Asian Continent and in the Pacific and Indian Oceans as Indicated by the Analysis of a 1000 Year Tree Ring Chronology from Taiwan: **W E Wright**, B Guan, K Wei, E R Cook

1340h **A13E-0267 POSTER** Role of ENSO and monsoon in boreal summer tropical-extratropical teleconnection: **Q Ding**, B Wang

1340h **A13E-0268 WITHDRAWN**

1340h **A13E-0269 POSTER** Stratospheric bimodality: Can the QBO explain the regime behaviour of the NH winter vortex?:

B Christiansen

1340h **A13E-0270 POSTER** Coupled Modes of SST-Precipitation Variability in Observations, Atmospheric GCMs, and Coupled GCMs: **I M Ferguson**, P Duffy, J A Dracup

1340h **A13E-0271 WITHDRAWN**

1340h **A13E-0272 POSTER** Orbital Forcing of Climate: The Role of Obliquity in Driving Natural Climate Change: **M P Erb**, A J Broccoli, A C Clement

1340h **A13E-0273 WITHDRAWN**

1340h **A13E-0274 POSTER** Changes in North Atlantic Sea Surface Temperatures and Tropical Cyclones Activity: **C Andronache**, V Phillips

1340h **A13E-0275 POSTER** Teleconnection of ENSO during the future global warming: **S An**, J KUG

A13F Moscone South: Poster Hall Monday 1340h
Cloud and Aerosol Retrieval Algorithms I Posters

1340h **A13F-0276 POSTER** Predicted Performance of NPOESS/NPP Aerosol Algorithms: **J M Jackson**, E F Vermote

1340h **A13F-0277 POSTER** Cloud-Top Height Estimation by Geostationary Satellite Split-Window Measurements using CloudSat Measurements: **A Hamada**, N Nishi

1340h **A13F-0278 POSTER** Performance Evaluation of a Short Path Extinction Cell at High Relative Humidities: **B T Brem**, F Mena, T Bond, M J Rood

1340h **A13F-0279 POSTER** Pre-Launch Performance Assessment of the VIIRS Land Surface Temperature Environmental Data Record: **B Hauss**, **J Ip**, H Agravante

1340h **A13F-0280 POSTER** Night-time aerosol optical depths retrievals using starphotometry in Canada: **K Baibakov**, N T O'Neill, B Firanski, K B Strawbridge, E W Eloranta, D Daou

1340h **A13F-0281 POSTER** Quantifying the sensitivity of aerosol optical depths retrieved from MSG SEVIRI to a priori data: **C E Bulgin**, P I Palmer, C J Merchant, R Siddans, C Poulsen, R G Grainger, G Thomas, E Carboni, C McConnell, E Highwood

1340h **A13F-0282 POSTER** Use of CALIOP Cloud Data for VIIRS and MODIS Cloud Mask Validation: **R Frey**, R Holz, S Dutcher

1340h **A13F-0283 POSTER** Preliminary Study on Remote Sensing of Aerosol Optical Properties over Ocean around the Korean Peninsula from Geostationary Ocean Color Imager: **J Lee**, J Kim, J Ryu, Y Ahn

1340h **A13F-0284 POSTER** Comparison of MISR and Meteosat 9 Cloud Motion Winds: **K Lonitz**, A Horvath

1340h **A13F-0285 POSTER** Dust Detection by using Infrared Channels from MODIS over Land and Ocean: **S Park**, J Kim, J Lee, H Cho, J Kim, I Chang

1340h **A13F-0286 POSTER** Heterogeneity Effects in Optical Cloud Liquid Water Path Retrievals: **A Horvath**, S Chellappan

1340h **A13F-0287 POSTER** Validation of MODIS aerosol product with in-situ AERONET data (a study case in Hermosillo, Sonora, Mexico): **M Valdes**, A Leyva-Contreras, R Bonifaz, R Llamas

1340h **A13F-0288 POSTER** Development of Lookup Tables and Validation Effort in Support of CRTM: **S Ding**, P Yang, F Weng, Q Liu, Y Han, P F van Delst

1340h **A13F-0289 POSTER** Improving the Cloud Mask For MERIS/ENVISAT Imagery Received Over Canada: A P Trishchenko, **A V Radkevich**

1340h **A13F-0290 POSTER** Determination of ice cloud models using MISR measurements: **Y Xie**, P Yang, P Minnis, Y Hu

1340h **A13F-0291 POSTER** Synergetic use of MODIS and AIRS by using spectral and spatial characterization: Possibilities and errors under varying conditions of cloudiness: **M M Schreier**, B H Kahn, A Eldering, D A Elliot, T S Pagano, F W Irion

1340h **A13F-0292 POSTER** Retrieval of Aerosol Optical Depth over Hong Kong by using MTSAT-1R: **M KIM**, J Kim, J Yoon, P Chan, J Nichol, C S Wong

1340h **A13F-0293 POSTER** Retrieval of Cirrus Cloud Properties from AIRS Data Using SARTA with Delta-Four Stream Approximation Steve S. C. Ou1, Brian Kahn2, K. N. Liou1, Y. Takano1, and Q. Yue2 1Joint Institute for Regional Earth System Science and Engineering University of California, Los Angeles, Los Angeles, California 2Jet Propulsion Laboratory, California Institute of Technology Pasadena, California: **S S Ou**, B H Kahn

1340h **A13F-0294 POSTER** Improved Aerosol Optical Depth Retrievals using combined MODIS-CALIPSO Observations: **M M Oo**, R Holz, S Dutcher, G Quinn, F Nagle

1340h **A13F-0295 POSTER** Parameterization of cirrus microphysical property profiles using GOES, CloudSat, and CALIPSO data: **C R Yost**, P Minnis, J K Ayers, R Palikonda, D A Spangenberg, M Nordeen

1340h **A13F-0296 POSTER** Implications of light absorbing organic aerosol - "brown carbon" - on satellite retrievals of atmospheric trace gases: **B K Dix**, R Volkamer

A13G Moscone South: Poster Hall Monday 1340h
Cloud Properties and Physical Processes, Including Aerosol-Cloud Interactions I Posters

Presiding: E J Jensen, NASA Ames Research Center

1340h **A13G-0297 POSTER** Effect of biomass burning on marine stratocumulus clouds off the California coast: **J Brioude**, O R Cooper, G Feingold, M Trainer, S R Freitas, D Kowal, J K Ayers, E Prins, P Minnis, S A McKeen, G J Frost, E Hsie

1340h **A13G-0298 POSTER** Simulations of radar signals on the basis of cloud model results - deep convection conditions: **A E Kardas**, S A McFarlane, H Morrison, J M Comstock, W W Grabowski, S P Malinowski

1340h **A13G-0299 POSTER** Global Distribution of Cirrus and Opaque Clouds Observed by SAGE II: **G K Yue**

1340h **A13G-0300 POSTER** The seasonal and interannual variability of hydrometeor layer occurrence revealed by combined CloudSat and CALIPSO data: **Q Zhang**, G G Mace

1340h **A13G-0301 POSTER** Observations of the Importance of Both Cloud Dynamics and Particle Loading in the Microphysics of Shallow Cumuli: **L K Berg**, C M Berkowitz, G Senum, S Springston

1340h **A13G-0302 POSTER** The impact of aerosol and cloud dynamical processes on cloud droplets in parameterized shallow cumulus: **K von Salzen**, R Leitch, N Shantz, J Abbatt, F Burnet

1340h **A13G-0303 POSTER** Aqua, CALIPSO, and TERRA satellite data all indicate lower frequency of cloud occurrence at mid-level altitudes in the North Atlantic Ocean, (45N-49N, 25W-5W): **A L Anderson**, A Kostinski, A Marshak

1340h **A13G-0304 WITHDRAWN**

1340h **A13G-0305 POSTER** Intercomparison of microphysical datasets collected from CAIPEX observations and WRF simulation: **S Pattnaik**, B Goswami, J Kulkarni

1340h **A13G-0306 POSTER** Role of clouds and aerosol-cloud interactions on solar dimming: Decreasing evaporation trends over India: **B Padma Kumari**, B Goswami

1340h **A13G-0307 POSTER** The Temperature Dependence of Water's Latent Heat of Freezing: **A Szedlak**, A V Blanchard, A B Kostinski, W H Cantrell

1340h **A13G-0308 POSTER** Cloud Water Path Variation with Temperature over China: **X Li**, X Guo, J Zhu

1340h **A13G-0309 POSTER** Sensitivity of Cloud Microphysical Properties and Autoconversion Rates to Nucleation and Nucleation Mode Dynamics: **Y Lee**, J R Pierce, A Nenes, P J Adams

1340h **A13G-0310 POSTER** Aerosol Indirect Effect on Tropical Precipitation in the ECHAM5 General Circulation Model: **M Previdi**, K Zhang, J Feichter

1340h **A13G-0311 POSTER** An Instrument to Measure Ice Nucleation in the Contact Mode: **K W Bunker**, W H Cantrell

1340h **A13G-0312 POSTER** A characterization of cloud base aerosol and associated microphysics in southeast Queensland: **S A Tessendorf**, C Arnold, R T Bruintjes, D Axisa, J Peter, L Wilson, S Siems, M Manton, P T May, R Stone

1340h **A13G-0313 POSTER** Study of Arctic aerosol and cloud particle properties from ATR-42 aircraft in situ measurements during two POLARCAT campaigns conducted in 2008 during arctic spring and summer: **A Schwarzenboeck**, J Gayet, B Quennehen, K Law, J Schmale, J Pelon, G Ancellet, A Stohl

1340h **A13G-0314 POSTER** A Global View on How Aerosols Modifying Deep Convective Clouds' Macro- and Micro- physical Properties: **T Yuan**, L A Remer, Z Li, J Martins, K E Pickering

1340h **A13G-0315 POSTER** Cirrus in the Tropopause Transition Layer: Association with Planetary-Scale Waves and the Madden-Julian Oscillation: **K Virts**, J M Wallace

1340h **A13G-0316 POSTER** Comparison of Cloud Properties between MODIS Observations and CAM3 Simulation: **Y Li**, P Yang, B A Baum

1340h **A13G-0317 POSTER** Greater Influence of Aerosol on Cloud Microphysics: **V Jha**, J G Hudson, S Noble

1340h **A13G-0318 POSTER** A 2-d modeling approach for studying the formation, maintenance, and decay of Tropical Tropopause Layer Cirrus associated with Deep Convection: **D R Henz**, T Hashino, G J Tripoli, E A Smith

1340h **A13G-0319 POSTER** Sublimation of Levitated Ice Crystals in Laboratory Simulated Upper-Tropospheric Conditions: Y Lin, C V Tong, **N B Magee**

1340h **A13G-0320 POSTER** Assessing aerosol-cloud interactions linking multi-platform observations and remote sensing: **G C Roberts**, L Gomes, J Brenguier, A Apituley, K Wilson, R Boers, D P Donovan, J Pelon, D B Josset, M Boquet, H Coe, J Trembath

1340h **A13G-0321 POSTER** Ice Crystal Number Concentration Sensitivity to the Competition between Homogeneous and Heterogeneous Freezing: A Global Modeling Study: **D Barahona**, A Nenes

1340h **A13G-0322 POSTER** Using large-eddy simulations of ship tracks to explain trends from satellite retrievals: **A S Ackerman**, A Avramov, A M Fridlind

1340h **A13G-0323 POSTER** The Effect of Abiotic Factors on Ice Nucleation Activities of *Pseudomonas Syringae*: R Mortazavi, **P Ariya**

1340h **A13G-0324 POSTER** Impacts of Asian Dust on Cloud Microphysics and Precipitation during an Atmospheric River: **A P Ault**, J M Creamean, C R Williams, C J Gaston, F M Ralph, K A Prather

1340h **A13G-0325 POSTER** Stratus Cloud Supersaturations: **S Noble**, J G Hudson, V Jha

1340h **A13G-0326 POSTER** The role of dataset selection in cloud microphysics parameterization development: **Y L Kogan**

1340h **A13G-0327 POSTER** Self-consistency Validation of Subgrid Scale Parameterization Schemes in Large-eddy Simulation: **Y Kitamura**

1340h **A13G-0328 POSTER** How do uncertainties in plume-scale aerosol processes inhibit our understanding of aerosols, clouds and climate?: **R G Stevens**, C A Brock, J R Pierce

1340h **A13G-0329 POSTER** Uncertainty Assessment of Size-Resolved Parameterizations for Aerosol Removal by Liquid Precipitation: X wang, **L Zhang**, M D Moran

1340h **A13G-0330 POSTER** Evaluation of 3-dimensional winds measured by the Aircraft Integrated Meteorological Measurement System: **C Kruse**, D J Delene, C A Grainger

1340h **A13G-0331 POSTER** Parameterization of Momentum Transport for the Convective Boundary Layer: **P M Soares**, P Miranda, J Teixeira

1340h **A13G-0332 POSTER** An analysis of entrainment mixing processes in warm cumulus: **J D Small**, P Y Chuang

1340h **A13G-0333 POSTER** Simulation of wintertime precipitation in the vicinity of Japan: **S Iizuka**

A13H Moscone South: Poster Hall Monday 1340h
Climate General Contributions I Posters

1340h **A13H-0334 POSTER** Solar Dynamical Process Effects on Ozone Variations in Nigeria: **B C Isikwue**, F N Okeke

1340h **A13H-0335 POSTER** Inconsistencies and Fallacies: IPCC 20th Century Simulations, Multi-Model Ensembles and Climate Sensitivity: **N L Rogers**

1340h **A13H-0336 POSTER** Noise-Induced Instability in the ENSO Recharge Oscillator: **A F Levine**, F Jin

1340h **A13H-0337 POSTER** Merging Satellites, Models and Gauges to Obtain New Precipitation Estimates: **M Sapiano**, T Smith, P A Arkin, J Janowiak

1340h **A13H-0338 POSTER** Storm Track Position in an idealized Moist AGCM: **J Lu**, G Chen, D M Frierson

1340h **A13H-0339 POSTER** Climatology of Extreme Winds in the Chukchi/Beaufort Seas/Alaska Region Using the North American Regional Reanalysis: **S T Stegall**, J Zhang

1340h **A13H-0340 WITHDRAWN**

1340h **A13H-0341 POSTER** Climatology and Interannual Variations in Precipitation During the Monsoon Transient Season in Central Vietnam: **R Maeda**

1340h **A13H-0342 POSTER** Drought and the predictability of the October-November rains over Sri Lanka: **D N Fernando**, D A Robinson, M N Ward, S K Premalal

1340h **A13H-0343 POSTER** Dynamical contribution to variations in local climate: Application of partial least squares regression: **B V Smoliak**, J M Wallace, M T Stoelinga

1340h **A13H-0344 POSTER** Climate Change Explorer: **L V Didkovsky**, D L Judge, S R Wieman

1340h **A13H-0345 POSTER** Change in the Western North Pacific Summer Monsoon Circulation due to the CO₂ Increase in IPCC AR4 CGCMs: **S Lee**, C Ho

1340h **A13H-0346 POSTER** Seven Year Climatologies derived from the Atmospheric Infrared Sounder (AIRS): **T J Hearty**, A K Savtchenko, Y Won, M Theobald, B Vollmer, E Manning, P M Smith, D Ostrenga

1340h **A13H-0347** *POSTER* High initial-time sensibility observed for the tropospheric NAM predictability in the stratospheric sudden warming: **Y Kuroda**

1340h **A13H-0348** *POSTER* Improvement of the Seasonal Prediction of the Baiu Precipitation: **T Tomita**, T Yamaura

1340h **A13H-0349** *POSTER* Establishing an Operation System with Unified Regional Circulation Rainfall Model and Hydrological Watershed Model: **J Liou**, C Chiang

1340h **A13H-0350** *POSTER* IMPACT OF TRMM PRECIPITATION ON CPTEC'S RPSAS ANALYSIS: **D L Herdies**, C F Bastarz, J P Fernandez

1340h **A13H-0351** *POSTER* Principal modes of Asian summer monsoon variability: Detection and changes: **N Yasutomi**, M Kimoto

1340h **A13H-0352** *POSTER* Cloud-resolving simulation of the diurnal cycle of precipitation over land: the role of the large-scale forcing: **J Lee**, M F Khairoutdinov

1340h **A13H-0353** *POSTER* Comparison of MODIS MOD07 Collection 5 and 6 products against AIRS and TOMS: **E E Borbas**, L A Moy, S W Seemann, W Menzel, S Ackerman

1340h **A13H-0354** *POSTER* Initial IASI Radiance Assimilation Experiments in the NASA Global Data Assimilation System: **H Liu**

1340h **A13H-0355** *POSTER* Orographic Effects on Rainfall Induced by the Passage of Tropical Cyclones over Mountainous Islands Part I: Control Experiment: **I C Colon-Pagan**, Y Lin, Y Kuo, W S Schreiner

1340h **A13H-0356** *POSTER* A COMPARISON OF STRATEGIES TO COUPLE GLOBAL AND LIMITED-AREA DATA ASSIMILATION: **D Merkova**, I Szunyogh

1340h **A13H-0357** *POSTER* Development and Propagation of a Narrow Cold Frontal Rain Band in the Sierra Nevada of Northern California: **K C King**, M L Kaplan, C Smallcomb

1340h **A13H-0358** *POSTER* Radio Occultation Capability on Decadal Survey Missions: **K J Hurst**, A J Mannucci

1340h **A13H-0359** WITHDRAWN

1340h **A13H-0360** *POSTER* ENSO & NAO Impacts on Intra-Seasonal Temperature Variability in United States Winters: **M L Malin**

1340h **A13H-0361** *POSTER* http://www.agu.org/meetings/fm09/program/abstract_submissions.php Precipitation trends in California: Rainfall is becoming wetter with heavier rain events: **S LaDochy**, D Killam, A Bui, W C Patzert, J K Willis, P Ramirez

1340h **A13H-0362** WITHDRAWN

1340h **A13H-0363** *POSTER* Impacts of Climate Change on Storm Tracks Using the PCMDI Suite of Models: **N G Gaggini**, D Eichler

1340h **A13H-0364** *POSTER* Madden-Julian Oscillation (MJO) response to CO₂ doubling: **S Han**, K Seo, J Choi, G J Zhang

1340h **A13H-0365** *POSTER* Relation between middle atmosphere response and troposphere response to ENSO for a multi-model ensemble for twentieth-century simulation to year 2000: **K Shibata**

1340h **A13H-0366** *POSTER* Climate Sensitivity to Forest Cover in North America: **Y Lu**, L M Kueppers, Z M Subin

A13I Moscone South: Poster Hall Monday 1340h
Dynamics General Contributions I Posters

Presiding: **L Pfister**, NASA Ames Research Center

1340h **A13I-0367** *POSTER* Estimation of Convective Momentum Fluxes Using Satellite-Based Methods: **C Jewett**, J R Mecikalski

1340h **A13I-0368** *POSTER* Diurnal variation of the sodium layer observed by lidar at Wuhan, China: **G Yang**, X Cheng, S Gong, J Wang, Z Liu

1340h **A13I-0369** *POSTER* Spontaneous formation of vorticity staircase and multiple jets in a 1D barotropic model with parameterized eddy mixing: **D Zhu**, N Nakamura

1340h **A13I-0370** *POSTER* Spatial distribution of distinct oscillations in temperature fields of different GCMs used in the ENSAMBLES project: **P Pisoft**

1340h **A13I-0371** *POSTER* Development of a Second-order Closure Turbulence Model with Subgrid-scale Condensation and Microphysics: **G J Firl**, D A Randall

1340h **A13I-0372** *POSTER* Internal Gravity Waves Forced by an Isolated Mountain: **L Nikitina**, L Campbell

1340h **A13I-0373** *POSTER* Potential Enhancements to the Cross-track Infrared Sounder (CrIS) Ground Test, Data Downlink and Processing for Climate Monitoring including Trace Gas Retrievals: **S V Farrow**, T Christensen, D E Hagan

1340h **A13I-0374** *POSTER* Physical Mechanism of the Surface Air Temperature Variability in Korea and Near Seven-Day Oscillations: **K Kim**, J Roh

1340h **A13I-0375** *POSTER* MODIS and WRF applied on Urban Heat Islands over Mexico City: **Y Cui**, B de Foy

1340h **A13I-0376** *POSTER* Roles of anomalous Tibetan Plateau warming on the severe 2008 winter storm in central-southern China: **Q Bao**

1340h **A13I-0377** *POSTER* The sensitivity analysis on the influence of Land-use change over the Eastern China on water, surface energy budget, and Carbon cycle: **L Jiang**, L Lu, R A Pielke

1340h **A13I-0378** *POSTER* Onset of the Western North Pacific Summer Monsoon: **Y Sakamoto**

1340h **A13I-0379** *POSTER* Environmental Influences on Vorticity Production in Simulated Convective Storms: **C Kirkpatrick**, E W McCaul, Jr.

1340h **A13I-0380** *POSTER* Visualization of eastern Pacific atmospheric dynamics during the record flood of 1996 in Oregon using global reconstructed datasets: A P Zdyrski, **A C Naegele**, R Navarrete, J A Jones, E Zhang, J Palacios

1340h **A13I-0381** *POSTER* Patterns of Jet Stream Wintertime Variability and their Relation to the Storm Tracks: **P Athanasiadis**, J M Wallace, J J Wettstein

1340h **A13I-0382** *POSTER* Stratospheric Gravity Waves Generated by Typhoon Saomai (2006): Numerical Modeling in a Moving Frame Following the Typhoon: **S Kim**, H Chun

1340h **A13I-0383** *POSTER* Mechanisms of the northward propagation of boreal summer intraseasonal oscillation (ISO) using potential vorticity analysis: **E Song**, K Seo

1340h **A13I-0384** *POSTER* Solar forcing of the lower atmosphere during the winter 1981-1982: a case study: **H Davidkovova**, J Bochnicek, P Hejda, R Huth

1340h **A13I-0385** *POSTER* The response of the lower stratosphere to strong isolated geomagnetic storms: **J Bochnicek**, H Davidkovova, P Hejda, R Huth

1340h **A13I-0386** *POSTER* Modeling Optical Turbulence on Mauna Kea: An Operational Challenge: **T Cherubini**, S Businger, R ' Lyman

1340h **A13I-0387** *POSTER* Observations and Modeling of the Atlantic Meridional Mode during the Atlantic hurricane season: **D Smirnov**, D J Vimont

1340h **A13I-0388** *POSTER* Effects of momentum and energy conserving gravity wave drag parameterization in a general circulation model: **C Chen**, J H Richter, R R Garcia, J T Bacmeister

1340h **A13I-0389** WITHDRAWN

1340h **A13I-0390** *POSTER* Beaufort Sea Mesoscale Meteorology Modeling Study: Sea Breeze Simulation: **F Liu**, J Zhang

1340h **A13I-0391 POSTER** Relating ocean clouds to moist processes using water vapor isotope measurements over tropics and subtropics: **J Lee**, J Worden, D C Noone, J F Li, A N LeGrande, K W Bowman, A Elderling, G A Schmidt, J F Adkins

1340h **A13I-0392 POSTER** Fully-implicit Jacobian-free Newton-Krylov Solvers for the nonhydrostatic Euler equations: **J F Kelly**, F Giraldo, L Carr

1340h **A13I-0393 POSTER** How well Adjusted is the Atmosphere?: **A Solomon**, N Nakamura

1340h **A13I-0394 POSTER** Laboratory Measurements of Room Temperature Vibrational Energy Transfer in O₃ – O Collisions: **J Schaeffer**, L Black, T Pedersen, K J Castle

1340h **A13I-0395 WITHDRAWN**

1340h **A13I-0396 POSTER** The influence of AMSRE-derived soil moisture on RAMS-simulated Tibetan Plateau climate: **Y Qi**, L Lu, J Shi, L Jiang, S Zhang

1340h **A13I-0397 POSTER** A study of gravity wave activities in the polar regions using FORMOSAT3/COSMIC radio occultation data: **K Chen**, Y Liou, S Yan

1340h **A13I-0398 POSTER** Loss of Significance and Multidecadal Madden Julian oscillation: **E Suhas**, B Goswami

1340h **A13I-0399 POSTER** Observation of stratospheric turbulence by balloon-borne hot-wire anemometer: A Theuerkauf, **M Gerding**, F Luebken

1340h **A13I-0400 POSTER** The 5- and 16-day planetary waves in the Arctic and Antarctic Mesosphere and Lower Thermosphere: **K A Day**, N J Mitchell

1340h **A13I-0401 POSTER** Gravity-Wave/Tidal Interactions in the Mesosphere and Lower Thermosphere over Rothera, Antarctica (68S, 68W): **C L Beldon**, N J Mitchell

1340h **A13I-0402 POSTER** Examination Of A Strong Downslope Warming Wind Event Over The Larsen Ice Shelf In Antarctica Through Modeling And Aircraft Observations: **D P Grosvenor**, T W Choularton, M W Gallagher, T A Lachlan-Cope, J C King

1340h **A13I-0403 POSTER** The affect of nonlinear dynamics on Ensemble Kalman Filter divergence for atmospheric data assimilation: **G C Ng**, D McLaughlin, D Entekhabi

1340h **A13I-0404 POSTER** The Surface-Pressure Signature of Atmospheric Tides in Modern Climate Models: **C Covey**, A Dai, D R Marsh, R S Lindzen

1340h **A13I-0405 POSTER** Eddy-induced Instability for Low-frequency Variability: **F Jin**

1340h **A13I-0406 POSTER** Cyclic Behavior of Temperature and Ozone at SHADOZ sites between the Equator and 5°S Latitude: **F J Schmidlin**

1340h **A13I-0407 POSTER** DART: A Community Facility for Ensemble Data Assimilation: T J Hoar, **K Raeder**, J L Anderson, N Collins, H Liu, G Romine, A F Arellano, G Lawson

1340h **A13I-0408 POSTER** A note on structure and instability of the African Easterly Jet: **A K Dezfouli**, S E Nicholson

1340h **A13I-0410 POSTER** Nature versus nurture in shallow convection: **D M Romps**, Z Kuang

1340h **A13I-0409 WITHDRAWN**

1340h **A13I-0411 POSTER** Study of Gravity Wave Variations in the Polar Regions Using ECMWF T799: **C Yamashita**, H Liu, X Chu

1340h **A13I-0412 POSTER** Interhemispheric Gradients and Tropical Circulation in Global Climate Models: **A Friedman**, J C Chiang

1340h **A13I-0413 POSTER** Isotopic Variations of Atmospheric Water Vapor on Synoptic Scales in Hanover NH: **K K Everhart**, A M Faiia, X Feng, E S Posmentier

1340h **A13I-0414 POSTER** Regime transitions of steady and time-dependent Hadley circulations: Comparison of axisymmetric and eddy-permitting simulations: **S Bordoni**, T Schneider

1340h **A13I-0415 POSTER** Using radiosonde data to examine trends in atmospheric stability in the tropical Pacific, Asia, and western Americas: **A P Williams**, G J Husak

1340h **A13I-0416 POSTER** Observed Impact of Subpolar North Atlantic SST Anomalies on the Atmospheric Circulation: **Q Wu**, X Zhang

1340h **A13I-0417 POSTER** Applications of a Simple Nonlinear Vortex Boundary Layer Model: **R C Foster**

1340h **A13I-0418 POSTER** A Global Mass Circulation Variability and Annular Mode: **C Shin**, M Cai

A13J Moscone South: Poster Hall Monday 1340h
Ocean-Land-Atmosphere Interactions in the Eastern Tropical Oceans III Posters (*joint with OS*)

Presiding: **R Wood**, University of Washington; **S Spak**, University of Iowa; **H Coe**, The University of Manchester; **C R Mechoso**

1340h **A13J-0419 POSTER** Gravity waves as a causal mechanism for transition from closed to open cellular convection in the remote South East Pacific: G Vaughan, **G Allen**, P Connolly, P Minnis, T Toniazzo, H Coe

1340h **A13J-0420 POSTER** Near-LES modeling of Eastern Pacific Stratocumulus Drizzle and Cloud Variability in VOCALS: **D B Mechem**, S E Yuter, S P deSzoek, C W Fairall

1340h **A13J-0421 POSTER** Investigating marine stratocumulus with a fully coupled cloud-aerosol scheme in a WRF/Chem Large Eddy Simulation: **J Kazil**, H Wang, G Feingold

1340h **A13J-0422 POSTER** The Impact of Buoyancy Reversal in Stratocumulus-Topped Marine Boundary Layers: **H Xiao**, C Wu, C R Mechoso

1340h **A13J-0423 POSTER** Drizzle and Cloud Cellular Structures in Marine Stratocumulus over the Southeast Pacific: Model Simulations: **H Wang**, G Feingold, J Kazil, R Wood

1340h **A13J-0424 POSTER** Large Eddy Simulation of VOCALS RF06: The Role of Cloud Droplet Number Concentration Gradients in Pockets of Open Cells: **A H Berner**, C S Bretherton, R Wood, P N Blossey

1340h **A13J-0425 POSTER** Across the boundary of closed and open cell stratocumulus: The 27/28th October VOCALS-REx lagrangian case study: **R Wood**, C S Bretherton, D Leon, T Clarke, P Zuidema, G Allen

1340h **A13J-0426 POSTER** Numerical simulation of cloud-aerosol interactions: **M Andrejczuk**, A Gadian, A M Blyth

1340h **A13J-0427 POSTER** Drizzle and Sub-cloud Evaporation in Marine Stratocumulus and Implications for Water and Energy Budgets: **D L Rossiter**, J D Small, P Y Chuang

1340h **A13J-0428 POSTER** Variability and vertical structure of clouds and turbulence in the stratocumulus-capped boundary layer during VOCALS: **S P deSzoek**, C W Fairall, S E Yuter, D E Wolfe, L Bariteau, P Zuidema, S Pezoa, K Moran, S C Tucker, A Brewer

1340h **A13J-0429 POSTER** Diagnosing inflow-moisture-precipitation relationships along the South Pacific Convergence Zone: **B R Lintner**, J Neelin

1340h **A13J-0430 POSTER** Impact of Indonesian Rainfall on Pacific Ocean Watermass Properties in a Coupled Climate Model: **M J Harrison**, R Hallberg, A Adcroft

1340h **A13J-0431 POSTER** Coastal Jets and Upwelling Events in the Humboldt Current System: D Putrasahan, **A C Subramanian**, A J Miller

1340h **A13J-0432** *POSTER* Analysis of synoptic conditions during VOCALS-REx: **T Toniazzo**, S Abel, G Allen, R Wood, C R Mechoso, R George, C S Bretherton

1340h **A13J-0433** *POSTER* The influence of atmospheric nutrients on primary productivity in coastal upwelling regions: **K R Mackey**, G L van Dijken, S Mazloom, A M Erhardt, K R Arrigo, A Paytan

1340h **A13J-0434** *POSTER* Competition between Orography and SST in Creating Mesoscale Wind Anomalies in Subtropical Upwelling Zones: **A D Hall**, J Boe, F Colas, J Kurian, J C McWilliams, S B Kapnick, X Qu

1340h **A13J-0435** *POSTER* West African convective storms during the land-ocean transition: **M S DeLonge**, J Fuentes, P A Kucera

1340h **A13J-0436** *POSTER* Coastal Jets, Oceanic Upwelling, Mesoscale Eddies, and Clouds in the Southeast Pacific: **X Hong**, S Wang, Q Jiang, L W O'Neill, R Hodur, S Chen, P Martin, J A Cummings

1340h **A13J-0437** *POSTER* Modeling Air-Land-Sea Interaction using Regional Climate System Model for Monterey Bay, CA: **S Chien**, Y Tseng

1340h **A13J-0438** *POSTER* Response of marine subtropical Atlantic stratocumulus clouds to smoke from African savannah burning: **E M Wilcox**, D Harshvardhan, S E Platnick

1340h **A13J-0439** *POSTER* Influences of land-ocean-atmosphere dynamics and emissions sectors on atmospheric chemical transport during VOCALS REx: **S Spak**, M Mena, G R Carmichael

1340h **A13J-0440** *POSTER* Physical and chemical properties of aerosols at a coastal site Paposo (Chile) during VOCALS campaign: A M Cordova, **D Chand**, R Wood, D Wallace, D A Hegg, G E Shaw, R Krejci, G J Fochesatto, L Gallardo

1340h **A13J-0441** *POSTER* An Evaluation of LTS as a Predictor of Low Cloud Variability: **F Sun**, X Qu, A Hall

1340h **A13J-0442** *POSTER* A Comparison of ECMWF and GFS Initializations for the Development of Hurricane Helene 2006 as Part of NAMMA 2006: **M J Folmer**, R W Pasken, B Anderson

1340h **A13J-0443** *POSTER* NRL COAMPS Real-Time Forecast during VOCALS-Regional Experiment: **S Wang**, L W O'Neill, Q Jiang, H Jin, W T Thompson, X Hong, X Zheng

1340h **A13J-0444** *POSTER* Subsurface Pathways and Eastern Pacific Sea Surface Temperature: **B A Klinger**, M J Harrison, P Schopf

1340h **A13J-0445** *POSTER* Upper Ocean Processes Under the Stratus Cloud Deck in the Southeast Pacific Ocean: **Y Zheng**, T Shinoda, G N Kiladis, J Lin, E Metzger, H E Hurlburt, B S Giese

1340h **A13J-0446** *POSTER* Aircraft Meteorological and Turbulence Measurements at 20°S, 72°W during VOCALS-REx: **D Khelif**, H Jonsson

1340h **A13J-0447** *POSTER* Comparison of ship and satellite measurements of cloud properties in the southeast Pacific stratus deck with CAM3.1 results: **M Brunke**, S P deSzoek, P Zuidema, X Zeng

1340h **A13J-0448** *POSTER* Comparisons of in situ observations of bulk near-surface meteorological variables, turbulent and radiative fluxes, and cloud properties with operational NWP models in the VOCALS region: D Stanitski, **C W Fairall**, R A Weller, F Bradley, H Zhang, W Hankins, A Beljaars

1340h **A13J-0449** *POSTER* Small-Scale Structure Of Stratocumulus Top – Glimpse Into The High Resolution Data Collected During POST: **S P Malinowski**, K E Haman, W Kumala, M Kopec, H E Gerber, S K Krueger

1340h **A13J-0450** *POSTER* Cloud microphysical relationships observed from the G-1 aircraft during the VOCALS project: **S S Yum**, J Wang, P H Daum, G Senum, S Springston, S Lee

1340h **A13J-0451** *POSTER* Profiling Stratocumulus-topped Boundary Layers with GPS Radio Occultation: **F Xie**, D L Wu, C O Ao, E Kursinski, A Mannucci, S Syndergaard

1340h **A13J-0452** *WITHDRAWN*

1340h **A13J-0453** *POSTER* Atmospheric decoupling in the Southeastern Pacific observed using sub-cloud clear-air turbulence profiles: **S C Tucker**, P Zuidema, A Brewer, A Weickmann, S Sandberg, C W Fairall, D E Wolfe, S P deSzoek, D J Coffman, D Covert

1340h **A13J-0454** *POSTER* Airborne Observations of Drizzle in Marine Sc during VOCALS-REx: quantification, and implications for boundary-layer dynamics and cloud properties: **D Leon**, J R Snider, Z Wang, P Zuidema, R Wood

1340h **A13J-0455** *POSTER* New approaches to determining aircraft and shipboard stratocumulus liquid water paths during VOCALS and applications: **P Zuidema**, M P Cadetdu, A L Pazmany, D Leon, S C Tucker

1340h **A13J-0456** *POSTER* Airmass characterisation along the 20-degree South parallel during the VOCALS-REx campaign: **G Allen**, T Toniazzo, H Coe, R Wood, C S Bretherton, S Abel, A D Clarke

1340h **A13J-0457** *POSTER* From Aerosol to Cloud Droplet Number Concentration in VOCALS-REx: **J Snider**, D Leon, Z Wang, L Shank, S Howell

1340h **A13J-0458** *POSTER* Retrieval of cloud microphysical parameters using the NOAA/PSD W-band cloud radar from R/V Ronald H. Brown during the VOCALS-REx field program: **C W Fairall**, S P deSzoek, K Moran, S Pezoa, D E Wolfe, P Zuidema

1340h **A13J-0459** *POSTER* Polarimetric remote sensing of droplet distribution parameters from the UMBC-LACO imaging polarimeter during VOCALS-REx: **S Buczkowski**, J Martins, R Fernandez-Borda, E M Wilcox, H Jonsson

A13K Moscone West: 3008 Monday 1340h
Aerosols and Climate in Asia II: Field Experiments (*joint with GC, H*)

Presiding: **W K Lau**, NASA GSFC; **Y Qian**, Pacific Northwest Natl Lab

1340h **A13K-01** The Cloud Aerosol Interactions and Precipitation Enhancement Experiment (CAIPEEX): overview and prominent results: **J R Kulkarni**, R S Mahes Kumar, M Konwar, C G Deshpande, S B Morwal, B Padma Kumari, R R Joshi, G Pandithurai, R V Bhalwankar, V R Mujumdar, B Goswami, D Rosenfeld

1355h **A13K-02** Control of aerosols on convective precipitation forming processes revealed by CAIPEEX over India and the adjacent seas (*Invited*): **D Rosenfeld**, J Kulkarni, R S Mahes Kumar, M Konwar, B Goswami

1415h **A13K-03** Direct and Indirect Effects of Aerosols in China: **Z Li**, H Chen, S Tsay, J Huang, W Zhang

1430h **A13K-04** An overview of dust aerosol effect on semi-arid climate during 2008 China-US joined field campaign: **J Huang**, J Bi, W ZHANG, J Shi, S Tsay, Z Li, H Chen, X Wang, Z Huang, B Zhang, G Wang, L Zhang

1445h **A13K-05** Air pollution and clouds in southern China: preliminary results from the observations in spring 2009 at Mt. Heng: **T Wang**, L Xue, X Gao, W Nie, X Wang, Y Wang, M Sun, A Ding, S Fan, Q Zhang, W Wang

1500h **A13K-06** Aerosol Properties Observed on the Mesoscale and MODIS Aerosol Optical Depth Comparisons during the 2008 Pre-monsoon TIGERZ IOP in Kanpur, India: **D M Giles**, B N Holben, S N Tripathi, T F Eck, W W Newcomb, I Slutsker, R R Dickerson, A M Thompson, S Wang, R Singh

1515h **A13K-07** Aerosol and Cloud Properties during the Cloud Cheju ABC Plume -Asian Monsoon Experiment (CAPMEX) 2008: Linking between Ground-based and UAV Measurements: **S Kim**, S Yoon, M Venkata Ramana, V Ramanathan, H Nguyen, S Park, M Kim

1530h **A13K-08** Using unmanned aircraft to measure the impact of pollution plumes on atmospheric heating rates and cloud properties during the Cheju ABC Plume-Asian Monsoon Experiment (CAPMEX): **M Venkata Ramana**, V Ramanathan, H Nguyen, Y Xu, K Pistone, C Corrigan, Y Feng, A Zhu, S Kim, S Yoon, G R Carmichael, J J Schauer

A13L Moscone West: 3004 Monday 1340h
Development and Application of Simulators for Aerosol-Cloud-Precipitation Observation From Space III

Presiding: **T Matsui**, NASA GSFC & GEST UMBC; **W Tao**, NASA GSFC

1340h **A13L-01** COSP: a multi-instrument satellite simulator for model evaluation (*Invited*): **A Bodas-Salcedo**, M J Webb, S A Klein, Y Zhang, S Bony, H Chepfer, J L Dufresne, J M Haynes, R Marchand

1355h **A13L-02** Satellite Data Simulator Unit (SDSU) version 2: **H Masunaga**

1410h **A13L-03** Application of Satellite Simulators to Explore the Sensitivity of Precipitation Retrievals to Changes in Aerosol Concentration: **T S L'Ecuier**, W K Berg, S Saleeby, S C van den Heever

1425h **A13L-04** Evaluating ice formation processes in tropical anvils using CRM-based simulations of MODIS and POLDER radiance and polarization measurements: **B van Diedenhoven**, A M Fridlind, A S Ackerman

1440h **A13L-05** Validation of the Advanced Microphysics Prediction System (AMPS) using TRMM PR and TMI for KWAJEX simulations: **T Hashino**, D Casella, A Mugnai, E A Smith, G J Tripoli

1455h **A13L-06** Using Instrument Simulators and a Satellite Database to Evaluate Microphysical Assumptions in High-Resolution Simulations of Hurricane Rita: **S M Hristova-Veleva**, Y Chao, A H Chau, Z S Haddad, B Knosp, B Lambrigtsen, P Li, J M Martin, W L Poulsen, E Rodriguez, B W Stiles, J Turk, Q Vu

1510h **A13L-07** Influence of turbulent parameterization on high resolution numerical modeling of observed tropical convection during NASA TC4 field campaign: **A Parodi**, S Tanelli

1525h **A13L-08** A MODIS simulator and matching dataset for the evaluation of clouds in climate models: **R Pincus**, S E Platnick, S A Ackerman

A13M Moscone West: 3002 Monday 1340h
Extratropical and High-Latitude Storms: Synoptic-Scale Perspective and Linkage to Large-Scale Climate Variability, Change, and Impact II (*joint with PA, GC, H, PP, C, OS*)

Presiding: **X Zhang**, University of Alaska Fairbanks; **J E Walsh**, University of Alaska; **V A Alexeev**

1340h **A13M-01** Extreme winter cyclones and the extinction of a reindeer population (*Invited*): **J E Walsh**, D R Klein, M Shulski

1355h **A13M-02** Sea-ice Changes in the Sea of Okhotsk: Relationship with Northern Hemisphere Storm Tracks (*Invited*): **M D Mesquita**, K I Hodges, D E Atkinson, J Bader

1410h **A13M-03** North Atlantic storm track response to decadal fluctuations of the Atlantic Meridional Overturning Circulation (AMOC): C Frankignoul, **R Msadek**, L Li

1425h **A13M-04** Using Ensemble Sensitivity to Understand the Role of Sea Surface Temperatures in Midlatitude Storm Development in the Gulf Stream Region: **J F Booth**, L Thompson, K A Kelly, S C Bates, J Patoux

1440h **A13M-05** Do Tropical Cyclones Provide a Look at Past Changes in the Late Summer-Early Fall Jet Stream from Anomalously Low Stable Isotope Ratios in the Southern Greenland Ice Cores?: **J R Lawrence**, H Sodemann, J Rinn, M Ogle, A E Dessler

1455h **A13M-06** Aircraft Observations of a Polar Low over the Greenland Sea: **K Moore**, C Hay, I Renfrew, N Petersen

1510h **A13M-07** An Investigation of Bomb Cyclone Climatology: Reanalysis vs. NCEP's CFS Model: **F M Alvarez**, T Eichler, J Gottschalck

1525h **A13M-08** Storm Tracks Changes and Their Impacts in a Warmer Climate: **Y Wu**, M Ting, R Seager, H Huang, M A Cane

A13N Moscone West: 3006 Monday 1340h
Organics in the Atmosphere: Chemical and Physical Transformations II

Presiding: **F N Keutsch**, UW Madison; **V F McNeill**, Columbia University

1340h **A13N-01** Products and Mechanisms of Aerosol Formation from Reactions of OH Radicals with Linear and Branched Alkenes in the Presence of NO_x (*Invited*): **P J Ziemann**, A Matsunaga

1402h **A13N-02** PHOTOENHANCED DEPOSITION OF TRACE GASES AT THE INTERFACE OF ORGANIC SURFACES: **C George**, D Barbara, A Jammoul, O Favez, T Rosenoern

1416h **A13N-03** Effect of fatty acid coatings on ozone uptake to deliquesced KI/NaCl aerosol particles: M Ammann, **A Rouvière**

1430h **A13N-04** Mechanism of secondary organic aerosol formation from isoprene photooxidation: Identification of precursors to aerosol-phase products: **A W Chan**, J D Surratt, N C Eddingsaas, M N Chan, C Loza, P O Wennberg, R C Flagan, J Seinfeld

1444h **A13N-05** Enabling in-situ observation of organic aerosol speciated composition: Advances in TAG instrumentation (*Invited*): **A H Goldstein**, D R Worton, Y Zhao, N M Kreisberg, A P Teng, S V Hering, T Gorecki, M Ranjan, C J Hennigan, A Lambe, N Nguyen, N M Donahue, A L Robinson, J T Jayne, B J Williams, D R Worsnop

1506h **A13N-06** Terpenylic and Related Lactone-Containing Acids: Novel Monoterpene Secondary Organic Aerosol Tracers with Dimer-Forming Properties: **M Claeys**, Y Iinuma, R Szmigielski, Y Farhat, J D Surratt, F Blockhuys, C Van Alsenoy, O Böge, B Sierau, Y Gómez-González, R Vermeylen, P Van der Veken, M Shahgholi, A W Chan, H Herrmann, J Seinfeld, W Maenhaut

1520h **A13N-07** Organic Mass Fragments and Organic Functional Groups in Aged Biomass Burning and Fossil Fuel Combustion Aerosol: D A Day, **L N Hawkins**, L M Russell

Biogeosciences

B13A Moscone South: Poster Hall Monday 1340h
Early Oxygen II Posters (*joint with G, PP*)

Presiding: **M Claire**, Virtual Planetary Laboratory; **T W Lyons**, Univ of Calif Riverside; **A D Anbar**

1340h **B13A-0507 POSTER** Sulfur Isotope Systematics and the Link Between Fluctuating Sulfate Levels and P Recycling in a Low Sulfate, Permanently Anoxic Lake (Lake McCarrons, MN): Implications for the Precambrian Rise of Oxygen: **M L Gomes**, M T Hurtgen

1340h **B13A-0508 POSTER** The Sensitivity of Pore Density in Tests of *Bolivina spissa* to ambient Oxygen and/or Nitrate concentration in Sediment Bottom Water: **N Glock**, A Eisenhauer, Y Milker, V Liebetrau, J Schönfeld

1340h **B13A-0509 POSTER** Super-heavy pyrite ($\delta 34\text{S}_{\text{pyr}} > \delta 34\text{SCAS}$) in the terminal Proterozoic Nama Group, Southern Namibia: Implications for atmospheric oxygen and seawater sulfate at the dawn of animal life: J B Ries, D A Fike, L Pratt, T W Lyons, J P Grotzinger

1340h **B13A-0510 POSTER** Late Archean Euxinia as a Window into Early Biogeochemical Cycles: **C Scott**, A Bekker, C Reinhard, T W Lyons

1340h **B13A-0511 POSTER** Stress-Activated Electric Currents in Rocks might have Oxidized the Early Earth: M Balk, **F T Freund**, M Bose, D Rogoff, M E Newcomer, L Rothschild

B13B Moscone South: Poster Hall Monday 1340h
Revisiting the Habitable Zone II Posters

Presiding: **R Barnes**, University of Washington; **K P Hand**; **M Claire**, Virtual Planetary Laboratory; **S D Domagal-Goldman**, University of Washington

1340h **B13B-0512 POSTER** The Role of Planetary System Architecture in Planetary Habitability: **R Barnes**, B Jackson, S Raymond, R Greenberg

1340h **B13B-0513 POSTER** Exoplanet albedo spectra and colors as a function of orbital phase, separation, and metallicity: **K Cahoy**, M Marley, J J Fortney, R Freedman, K Lodders

1340h **B13B-0514 POSTER** Dynamical stability of terrestrial mass planets in and around the habitable zones of single planet systems: **R Koppaapu**, R Barnes

1340h **B13B-0515 POSTER** Tidal Timelines: Evolution of Terrestrial Exoplanet Habitability Around Low Mass Stars: **K Mullins**, R Barnes

1340h **B13B-0516 POSTER** Stability of Liquid Water on a Land Planet: Wider Habitable Zone for a Less Water Planet than an Aqua Planet: **Y Abe**, A Abe-Ouchi, K J Zahnle

1340h **B13B-0517 POSTER** Which habitable zones have the most real estate?: **R Belikov**, M Kuchner

1340h **B13B-0518 POSTER** Hazes at the Inner Edge of the Habitable Zone: **S D Domagal-Goldman**, T D Robinson, J Haqq-Misra

1340h **B13B-0519 POSTER** Optimizing Spectral Resolution and Observation Time for Measurements of Habitability: **N Khalfa**, V S Meadows, S D Domagal-Goldman

1340h **B13B-0520 POSTER** Whitewashed ground or real clouds? Explicit representation of the radiative properties of clouds brings the outer edge of the habitable zone inward and cools the early Earth: **C Goldblatt**, K J Zahnle

B13C Moscone South: Poster Hall Monday 1340h
The Bioatmospheric N Cycle: N Emissions, Transformations, Deposition, and Terrestrial and Aquatic Ecosystem Impacts III Posters (*joint with PA, A, GC, OS, H*)

Presiding: **E M Elliott**, University of Pittsburgh; **S B Weiss**, Creekside center for Earth Observation

1340h **B13C-0521 POSTER** Ecosystem connectivity: anadromous fish migration linked to freshwater amphipods: **S E MacAvoy**, M L Fogel, D Fong, N Hanson

1340h **B13C-0522 POSTER** The Effect of Altitudinal Gradient on the Carbon and Nitrogen Dynamics in Coastal Atlantic Forest of Southeast Brazil: **M D Piccolo**, S C Martins, P B Camargo, D Q Almeida, L O Correa, J B Carmo, L A Martinelli

1340h **B13C-0523 POSTER** Sources of Nitrate to Alaskan Streams: **T Harms**, J Jones

1340h **B13C-0524 POSTER** Nitrogen Fertilization Effects on Long-term Patterns of Litter Decomposition in Two Humid Tropical Forests: **D F Cusack**, W L Silver, M S Torn, W H McDowell

1340h **B13C-0525 POSTER** N cycle and retention of croplands in complex terrain, South Korea: **J Kettering**, S Arnhold, Y Kuzyakov, B Lee, S Lindner, Y Ok, M Ruidisch, J D Tenhunen

1340h **B13C-0526 POSTER** $\delta^{18}\text{O}-\text{NO}_3^-$ as an indicator of the nitrogen saturation stages in the stream water: Y Tabayashi, K Koba, M Yamamuro

1340h **B13C-0527 POSTER** Rapid Nitrogen Cycling Following Wet-Up Results from Heterotroph, then Nitrifier Response: **S Placella**, D Herman, M Firestone

1340h **B13C-0528 POSTER** Nitrogen transformations in sediments of San Joaquin River, California: **T Zhang**, R A Dahlgren

1340h **B13C-0529 POSTER** Nitrogen deposition in tropical forests from deforestation and savanna fires: **Y Chen**, J T Randerson, G van der Werf, D C Morton, P S Kasibhatla

1340h **B13C-0530 POSTER** Modeling Non-Steady Isotopologue and Isotopomer Speciation and Fractionation during Denitrification in Soils: F Maggi, **W J Riley**

1340h **B13C-0531 POSTER** Carbon and Nitrous Oxide Exchange from a Bioenergy Crop Cultivation on a Mineral Soil Measured with Eddy Covariance Method: **S Lind**, N Shurpali, P J Martikainen

1340h **B13C-0532 POSTER** Soil organic carbon dynamics across a nitrogen deposition gradient: application of the PnET-SOM model to northeastern forest ecosystems: **C Tonitto**, C L Goodale, S V Ollinger, J Jenkins

1340h **B13C-0533 POSTER** Hydrological influences on spatiotemporal variations of $\delta^{15}\text{N}$, $\delta^{18}\text{O}$ of nitrate in a forested headwater catchment in central Japan: Denitrification plays a critical role in groundwater bodies: K Osaka, N Ohte, K Koba, C Yoshimizu, M Katsuyama, M Tani, I Tayasu, T Nagata

1340h **B13C-0534 POSTER** Nitrous oxide fluxes at Cobb Mill Creek marsh on the eastern shore of Virginia: **C S Funk**, T M Scanlon

1340h **B13C-0535 POSTER** Earthworm-induced N mineralization in fertilized grassland increases N_2O emission more than crop N uptake: **I M Lubbers**, L Brussaard, J Van Groenigen

1340h **B13C-0536 POSTER** A method to measure nitrous oxide reduction in soil: **R Klefoth**, O Oenema, J Van Groenigen

1340h **B13C-0537 POSTER** Nitrogen Turnover Processes in Low Temperatures in an Agricultural Peat Soil: **H M Silvennoinen**, R Hämäläinen, H T Koponen, P J Martikainen

1340h **B13C-0538 POSTER** Simulation of land-atmosphere gaseous exchange using a coupled land surface-biogeochemical model: **C Gu**, W J Riley, T J Perez, L Pan

1340h **B13C-0539 POSTER** Hydrological sources controlling nitrogen inputs into a riparian forest in Western Amazonia, Brazil: **N K LEITE**, A V Krusche, G M Cabianchi, M V Ballester, R L Victoria, J E Richey

1340h **B13C-0540 POSTER** Cumulative effects of experimental dry-season N deposition on chaparral and coastal sage scrub ecosystems of southern California: **G L Vourlitis**

1340h **B13C-0541 POSTER** The Effects of Soybean Cultivation on Soil Nitrogen Dynamics in the Southeast of Brazilian Amazon: **A S Figueira**, E A Davidson, S Hayhoe, S Porder, C Neill, L A Martinelli

1340h **B13C-0542 POSTER** Linking Flow and Load Duration Curves for the Wapello Gage Station-Iowa River, Iowa: **P Wang**, D J Schnoebelen

1340h **B13C-0543** POSTER Life Cycle Assessment of Greenhouse Gas Emissions from Dairy Production in a Central New York State Watershed: **M S Johnson**

B13D Moscone South: Poster Hall Monday 1340h
The Oxygen Side of Sulfate: Isotope Signatures and Applications I Posters (*joint with A, PP, V, GC*)

Presiding: **H Bao**, LSU; **J Farquhar**, UMCP; **B Brunner**

1340h **B13D-0544** POSTER UV absorption spectra of oxygen isotopomers of SO₂, and implications for possible oxygen-mass independent fractionation (MIF) in the Archean: **H Naraoka**, S R Poulson

1340h **B13D-0545** POSTER Sensitivity of Oxygen Isotopes of Sulfate in Ice Cores to Past Changes in Atmospheric Oxidant Concentrations: **E D Sofen**, B Alexander, S A Kunasek, L Mickley, L T Murray, J O Kaplan

1340h **B13D-0546** POSTER A large variation of the triple oxygen isotope composition of barite from a Neoproterozoic cap carbonate, South China: **Y Peng**, H Bao, C Zhou, X Yuan

1340h **B13D-0547** POSTER Oxygen and sulfur isotope composition of sulfate-rich evaporite mounds at the Lewis Cliffs Ice Tongue, Transantarctic Mountains, Antarctica: **R A Socki**, T Sun, D L Bish, R P Harvey, E Tonui, H Bao

1340h **B13D-0548** WITHDRAWN

1340h **B13D-0549** POSTER Pyrite oxidation and sulfate-oxygen isotopes – what are the missing pieces?: **C G Hubbard**, S Black, M L Coleman

1340h **B13D-0550** POSTER Interpreting Bacterial Growth and S-Isotope Enrichments - A Combined Growth Kinetic and Fractionation Model: **T Eckert**, B Brunner, E Edwards, U G Wortmann

1340h **B13D-0551** POSTER Determining the Oxygen Isotope Equilibrium Fractionation Between Sulfite and Water: **I Müller**, B Brunner, T G Ferdelman

1340h **B13D-0552** WITHDRAWN

1340h **B13D-0553** POSTER Sulfur and Oxygen Isotope Composition of Pore Water Sulfate in the Eastern Equatorial Pacific: **B Brunner**, A J Spivack, R W Murray, B Gribsholt, D Graham, H N Schrum, S L D'Hondt

1340h **B13D-0554** POSTER Oxygen and sulfur isotopes insights into ongoing biogeochemical processes in sediments from the Argentine Basin: **G Arnold**, N Riedinger, J Sawicka, M Formolo, B Brunner

1340h **B13D-0555** POSTER Oxidative sulfur cycling in the deep biosphere of the Nankai Trough, Japan: **N Riedinger**, B Brunner, M Formolo, S Kasten, E A Solomon, M Strasser

1340h **B13D-0556** POSTER Iron and manganese controlled sulfur cycling recorded in sulfur and oxygen isotopes of pore water sulfate in glacial fjord sediments of west Svalbard: **M Formolo**, B Brunner, C Hubert, T G Ferdelman, B Jørgensen

B13E Moscone West: 3016 Monday 1340h
Biogeochemistry of Soil and Surface Water in Rural, Suburban, and Urban Ecosystems II (*joint with H*)

Presiding: **M Steele**, Texas A&M University; **J A Aitkenhead-Peterson**, Texas A&M University; **R V Pouyat**, U.S. Forest Service

1340h **B13E-01** Source or Sink: Investigating the role of storm water retention ponds in the urban landscape (*Invited*): **S Lev**, R Casey, D Ownby, J Snodgrass

1355h **B13E-02** WITHDRAWN

1410h **B13E-03** Interactive Effects of Urban Land Use and Climate Change on Biogeochemical Cycles (*Invited*): **R V Pouyat**

1425h **B13E-04** Alterations in nitrogen biogeochemistry in Los Angeles, California (*Invited*): **A Townsend-Small**, D E Pataki

1440h **B13E-05** Influence of domestic pets on soil concentrations of dissolved organic carbon, nitrogen, and phosphorus under turfgrass in apartment complexes of Central Texas, USA: **M Steele**, J A Aitkenhead-Peterson

1450h **B13E-06** Ecosystem biogeochemical function and services in an urbanizing desert region: **N B Grimm**, E M Cook, S Earl, R L Hale, S J Hall, H E Hartnett, D Iwaniec, E K Larson, M McHale, R A Sponseller

1500h **B13E-07** Effects of water management and monsoon storms on dissolved organic carbon (DOC) content and composition in an urban lake: **H E Hartnett**, D Lui, L Puglisi, J Shipp, H Waterman

1510h **B13E-08** Nitrogen Saturation in Highly Retentive Watersheds?: **M L Daley**, W H McDowell

1520h **B13E-09** Stream Biogeochemistry in Rural, Suburban and Urban Watersheds in south-central Texas: **J A Aitkenhead-Peterson**

1530h **B13E-10** Nitrate retention in a sub-surface artificially drained watershed: **C BILLY**, G F Billen, M Sebilo, F Birgand, J Tournebize, C Kao

B13F Moscone West: 3018 Monday 1340h
Remote Sensing of Terrestrial Carbon Fluxes II (*joint with GC*)

Presiding: **A F Rahman**, Indiana University; **K F Huemmrich**, University of Maryland Baltimore County

1340h **B13F-01** Monitoring crop gross primary productivity using Landsat data (*Invited*): **A A Gitelson**, Y Peng, G P Keydan, J Masek, D C Rundquist, S B Verma, A E Suyker

1355h **B13F-02** What's your angle? Using sun angle and look angle to improve carbon flux estimates from optical remote sensing. (*Invited*): **J A Gamon**

1410h **B13F-03** Detection of Key Leaf Physiological Traits using Field and Imaging Spectroscopy: **S P Serbin**, D N Dillaway, E L Kruger, P A Townsend

1425h **B13F-04** Predicting tropical plant physiology from leaf and canopy spectroscopy: **C Doughty**, G P Asner, R Martin

1440h **B13F-05** Satellite Driven Predictions of Tundra NEE Based on a Plot Scale Model: **M M Loranty**, S J Goetz, E B Rastetter, A V Rocha, G R Shaver, E R Humphreys, P Laflaur

1455h **B13F-06** Estimating Ecosystem Respiration from Remotely Sensed Land Surface Temperature: **A F Rahman**, D Dragoni

1510h **B13F-07** Satellite Remote Sensing of Net Ecosystem CO₂ Exchange Using Optical-IR and Microwave Sensors: Algorithm Development for the SMAP Decadal Survey Mission: **L A Jones**, J S Kimball, R H Reichle, K Zhang, K C McDonald

1525h **B13F-08** The Methane Airborne Mapper (MAMap) for remote sensing of CH₄, CO₂, and O₂: **T Sachs**, K Gerilowski, A Tretner, T Krings, M Buchwitz, H Bovensmann, J Erzinger, J P Burrows

Cryosphere

C13A Moscone West: 3014 Monday 1340h
Constraining and Improving Models of Glacier Dynamics Using Observations I (*joint with G*)

Presiding: **I M Howat**, The Ohio State University; **L A Stearns**, University of Kansas

1340h **C13A-01** The Dilemma of RESOLUTION: How Good is Good Enough: A Case Study from Greenland: **J Fastook**

1355h **C13A-02** Thermal-mechanical constraining of large scale ice flow models in Antarctica. (*Invited*): **E Y Larour**, E J Rignot, H L Seroussi, M Morlighem

1410h **C13A-03** Application of a higher-order flow model to Greenland outlet glacier dynamics: **S F Price**, A J Payne

1425h **C13A-04** A survey of the sensitivity of Greenland outlet-glacier discharge to ice front changes: **B E Smith**, I M Howat, I R Joughin

1440h **C13A-05** Evaluating the Significance of Subglacial Lakes in the Context of an Ice Sheet Water Model: **S P Carter**, H A Fricker, W H Lipscomb, S F Price, D Blankenship, J V Johnson, D A Young

1455h **C13A-06** Understanding dynamic changes of marine terminating outlet glaciers through combining observations and numerical modelling, the case of Crane Glacier, Antarctic Peninsula (*Invited*): **A Vieli**, F Nick

1510h **C13A-07** Constraining and Improving Models of Glacier Dynamics Using Time Lapse Camera Observations: **J E Box**, Y Ahn, I M Howat

1525h **C13A-08** A statistical approach to iceberg calving: The role of disorder and the demise of deterministic predictability (*Invited*): **J N Bassis**

Education and Human Resources

ED13A Moscone South: Poster Hall Monday 1340h
Designing Effective Research Experiences for Undergraduates I Posters

Presiding: **D M Dalbotten**, University of Minnesota

1340h **ED13A-0576 POSTER** URSSA, the Undergraduate Research Student Self-Assessment: A Tool for Assessing Student Outcomes of Undergraduate Research: **S L Laursen**, A Hunter, T Weston, H Thiry

1340h **ED13A-0577 POSTER** Undergraduate Research Experiences in Support of Dryland Monitoring: Field and Satellite Remote Sensing of Change in Savanna Structure, Biomass, and Carbon after Prescribed Fires: **R A Washington-Allen**, D L Twidwell, Jr., V P Mendieta, A Delgado, B Redman, W S Trollope, L Trollope, N Govender, I Smit, S C Popescu, C de Bruno Austin, M C Reeves

1340h **ED13A-0578 POSTER** Watershed Watch: A Curriculum Model for an Undergraduate Biogeoscience Course Designed to Attract Undeclared and Undecided Students into STEM Majors: S Hale, **B N Rock**, J A Schloss, M T Gagnon, C Perry, J Yuan, B D Branch, M A LeCompte, L Mitchell, K Traore, L B Hayden

1340h **ED13A-0579 POSTER** Human Impacts On The Water Quality Of The Pasquotank Watershed (*Invited*): J A Schloss, L Adams, S Boone, M King, **R D Lawrence**, A Milam, A Piwowarski, J Webb

1340h **ED13A-0580 POSTER** REU Site: Yosemite Research Training in Environmental Science: **M H Conklin**, B Dayrat

1340h **ED13A-0581 POSTER** Blending Curriculum with Research in an Undergraduate Petrology Course: A Recipe for Success?: **D A Gonzales**, S C Semken

1340h **ED13A-0582 POSTER** Insights from an 8-Year Longitudinal Study of Female REU Participants: **S J Slater**

1340h **ED13A-0583 POSTER** Research Experiences for Undergraduates in Estuarine and Atmospheric Processes: **J Y Aller**

1340h **ED13A-0584 POSTER** Entering Research: A course that creates community and structure for beginning undergraduate researchers in the STEM disciplines: **N Balster**

1340h **ED13A-0585 POSTER** A Retrospective Self-Assessment of the SURFO Summer Internship Program in Oceanography: **R A Pockalny**, K A Donohue, J Fliegler

1340h **ED13A-0586 POSTER** Lessons in collaboration and effective field research from the Appalachian Headwaters Research Experience for Undergraduates Program: **A L Jones**, J Fox, M S Wilder

1340h **ED13A-0587 POSTER** New Ideas for REUs – some Strategies from SOARS (Significant Opportunities in Atmospheric Research and Science): **R Haacker-Santos**, R E Pandya, M Kennedy

ED13B Moscone South: Poster Hall Monday 1340h
Innovative Practices in K-12 Pre-Service and In-Service Geoscience Teacher Professional Development III Posters (*joint with A, C, GC, NH, EP*)

Presiding: **R J Myers**, Institute for Global Environmental Strategies; **T G Schwerin**, Institute for Global Environmental Strategies (IGES)

1340h **ED13B-0588 POSTER** PUMAS: Practical Uses of Math And Science: **R A Kahn**

1340h **ED13B-0589 POSTER** Crustal movement and plate motion as observed by GPS baseline ranging – trial to make teaching materials for middle- and high-school earth science education by teachers: **T Matsumoto**

1340h **ED13B-0590 POSTER** Ice, Ice, Baby: A Program for Sustained, Classroom-Based K-8 Teacher Professional Development: **C Hamilton**

1340h **ED13B-0591 POSTER** Contextualizing Earth Science Professional Development Courses for Geoscience Teachers in Boston: Earth Science II (Solid Earth): **M S Pringle**, B Kamerer, M Vugrin, M Miller

1340h **ED13B-0592 POSTER** SUPPORTING TEACHERS IN IMPLEMENTING FORMATIVE ASSESSMENT PRACTICES IN EARTH SYSTEMS SCIENCE: **C J Harris**, W R Penuel, A Haydel DeBarger, J G Blank

1340h **ED13B-0593 POSTER** Incorporating Geospatial Technology into Teacher Professional Development: **E A Sproles**, L Songer

1340h **ED13B-0594 POSTER** The Canadian Geoscience Education Network: a collaborative grassroots effort to support geoscience education: **C Bank**, B Halfkenny, L Hymers, L Clinton, S Heenan, D Jackson, G Nowlan, F Haidl, C Vodden

1340h **ED13B-0595 POSTER** LaURGE: Louisiana Undergraduate Recruitment and Geoscience Education: **J A Nunn**, J Agnew

1340h **ED13B-0596 POSTER** I-LLINI Partnerships to improve K-12 Earth Science education: **J H Tomkin**, K Wong, D J Charlevoix

1340h **ED13B-0597 POSTER** Teaching stream geomorphology to in-service teachers as part of the Geoscience Institute for Research and Education: **J A Napieralski**, K Murray

1340h **ED13B-0598 POSTER** Geoscience Content and New Methods: A Winning Combination for Teacher Professional Development with the ESSEA Program: **R J Myers**, T G Schwerin

1340h **ED13B-0599 POSTER** How K-12 Teachers of Earth Science Connect Earth Science Research to Their Teaching: Science Teaching And Professional Learning in the Earth Sciences (STAPLES) - A Minnesota Case Study: **K S Pound**, K M Campbell, J Baumtrog, K Rosok

1340h **ED13B-0600 POSTER** Geophysics and Texas History: Teachers Utilize GPS and GPR Technology to Help Restore an Abandoned Cemetery: **A T Henning**, D S Sawyer, D Wallace, A Kahera

1340h **ED13B-0601 POSTER** Climate Change Webinars for K-12 Geoscience Educators: **S Henderson**, R M Johnson, L S Gardiner, D Ward, R M Russell, S Q Foster

1340h **ED13B-0602 POSTER** A Modular Web-Based GIS for the High School Science Classroom: **E P Metzger**, K Lenkeit-Meezen, C Schmidt, R Taketa

1340h **ED13B-0603 POSTER** Discovering Plate Boundaries Update: Builds Content Knowledge and Models Inquiry-based Learning: **D S Sawyer**, M S Pringle, A T Henning

1340h **ED13B-0604 POSTER** Earth System Science Education Centered on Natural Climate Variability: **P C Ramirez**, S LaDochy, W C Patzert, J K Willis

1340h **ED13B-0605 POSTER** Classroom application of Earth System Science education professional development: Coupling content education with pedagogy and planning for teaching: **E Froburg**, L Finkel, R K Varner, K Graham, J G Bryce, S Hale, J E Johnson, K Von Damm

1340h **ED13B-0606 POSTER** Faculty Institutes for NASA Earth and Space Science Education: **S S Shipp**, S J Slater, T F Slater

ED13C Moscone South: Poster Hall Monday 1340h
Student Recruitment, Curriculum Design, and More: Strategies and Resources for Building Strong Geoscience Departments I Posters

Presiding: **R M Richardson**, University of Arizona; **C J Ormand**, Carleton College; **H Macdonald**, College of William and Mary

1340h **ED13C-0607 POSTER** Workforce Preparation – A Breakout Session for the Building Strong Geoscience Departments Visiting Workshop Program: **D I Doser**

1340h **ED13C-0608 POSTER** Lessons learned from curriculum changes and setting curriculum objectives at the University of Pennsylvania's Earth and Environmental Science Department: **J E Dmochowski**

1340h **ED13C-0609 POSTER** Creating a Departmental Ecosystem by Going "Beyond the Curriculum": **D D Rhodes**

1340h **ED13C-0610 POSTER** New Resources on the Building Strong Geoscience Departments Website: **C J Ormand**, C A Manduca, H Macdonald

1340h **ED13C-0611 POSTER** Chair Talk: Resources to Maximize Administrative Efforts: **H Macdonald**, M A Chan, E W Bierly, C A Manduca, C J Ormand

1340h **ED13C-0612 POSTER** Building a Geoscience Culture for Student Recruitment and Retention - The Geoscience Society and Department Nexus: **C M Keane**, C M Martinez

1340h **ED13C-0613 POSTER** Assessment of Factors that Influence the Recruitment of Majors from Introductory Geology Classes: **T D Hoisch**, J I Bowie

1340h **ED13C-0614 POSTER** Recruitment Strategies for Geoscience Majors: Conceptual Framework and Practical Suggestions: **R M Richardson**, C Eyles, C J Ormand

ED13D Moscone South: Poster Hall Monday 1340h
Using Digital Information Resources and Findings From Major Research Initiatives to Transform Undergraduate Instruction I Posters (joint with T)

Presiding: **A M Goodwillie**, Lamont Doherty Earth Observatory

1340h **ED13D-0615 POSTER** Web-based volcano monitoring data from the Pu'u 'O'o eruptive vent (Kilauea Volcano, Hawai'i) as a tool for geoscience education: **M P Poland**, R Townson, A Loren, B A Brooks, J H Foster

1340h **ED13D-0616 POSTER** Refining MARGINS Mini-Lessons Using Classroom Observations: E A Iverson, C A Manduca, **J R McDaris**, S Lee

1340h **ED13D-0617 POSTER** GeoMapApp and MARGINS Mini-Lessons: Cutting-Edge Resources for Modern Educators: **A M Goodwillie**, W B Ryan, J Coplan, S M Carbotte, R A Arko, S O'Hara, V Ferrini, J Bonczkowski, S Chan, R Weissel, J J Morton, S De Leonardo, A Leung

1340h **ED13D-0618 POSTER** NanTroSEIZE in 3-D: Creating a Virtual Research Experience in Undergraduate Geoscience Courses: **D L Reed**, N L Bangs, G F Moore, H Tobin

1340h **ED13D-0619 POSTER** Diurnal pH variations of a Glacial Stream: a starting point for Inquiry-driven student and teacher Investigations of a Glacial Ecosystem: **W P O'Brien**, J Galbraith, D R Fatland, M Heavner

1340h **ED13D-0620 POSTER** The Solid Earth Research and Teaching Environment, a new software framework to share research tools in the classroom and across disciplines: **K Milner**, T W Becker, L Boschi, J Sain, D Schorlemmer, H Waterhouse

ED13E Moscone West: 3020 Monday 1340h
Using Web 2.0 Technologies to Facilitate Science Communications II

Presiding: **C M Martinez**, AGI; **C E Meth**, Consortium for Ocean Leadership

1340h **ED13E-01** Virtualization of the Y.E.S. Congress 2009 Roundtable Symposia (*Invited*): **L M Gonzales**, S M Gaines

1355h **ED13E-02** Building Community Consensus for Earth Science Literacy Using an Online Workshop (*Invited*): **M E Wyssession**, P Tuddenham, J Taber, N LaDue

1410h **ED13E-03 CHART: An Online Workshop About the Future of Scientific Ocean Drilling:** **C E Meth**, A C Ravelo

1425h **ED13E-04** Implementing an International Consultation on Earth System Research Priorities Using Web 2.0 Tools: L Goldfarb, **A Yang**

1440h **ED13E-05** Emergent Science: Solving complex science problems via collaborations: X Li, **R Ramachandran**, B D Wilson, C Lynnes, H Conover

1455h **ED13E-06** WikiPEATia – a web based platform for assembling peatland data through 'crowd sourcing': **D Wisser**, S Glidden, C Fieseher, C C Treat, M Routhier, S E Frolking

1510h **ED13E-07** GeoChronos: An On-line Collaborative Platform for Earth Observation Scientists: **J A Gamon**, C Kiddle, R Curry, N Markatchev, G Zonta-Pastorello Jr, B Rivard, G A Sanchez-Azofeifa, R Simmonds, T Tan

1525h **ED13E-08** Web-based Collaboration and Visualization in the ANDRILL Program: **J Reed**, F R Rack, L T Huffman, M cattadori

Geodesy

G13A Moscone West: 3022 Monday 1340h
Results of the Reprocessing of Space Geodetic Observations II

Presiding: **J Ray**, NOAA/NGS

1340h **G13A-01** Interactions of the IGS reprocessing and the IGS antenna phase center model (*Invited*): **R Schmid**, P Steigenberger, R Dach, M Schmitz, F Dilssner, U Hugentobler

1355h **G13A-02** VLBI height corrections due to gravitational deformation of antenna structures: **P Sarti**, M Negusini, C Abbondanza, L Petrov

1410h **G13A-03** Multi-Technique Reprocessing and Combination using "Space-Ties": **T Springer**, F Dilssner, D Escobar, C Flohrer, M Otten, I Romero, J M Dow

1425h **G13A-04** Assessment of the orbits from the 1st IGS reprocessing campaign (*Invited*): **J Griffiths**, G Gendt, T Nischan, J Ray

1440h **G13A-05** Quality of GRACE Orbits Using the Reprocessed IGS Products: **Z Kang**, B D Tapley, S V Bettadpur, H V Save

1455h **G13A-06** Validating Earth Orientation Series with Models of Atmospheric and Oceanic Angular Momentum (*Invited*): **R S Gross**

1510h **G13A-07** Quality assessment of GPS reprocessed solutions (*Invited*): **X Collilieux**, Z Altamimi, L Metivier, T M van Dam

1525h **G13A-08** Assessment of 3D hydrologic deformation using GRACE and GPS: **C S Watson**, P Tregoning, K Fleming, R J Burgette, W E Featherstone, J Awange, M Kuhn, G Ramillien

Global Environmental Change

G13A Moscone South: Poster Hall Monday 1340h
Global Environmental Change General Contributions I
Posters (*joint with PA, A, B, C, PP, OS, H*)

Presiding: **S A Lloyd**, NASA Goddard Space Flight Ctr; **B A Tinsley**, University of Texas at Dallas

1340h **G13A-0693** *POSTER* Reduction potentials of total energy consumption and GHG emissions in Xiamen: **C Bin**, S Cui

1340h **G13A-0694** *POSTER* The late Quaternary vegetation and climate changes inferred from the pollen record in Dongyuan Lake, southern Taiwan: **C Lee**, P Liew

1340h **G13A-0695** *POSTER* Forced thickening of arctic ice as a solution against global warming: **H Byun**, D Kim, K Choi, S Lee

1340h **G13A-0696** *POSTER* A Novel Approach to Simulating Land Use Impacts on Regional Climate and Ecosystem Services: **J E Bagley**, A R Desai, J A Foley, C Barford, W Sacks

1340h **G13A-0697** *POSTER* Recent long-term changes in Mediterranean water cycle: transition to drier 21st century conditions?: **A Mariotti**

1340h **G13A-0698** *POSTER* Land Change Trends in the Great Plains: Linkages to Climate Variability and Socioeconomic Drivers: **M A Drummond**

1340h **G13A-0699** *POSTER* Remote Sensing Missions for Earth Observation on Iridium NEXT: **O P Gupta**

1340h **G13A-0700** *POSTER* A Quantification of GHG and SST Forcing in West African Climate Change: **C B Skinner**, M Ashfaq, N S Diffenbaugh

1340h **G13A-0701** *POSTER* Reconstruction of the thermal environment evolution from subsurface temperature distribution in large cities in East Asia: **H Hamamoto**, S Goto, M Vuthy, J Nishijima, M Yamano, M Taniguchi, A MIYAKOSHI, S Hachinohe, K Sasaka, H Shiraishi

1340h **G13A-0702** *POSTER* 21st Century Carbon-Climate Change as Simulated by the Canadian Earth System Model CanESM1:

C Curry, J R Christian, V Arora, G J Boer, K L Denman, G M Flato, J F Scinocca, W J Merryfield, W G Lee, D Yang

1340h **G13A-0703** *POSTER* Spatially explicit scenario of terrestrial emissions from biomass burning and net land-use change for the use of climate projection: **E Kato**, M Kawamiya, T Kinoshita, A Ito

1340h **G13A-0704** *POSTER* Carbon footprint of a music festival: **K V Schafer**

1340h **G13A-0705** *POSTER* NSF Gulfstream-V Aircraft: Enabling Real-Time Global Scale In-Situ Observations: **P Romashkin**, S Wofsy, B B Stephens

1340h **G13A-0706** *POSTER* Physical climate response to a reduction of anthropogenic climate forcing: **R B Myneni**, A Samanta, B T Anderson, S Ganguly, Y Knyazikhin, R R Nemani

1340h **G13A-0707** *POSTER* Can Granger causality delineate natural versus anthropogenic drivers of climate change from global-average multivariate time series?: **E A Kodra**, S Chatterjee, A R Ganguly

1340h **G13A-0708** *POSTER* Long term implications of 21st century choices: Millennial extensions of RCP scenarios: **K M Strassmann**, G Plattner, F Joos, S Emori

1340h **G13A-0709** *POSTER* A 47-Year Daily Gridded Precipitation Dataset for Asia Based on a Dense Network of Rain Gauges -APHRODITE project-: A I Yatagai, **N Yasutomi**, A Hamada, K Kamiguchi, O Arakawa

1340h **G13A-0710** *POSTER* Measuring and Managing Greenhouse Gas Emissions from the Production of Livestock in Brazil: **A Cohn**

1340h **G13A-0711** *POSTER* Ecosystem Change in California Grasslands: Impacts of Species Invasion: **L E Koteen**, J Harte, D D Baldocchi

1340h **G13A-0712** *POSTER* The effect of light radiation and temperature variability on the invasion of marine fouling species: **T Kim**, F Micheli

1340h **G13A-0713** *POSTER* Scenarios of land use change for agriculture: the role of Land Evaluation in improving model simulation: V Mereu, **M Santini**, G Dettori, P Muresu, D Spano, P Duce

1340h **G13A-0714** *POSTER* Photosynthetic responses to 30 years of atmospheric change: **C K Lunch**

1340h **G13A-0715** *POSTER* Food Crops Response to Climate Change: **E Butler**, P Huybers

1340h **G13A-0716** *POSTER* Research Needs for Carbon Management in Agriculture, Forestry and Other Land Uses: **C Negra**, T Lovejoy, D S Ojima, R Ashton, T Havemann, J Eaton

1340h **G13A-0717** *POSTER* Estimating Greenhouse Gas (GHG) Emissions in 2050 from New Buildings in California: **K Beardsley**, J H Thorne, J F Quinn

1340h **G13A-0718** *POSTER* Robust Land-Ocean Contrasts in Energy and Water Cycle Feedbacks: **J Fasullo**

1340h **G13A-0719** *POSTER* Net Ecosystem Exchange of carbon and water vapor among contrasting land-uses types in the semiarid short-grass steppe in Central Mexico: **H W Loescher**, J D Balbuena, T Arredondo, E Huber-Sannwald, M Luna

1340h **G13A-0720** *POSTER* Implications of Meeting California's Greenhouse Gas Emission Goals in the Electricity Sector in 2050 and at the same time generating the Electricity needed by the State: **W B Mills**

1340h **G13A-0721** *POSTER* Regional climate sensitivity and how well we can constrain it using observations: **A Voulgarakis**, D T Shindell

1340h **G13A-0722** *POSTER* Mechanisms of Climate Change in the Semi-Arid Sahel: **A Giannini**

1340h **G13A-0723** *POSTER* Expert judgments about transient climate response to alternative future trajectories of radiative forcing: **K Zickfeld**, G Morgan, D J Frame, D Keith

1340h **G13A-0724** *POSTER* On estimating climate sensitivity from 20th century climate records: the impact of forcing uncertainty: **C E Forest**, A P Sokolov, P H Stone

1340h **G13A-0725** *POSTER* Role of deep ocean heat uptake in the spread in transient climate change simulations: **J Boe**, A Hall, X Qu

1340h **G13A-0726** *POSTER* Do Himalayan glaciers defy global warming? Case studies from NW Himalaya, India: **R K Ganjoo**

1340h **GC13A-0727 POSTER** Temperature trends at the Mauna Loa Observatory, Hawaii: A direct measurement of global warming?: **D L Turcotte**, B D Malamud

1340h **GC13A-0728 POSTER** Are some multidecadal climate oscillations resonating with the orbits of the planets?: **N Scafetta**

1340h **GC13A-0729 POSTER** A Practiced Basis for Predicting the Total Signal of Primary Climate Variables. Scientific Session U06: **G Suhler**

1340h **GC51A-0706 POSTER** The Contribution Potential of Glaciers and Snow Cover to River Runoff in Different Climate Regimes: **G Kaser**, M Grosshauser, B Marzeion

Geomagnetism and Paleomagnetism

GP13A Moscone South: Poster Hall Monday 1340h
Geomagnetic Field Modeling and Interpretation of Satellite, Observatory, Marine, and Aeromagnetic Data I Posters (*joint with SA*)

Presiding: **S Maus**, CIRES, University of Colorado; **G Hulot**

1340h **GP13A-0764 POSTER** Global and Local Geomagnetic Field Modeling from Satellite Data: What we can Learn from Spherical Slepian Functions: **F J Simons**, C Beggan

1340h **GP13A-0765 POSTER** Online calculators for geomagnetic models at the National Geophysical Data Center: **J P Ford**, **M Nair**, S Maus, S J McLean

1340h **GP13A-0766 POSTER** New software for the World Magnetic Model (WMM): **A Woods**, **M Nair**, S Maus, S J McLean

1340h **GP13A-0767 POSTER** The National Geophysical Data Center's ellipsoidal harmonic model of the Earth's internal magnetic field to degree and order 720: **S Maus**

1340h **GP13A-0768 POSTER** The prediction of oceanic lithospheric magnetic anomalies from magnetisation estimates, using vector spherical harmonics: **S Masterton**, D Gubbins, D Ivers, D Müller, D Winch

1340h **GP13A-0769 POSTER** Aeromagnetic signatures reveal a back-arc basin imposed upon the inherited rifted margin of the East Antarctic craton: **E Armadillo**, F Ferraccioli, T A Jordan, E Bozzo

1340h **GP13A-0770 POSTER** Magnetic Surveys in parts of Eastern Ghats Mobile Belt, India: **B Siribiyina**

1340h **GP13A-0771 POSTER** On the Terms of Geomagnetic Daily Variation in Antarctica: **R Tozzi**, P De Michelis, A Meloni

1340h **GP13A-0772 POSTER** COMPARISONS OF EIGHT YEARS MAGNETIC FIELD DATA FROM CLUSTER WITH TSYGANENKO MODELS: **Q Zhang**, M Dunlop, R Holme, E Woodfield

GP13B Moscone South: Poster Hall Monday 1340h
Geomagnetic Field of the Polar Regions: Insights and Impacts Assessed From Observations and Modeling I Posters (*joint with AE, SM, DI*)

Presiding: **J S Stoner**, Oregon State University; **G St-Onge**, ISMER and GEOTOP

1340h **GP13B-0773 POSTER** Geomagnetic Field Variability in the Western Canadian Arctic Since the Last Deglaciation: **G St-Onge**, A Lise-Pronovost, F Barletta, J E Channell, S A Brachfeld, L V Polyak, D A Darby, A Rochon, D B Scott

1340h **GP13B-0774 POSTER** Abrupt Shifts of the North Magnetic Pole Over the Last Millennium and Beyond: **J S Stoner**, M H Davies, R S Bradley, T Cook, P Francus, M R Besonen, J E Channell, G St-Onge

1340h **GP13B-0775 POSTER** Paleosecular variation analysis of high-latitude paleomagnetic data from the volcanic island of Jan Mayen:

G Cromwell, L Tauxe, H Staudigel, L R Pedersen, C Constable, R Pedersen, R A Duncan, P Staudigel

1340h **GP13B-0776 POSTER** Rock and Paleomagnetism of Late Cretaceous-Paleogene volcanic rocks of northern Ellesmere Island, High Canadian Arctic: **R Bono**, J A Tarduno, R D Cottrell

1340h **GP13B-0777 POSTER** Localized modeling of regional geomagnetic field attributes: **H Kim**, R R von Frese

GP13C Moscone South: Poster Hall Monday 1340h
Global Magnetic Anomalies; Definition, Compilation, and Use I Posters (*joint with T, DI, OS*)

Presiding: **J V Korhonen**, Geologian tutkimuskeskus; **M E Purucker**, Raytheon at Goddard Space Flight Center

1340h **GP13C-0778 POSTER** Improved Magnetic Compilation for the Central North Atlantic based on new data from the Portuguese UNCLOS proposal and CM4 model: **J M Luis**, J M Miranda, N Lourenco, M Moulin

1340h **GP13C-0779 POSTER** Spectral analysis of magnetic anomalies in and around the Philippine Sea: **A Tanaka**, T Ishihara

1340h **GP13C-0780 POSTER** Aeromagnetic surveying in remote, unexplored terrain: the Gamburtsev Mountains, East Antarctica: **D Damaske**, F Ferraccioli, C Finn, M Studinger

1340h **GP13C-0781 POSTER** Research for Key Techniques of Geophysical Recognition System of Hydrocarbon-induced Magnetic Anomalies Based on Hydrocarbon Seepage Theory: **L Zhang**, T Hao, B Zhao

Hydrology

H13A Moscone South: Poster Hall Monday 1340h
CO₂-Water-Rock Interactions in Geologic Storage Formations and Secondary Migration Sites II Posters (*joint with B, GC*)

Presiding: **C Zhu**, Indiana University; **E H Keating**, Los Alamos National Laboratory; **A Hakala**, National Energy Technology Laboratory; **J A Apps**, Berkeley Lab.

1340h **H13A-0908 POSTER** Mineral carbon storage in peridotite bodies: insights from natural carbonation of peridotite in Oman: **E Streit**, P B Kelemen, J M Matter, M W Spiegelman

1340h **H13A-0909 POSTER** Low temperature CO₂ mineralization into basalt: solution chemistry and secondary mineral assemblages: **A Gysi**, A Stefánsson

1340h **H13A-0910 POSTER** Sandstone/Shale-Brine-CO₂ interactions: Implications for Geological Carbon Sequestration: **P Lu**, F Liu, Q Fu, W E Seyfried, S Hedges, C Griffith, Y Soong, C Zhu

1340h **H13A-0911 POSTER** Physico-Chemical Behavior of Nanoparticles at CO₂-Water-Rock Interfaces: **Y Jun**, H Shao, Y Hu, R Matos

1340h **H13A-0912 POSTER** Strontium isotope tracking of groundwater-CO₂ interactions in Chimayo, New Mexico, and implications for carbon storage in geologic formations: **J Gardiner**, B W Stewart, R Capo, J Hakala

1340h **H13A-0913 POSTER** Experimental study of sediment-CO₂ reactions with application to changes in groundwater quality due to leakage of sequestered CO₂: **J W Carey**, M R Williams, A Hakala, J E Fessenden, E H Keating

1340h **H13A-0914** *POSTER* Potential Risks of Freshwater Aquifer Contamination from Carbon Capture and Storage: **M G Little**, R B Jackson

1340h **H13A-0915** *POSTER* Interaction of CO₂-Rich Fluid with Wellbore Cement and Adjacent Formation Mineral Assemblages: Contrasting Potential Impacts to Porosity (LLNL-ABS-416485): **W W McNab**, S A Carroll, J P Morris

1340h **H13A-0916** *POSTER* RESERVOIR HETEROGENEITY IN THE CAMBRIAN MOUNT SIMON SANDSTONE: IMPLICATIONS FOR CO₂ SEQUESTRATION: **N D Wilkens**, B Bowen, N Fischietto, R Ochoa, Y Soong, J Rupp

1340h **H13A-0917** *POSTER* Reservoir fluid and gas chemistry during CO₂ injection at the Cranfield field, Mississippi, USA: **J Lu**, Y K Kharaka, D R Cole, J Horita, S Hovorka

1340h **H13A-0918** *POSTER* Coupled Reactive Transport Modeling of CO₂ Injection in Mt. Simon Sandstone Formation, Midwest USA: **F Liu**, P Lu, C Zhu, Y Xiao

1340h **H13A-0919** *POSTER* Expected CO₂-Water-Rock Interactions and Changes in Formation Porosity in a Deep Saline Aquifer in Florida, United States: **J A Cunningham**, R T Okwen, M W Thomas, M A Trotz, M Stewart

1340h **H13A-0920** *POSTER* Geological Modeling and Fluid Flow Simulation of Acid Gas Storage, Nugget Sandstone, Moxa Arch, Wyoming: **S Li**, Y Zhang, X Zhang, C Du

1340h **H13A-0921** *POSTER* Simulations of CO₂ injection at the Heletz site – providing guidance for optimal design of a planned field injection experiment: **F F Fagerlund**, A P Niemi, J Bensabat, Z Yang, V Shivelman, M Gendler, I Goldberg

1340h **H13A-0922** *POSTER* Finite Element Modeling of Water/Steam and Carbon Dioxide Heat and Fluid Transportation in Geothermal Reservoir: J Zhang, **H Xing**, H Zhang

1340h **H13A-0923** *POSTER* Diffusive leakage of carbon, variable migration rates of solutes, multiple reaction fronts: what happens when CO₂ is injected into geologic formations: **A J Park**

H13B Moscone South: Poster Hall Monday 1340h
Environmental Remediation and Confirmatory Monitoring I Posters

Presiding: **T J Nicholson**, U.S. Nuclear Regulatory Commission;
B Faybishenko, Lawrence Berkeley National Laboratory

1340h **H13B-0924** *POSTER* Reactive transport modelling of a remediation measure at a former gasworks site in Southern Germany: **T Ptak**, M Herold, J Greskowiak, H Prommer

1340h **H13B-0925** *POSTER* Transformation of Nitrate and Toluene in Groundwater by Sulfur Modified Iron(SMI-III): **W lee**, S Park, J Lim, U hong, S Kwon, Y Kim

1340h **H13B-0926** *POSTER* Evaluation of the Effect of Geological Heterogeneity on the Surfactant Transport by Performing Push-Pull Test in a Physical Aquifer Model (PAM): **Y Kim**, D Lim, S Park, U hong, J Lim, W lee, S Kwon

1340h **H13B-0927** *POSTER* Biodegradation of a Light NAPL under Varying Soil Environmental Conditions: **B K Yadav**, S M Hassanizadeh, P J Kleingeld

1340h **H13B-0928** *POSTER* Field-scale modeling of acidity production and remediation efficiency during in situ reductive dechlorination: **A Brovelli**, C E Robinson, D A Barry, J Gerhard

1340h **H13B-0929** *POSTER* New Photocatalysis for Effective Degradation of Organic Pollutants in Water: **M Zarei Chaleshtori**, G B Saupe, S Masoud

1340h **H13B-0930** *POSTER* Monitoring the Vadose Zone Moisture Regime Below a Surface Barrier: **Z F Zhang**, C E Strickland, J G Field

1340h **H13B-0931** *POSTER* Assessment of SPME Partitioning Coefficients: Implications for Passive Environmental Sampling of Hydrophobic Organic Compounds: **E L DiFilippo**, R P Eganhouse

1340h **H13B-0932** *POSTER* Enhancing the Efficiency of Electrokinetic Remediation through Technology Integration: **M Zhang**, T Komai

1340h **H13B-0933** *POSTER* Modeling of TCE and Toluene Toxicity to *Pseudomonas putida* F1: **R Singh**, M S Olson

1340h **H13B-0934** *POSTER* Uncertainty of human health risk predictions under different site exploration strategies: **F de Barros**, W Nowak, Y Rubin

1340h **H13B-0935** *POSTER* Radioecology of Vertebrate Animals in the Area Adjacent to the Chernobyl Nuclear Power Plant Site in 1986-2008: E B Farfan, S P Gashchak, Y A Makliuk, A M Maksymenko, M D Bondarkov, **G T Jannik**, J C Marra

1340h **H13B-0936** *POSTER* Vertical Migration of Radionuclides in Soils on the Chernobyl Nuclear Power Plant (ChNPP) Exclusion Zone (1987-2007): **G T Jannik**, Y A Ivanov, V A Kashparov, S E Levchuk, M D Bondarkov, A M Maksymenko, E B Farfan, J C Marra

1340h **H13B-0937** *POSTER* Optimizing remediation monitoring by evaluating depth-specific water velocity in a polluted aquifer: The borehole dilution test applied to multilevel samplers, a case study at the AGTROL industrial site, Bordeaux (France): **A C Bourg**, M A Kedziorek, A Dupuy

1340h **H13B-0938** *POSTER* Investigating the influence of DNAPL spill characteristics on source zone architecture and mass removal in pool-dominated source zones: **K A Wallace**, L Abriola, M Chen, A Ramsburg, K D Pennell, J Christ

1340h **H13B-0939** *POSTER* Geoelectrical monitoring of bioremediation: the DNAPL problem: **D Ntarlagiannis**, L D Slater, B Kulesa, R Kalin

1340h **H13B-0940** *POSTER* Simulating tracer transport in variably saturated soils and shallow groundwater: **F Pan**, A Yakirevich, A Guber, Y A Pachepsky, T J Gish, T J Nicholson, R Cady

1340h **H13B-0941** *POSTER* Multiple Factor Analysis and k-Means Clustering-Based Classification of the DOE Groundwater Contaminant Database: **B Faybishenko**, T C Hazen

1340h **H13B-0942** *POSTER* Using Cr Isotopic Measurements with Reactive Transport Modeling to Monitor Stimulated Biocontainment at the 100H Test Site, Hanford, Washington: **J N Christensen**, E L Sonnenthal, S T Brown, M E Conrad, L Yang, S Mukhopadhyay, C I Steefel, B Faybishenko, T C Hazen

1340h **H13B-0943** *POSTER* Field and Numerical Modeling Study of Reductive Bioimmobilization of Cr (VI) in Groundwater at Hanford 100-H Site: **T C Hazen**, E L Sonnenthal, S Mukhopadhyay, C I Steefel, P E Long, B Faybishenko

1340h **H13B-0944** *POSTER* Microbial community changes during sustained Cr(VI) reduction at the 100H site in Hanford, WA: **R Chakraborty**, E L Brodie, D C Joyner, T Torok, J L Fortney, S E Borglin, P E Long, D R Newcomer, S Choudhury, H R Beller, Y M Piceno, L Tom, G L Andersen, B Faybishenko, T C Hazen

1340h **H13B-0945** *POSTER* Laboratory Experiments of Desiccation as a Method for Contaminant Transport Reduction: **M Oostrom**, T W Wietsma, M J Truex

1340h **H13B-0946** *POSTER* Nutrients and Oxygen Limitation for the Biodegradation of Exxon Valdez Oil in Prince William Sound, Alaska: **Y Sharifi**, M C Boufadel

1340h **H13B-0947** *POSTER* Elevated Ground Temperatures at Crude Oil Spill Sites due to Microbial Activity: **E Warren**, B A Bekins

1340h **H13B-0948** *POSTER* Contaminant Recovery during In-Situ Boiling in Rock: **F Chen**, X Liu, R W Falta, L C Murdoch

1340h **H13B-0949** *POSTER* Pore-scale modeling of biogeochemical alteration of the transport properties of sediment: **S Molins**, D Silin

1340h **H13B-0950** *POSTER* Stable carbon isotope monitoring of *in situ* bioaugmentation for enhanced reductive dechlorination of halogenated hydrocarbons: **M Bill**, M E Conrad, K Sorenson, R Wymore, M Lamar, S Chamberlain, J Trotsky

1340h **H13B-0951** *POSTER* Cost-effective, target-specific, and greener remedial schemes for large, dilute plumes of chlorinate solvents in groundwater: **P R Olson**, G LIU, U Solpuker, E Lee, F W Schwartz, Y Kim, B Jeon

1340h **H13B-0952** *POSTER* Field Confirmation and Monitoring Tools for Aerobic Bioremediation of TBA and MTBE: **K North**, E Rasa, D M Mackay, K M Scow, K R Hristova

1340h **H13B-0953** *POSTER* Source Zone Remediation of Tars at Former Manufactured Gas Plants Using Physicochemical Methods to Promote Mobilization: **P S Birak**, S Hauswirth, C T Miller

1340h **H13B-0954** *POSTER* Electrochemical Arsenic Remediation (ECAR) for Rural South Asia: **C M van Genuchten**, S Addy, S van Wart, A Enscoe, C Soares, N Cousino, J Mangold, K Kowolik, M Muller, J Huang, D Cheng, A Gadgil

1340h **H13B-0955** *POSTER* The Role of Hydrology in the Persistence of the Exxon Valdez Oil Spill: **M Boufadel**, H Li, Y Sharifi

1340h **H13B-0956** *POSTER* Gas-Phase Tracer Column Experiments to Detect and Quantify Soil Moisture During Desiccation: **T W Wietsma**, M Oostrom, G D Tartakovsky, M J Truex

1340h **H13B-0957** WITHDRAWN

H13C Moscone South: Poster Hall Monday 1340h
Flow and Transport in Complex Porous Media III Posters

Presiding: **J Niessner**, University of Stuttgart; **R Helmig**, Universitaet Stuttgart

1340h **H13C-0958** *POSTER* Core-Annular Flow in Capillary Tubes: Theory, Simulations, and Experiment: **I A Beresnev**, W Deng, W Gaul, D Vigil

1340h **H13C-0959** *POSTER* A Discrete Fracture Model for Fluid Flow in Porous Media: **S Blanco**, R I Borja

1340h **H13C-0961** *POSTER* Can Internal Evaporation / Condensation Enhance Vapor Transport through Porous Media?: **E Shahraeeni**, D Or

1340h **H13C-0962** *POSTER* A Stochastic Non-Gaussian Velocity Model for Tracer Dispersion in Heterogeneous Porous Media: **D W Meyer**, H A Tchelepi

1340h **H13C-0963** *POSTER* Analysis and Modeling of soil hydrology under different soil additives in artificial runoff plots: **M Ruidisch**, S Arnhold, J Kettering, B Huwe, Y Kuzyakov, Y Ok, J D Tenhunen

1340h **H13C-0964** *POSTER* Modeling of DNAPL migration, entrapment and dissolution in single and intersecting variable aperture fractures: **Z Yang**, A P Niemi, F Fagerlund, T H Illangasekare

1340h **H13C-0965** *POSTER* Quantification of immiscible fluid distribution of an oil-wet and water-wet bead pack imaged using x-ray computed microtomography: **C J Landry**, Z T Karpyn, M Piri

1340h **H13C-0966** *POSTER* Two-phase flow in fracture - matrix systems including the role of interfacial areas: **J Niessner**, B Faigle, P Nuske, R Helmig, S M Hassanizadeh

1340h **H13C-0967** *POSTER* Fractal Infiltration Model using Bundle Tubes: **C Chen**, K Hsu

1340h **H13C-0968** *POSTER* Investigating the structure of turbulent flows in porous media: an endoscopic particle image velocimetry (E-PIV) approach: **G Sambrook Smith**, G Blois, J Best, R J Hardy, J Lead

1340h **H13C-0969** *POSTER* Controlling Solute Transport Processes in Soils by using Dual-Porosity Characteristics of Natural Soils: **Y Mori**, N Higashi

1340h **H13C-0970** *POSTER* Permeability reduction of fractures explained by means of concepts from statistical Physics: **H auradou**, L Talon, A Hansen

1340h **H13C-0971** *POSTER* Experimental setup for a high resolution visualization of two-phase flow in a micro-model: N K Karadimitriou, **S M Hassanizadeh**, P J Kleingeld

1340h **H13C-0972** *POSTER* Determining the concentration and distribution of arsenic deposits in rock matrices and porous media by X-ray difference microtomography: **D Peng**, M Alsina, C Chen, D Keane, A I Packman, J Gaillard, A F Aubeneau, P A Pasten, G Pizarro

1340h **H13C-0973** *POSTER* Characteristics of acoustic emissions from fluid front displacement in porous media: **F Möbius**, D Canone, D Or

1340h **H13C-0974** *POSTER* Semi-empirically derived petrophysical and thermodynamical coefficients of permselective argillaceous matrices: **P G Oduor**, K Forward, N Sharp

1340h **H13C-0975** *POSTER* Comparison of Areal-Recharge and Regional-Flux Driven Henry Problems: **S Chang**, P Clement

1340h **H13C-0976** *POSTER* Probing the Dynamics of Biomineralization at the Pore Scale Using X-ray Computed Tomography: **R T Armstrong**, J B Ajo Franklin

1340h **H13C-0977** *POSTER* Measuring and Monitoring HydroBiogeochemical Flux in a Forested Riparian Floodplain of the Missouri Ozarks: **P Chinnasamy**, J A Hubbard

1340h **H13C-0978** *POSTER* High Performance Simulation of Fluid Flow in Complex Porous Media using LBM: J Gao, **H Xing**, X Chi

1340h **H13C-0979** *POSTER* Mesh Generation and Microstructure Extraction based on 3D Porous Medium Images: Y LIU, **H Xing**, Z Guan

1340h **H13C-0980** *POSTER* The Role of Partially-Saturated Conditions, Physical Heterogeneity, and Desorption Kinetics on Colloid-Facilitated Transport of Cesium and Strontium by Illite in Quartz Sand: **T M Dittrich**, J N Ryan, J E Saiers

1340h **H13C-0981** *POSTER* Numerical and experimental investigation of the impact of organic chemical mixtures on DNAPL migration and distribution in unsaturated porous media: **H Yoon**, M Oostrom, T W Wietsma, A J Valocchi, C J Werth

1340h **H13C-0982** *POSTER* Solute Breakthrough During Recurrent Pondered Infiltration Into Heterogeneous Soil: **M Sobotkova**, M Snehotova, M Cislerova

1340h **H13C-0983** *POSTER* Investigation of Uranium Transport Utilizing Experimental Data and Reactive Numerical Modeling from a Heterogeneous Three-Dimensional Tank: **D Rodriguez**, A W Miller, B Honeyman

1340h **H13C-0984** *POSTER* Role of rock texture and mineralogy on the hydrology and geochemistry of three neutral-drainage mesoscale experimental waste rock piles at the Antamina Mine, Peru: **H Peterson**, D S Bay, R D Beckie, K U Mayer, B Klein, L Smith

1340h **H13C-0985** *POSTER* Modeling kinetic interphase mass transfer for two-phase flow in porous media including fluid-fluid interfacial area: S M Hassanizadeh, **J Niessner**

1340h **H13C-0986** *POSTER* Speeding up Network Model Simulations of Capillary-Dominated Drainage and Imbibition: M Hilpert, **R Glantz**

1340h **H13C-0987** *POSTER* Groundwater Flow Simulation of Uranium In-Situ Leach Mining in North-central Colorado: **M Yoshino**, S Ge

1340h **H13C-0988** POSTER Study on reflection coefficient of clayey material focusing on smectite content and partial density:

S Miyoshi, T Tokunaga, K Mogi

1340h **H13C-0989** POSTER Effect of Network Structure on Image-based Network Modeling of Real Materials: P Bhattad, C S Willson, **K Thompson**

1340h **H13C-0990** POSTER Poroelastic deformation grasped as changes in 3 dimensional geometrical information of preexisting pores under pressurization: **M TAKAHASHI**, M Kato

1340h **H13C-0991** POSTER Reactive transport modeling of hydrothermal circulation in oceanic crust: effect of anhydrite precipitation on the dynamics of submarine hydrothermal systems: **J Yang**

H13D Moscone South: Poster Hall Monday 1340h
Hydrologic Predictions in a Changing Environment III Posters
(joint with B, GC)

Presiding: **B L Ruddell**, Arizona State University; **M A Hassan**, Univ British Columbia; **N Basu**, University of Iowa; **T Wagener**, Penn State University

1340h **H13D-0992** POSTER Potential Impact of Climate Change and Sea Level Rise on the Everglades: **J Obeysekera**, J A Barnes, W Said, M M Irizarry-Ortiz, J Park

1340h **H13D-0993** POSTER Comparing catchment evapotranspiration at different time scales through a bottom-up and top-down method: **X Xu**, D Yang, M Sivapalan

1340h **H13D-0994** POSTER Catchment-scale biogeochemical filtering: A preliminary evaluation of chemical export in four Experimental Watersheds. (Invited): **B G Moravec**, S E Thompson, A F Aubeneau, S Ye, P C Rao, N B Basu, P D Brooks, P A Troch

1340h **H13D-0995** POSTER VERIFICATION OF LONG-RANGE FLOOD FORECASTING PRODUCTS FOR EASTERN IOWA: **M A Habib**, A Bradley

1340h **H13D-0996** POSTER A functional model of watershed-scale annual water balance partitioning: L'vovich, Ponce and Shetty revisited (Invited): **M A Yaeger**, C J Harman, P A Troch, M Sivapalan

1340h **H13D-0997** POSTER Scaling of Contaminant Loads in Fractal River Networks: Hydrologic, Geomorphic and Biogeochemical Controls (Invited): **S Ye**, S Zanardo, N B Basu, M Sivapalan, P C Rao

1340h **H13D-0998** POSTER A Parsimonious Model for Transport of Fine Sediments and Sediment-Bound Contaminants in Rivers (Invited): **A F Aubeneau**, S E Thompson, P C Rao, N B Basu, M A Hassan, A I Packman, G S McGrath, L Fraccarollo

1340h **H13D-0999** POSTER Predictability of Biogeochemical Responses in Engineered Watersheds: **M A Yaeger**, H E Voepel, N B Basu, P C Rao, S D Donner, A I Packman

1340h **H13D-1000** POSTER Biogeochemical Filtering of Solute Signals Explored as a Function of Transport and Reaction Time Scales: **S Zanardo**, N B Basu, P C Rao

1340h **H13D-1001** POSTER A simple linear catchment-response model for investigating sediment efflux associated with climate and land use change in Goodwin Creek, MS: **A F Aubeneau**, S E Thompson, M A Hassan, A I Packman

1340h **H13D-1002** POSTER Landscape and climate controls on the Horton index revealed through a stochastic-analytical model (Invited): **S Zanardo**, C J Harman, P D Brooks, M Durcik, M Sivapalan, P A Troch

1340h **H13D-1003** POSTER A Predictive ENSO Frequency-based Time Series Model for Nitrate Loads in the Little River Watershed Using Observed or Forecast NINO 3.4 Sea Surface Temperatures:

V W Keener, D D Bosch, J Cho, J W Jones

1340h **H13D-1004** POSTER Combining scenarios of climate and land use change hotspots to evaluate pressures on water resources: **F Gobattoni**, M Santini, M Rulli

1340h **H13D-1005** POSTER Evaluating the Spatiotemporal Hydrologic Effects of Forest Harvesting Using Numerical Modeling: **E Du**, L Wei, T E Link, J D Marshall, J A Gravelle

1340h **H13D-1006** POSTER Improvement of Stream Temperature Model for Continuous Simulation and Application to Formosan Landlocked Salmon's Habitat: **P Perng**, T Lee, C Tung, S Wu

1340h **H13D-1007** POSTER Modelling Hydrology and Erosion in a Changing Socio-Economic Environment: **M J Kirkby**, H van Delden, B M Hahn, B J Irvine

1340h **H13D-1008** POSTER Biogeochemical Signatures of Contaminant Transport at the Watershed Scale: Spectral and Wavelet Analysis (Invited): **K Guan**, C J Harman, N B Basu, S S Rao, M Sivapalan, P K Kalita, A I Packman

1340h **H13D-1009** POSTER Vegetation greenness predicted by hydrologic partitioning of precipitation across climates (Invited):

H E Voepel, A L Neal, M Durcik, P D Brooks, P A Troch, B L Ruddell

1340h **H13D-1010** POSTER Selecting robust solutions from a trade-off surface through the evaluation of the distribution of parameter sets in objective space and parameter space: **G Dumedah**, A A Berg, M Wineberg

1340h **H13D-1011** POSTER Predicting Seasonal Evapotranspiration and Net Ecosystem Exchange: Comparative Hydrology across FLUXNET Sites (Invited): **S E Thompson**, A L Neal, C J Harman, K Guan, P A Troch, M Sivapalan, P D Brooks

1340h **H13D-1012** POSTER HEIST: An event-scale model of cascading water and solute fronts through the vadose zone (Invited): **C J Harman**, N B Basu, P C Rao, M Sivapalan

1340h **H13D-1013** POSTER Generation of future and present climates using an hourly weather generator and a stochastic downscaling of climate model outputs: **S Fatichi**, V Y Ivanov, E Caporali

1340h **H13D-1014** POSTER Sea level rise around Jeju Island due to global warming and movement of groundwater/seawater interface in the eastern part of Jeju island: **K Kim**, J Shin, E Koh, G Koh, K Lee

1340h **H13D-1015** POSTER Climate Change Impacts on the Upper Feather River Basin Using PRMS with GCMs Input: **G Huang**, T Kadir, F I Chung

1340h **H13D-1016** POSTER Wet, Dry, Dim, or Bright? The Future of Water Resources in North Texas: **T H Brikowski**

1340h **H13D-1017** POSTER Two Novel Applications of an Integrated Model for the Assessment of Global Water Resources: **N Hanasaki**, S Kanae, T Oki

1340h **H13D-1018** POSTER Quantifying Geomorphologic Impacts of Sediment Supply Reduction: **J A Goodman**, L Austin

1340h **H13D-1019** POSTER Storm Hydrograph Responses to Conversion to White Pine Forest in the Southern Appalachian Mountains: W T Swank, **J A Yeakley**

H13E Moscone South: Poster Hall Monday 1340h
Integrity of CO₂ Sequestration Reservoirs: Mechanisms Controlling Subsurface Trapping of CO₂ and CO₂ Flow Within Fractures, Faults, and Wellbore Interfaces II Posters (*joint with GC*)

Presiding: D Crandall, NETL; R L Detwiler, University of California, Irvine

1340h **H13E-1020 POSTER** Stability of Buoyancy-Driven Gas Flow: Visualization of Coherent and Incoherent Gas Flow Patterns and Capillary Trapping: **H W Geistlinger**, S Samani, M Pohlert, R Jia, D Lazik

1340h **H13E-1021 POSTER** Sensitivity Analysis of Key Parameters on the Behavior of CO₂ Injected Into a Deep Saline Aquifer II: **Y Kano**, T Ishido

1340h **H13E-1022 POSTER** Calcite Precipitation in a CO₂ Rich Environment: **A M Tartakovsky**, S Kerisit

1340h **H13E-1023 POSTER** Depth dependency of fracture permeability in Neogene mudstone: **S Uehara**, M Takahashi, Y Oikawa, K Masuda

1340h **H13E-1024 POSTER** Wettability-dependent fluid flow in a rough-walled fracture: **I Yeo**, H Lee, S Ji, K Lee

1340h **H13E-1025 POSTER** CO₂ Dissolution in Variable Aperture Fractures: Controlling Parameters and Proposed Constitutive Relationships: **R L Detwiler**, H Rajaram, R J Glass

1340h **H13E-1026 POSTER** Comparing (semi-) analytic solutions used to model the impact of deep carbon injection on the displacement and pressurization of the resident brine: **K Bandilla**, S R Kraemer

1340h **H13E-1027 POSTER** High Resolution Simulation and Characterization of Density-Driven Flow in CO₂ Storage in Saline Aquifers: **G Pau**, J B Bell, K Pruess, A S Almgren, M J Lijewski, K Zhang

1340h **H13E-1028 POSTER** Role of dispersion on the onset of convection during CO₂ sequestration: **J J Hidalgo**, J Carrera Ramirez

1340h **H13E-1029 POSTER** Spatial Distribution of Pressure Build-up from CO₂ Injection in Saline Aquifers: **K Kim**, W Han, T Kim, J Kim

1340h **H13E-1030 POSTER** CO₂ transport through geological seals considered for CO₂ sequestration: First order estimates of flow through fractures: **C A Griffith**, D A Dzombak, G V Lowry, G S Bromhal, M J Small, Y Soong

1340h **H13E-1031 POSTER** Trapping of CO₂ in sloping aquifers - High resolution numerical simulations: **M Elenius**

1340h **H13E-1032 POSTER** CO₂ Plume Estimation with Automatic Calibration of TOUGH Model for Carbon Sequestration in Geological Formations: **A J Espinet**, C A Shoemaker, C Doughty

1340h **H13E-1033 POSTER** 3D Geologic Modeling of the Southern San Joaquin Basin for the Westcarb CO₂ Sequestration Demonstration Project: **J L Wagoner**, E A Burton

1340h **H13E-1034 POSTER** Vertically integrated approaches to large scale CO₂ storage: Evaluating long-term storage security of CO₂ injection in saline aquifers: **S E Gasda**, J Nordbotten, M A Celia

1340h **H13E-1035 POSTER** Effects of Reservoir Depth and Brine Composition on the Hydrodynamic Instabilities and Dissolution of Supercritical CO₂ Releases in the Subsurface: E Burton, **S M Ezzedine**

1340h **H13E-1036 POSTER** Reaction-transport-mechanical (RTM) simulator Sym.CS: Putting together water-rock interaction, multi-phase and heat flow, composite petrophysics model, and fracture mechanics: **C Paolini**, A J Park, R J Mellors, J Castillo

1340h **H13E-1037 POSTER** CO₂ Solubility at High Pressures: Understanding Immobilization Techniques for Carbon Sequestration: **R E Adler**, B Saylor, B Zerai

H13F Moscone West: 3011 Monday 1340h
Applications of Hydrologic Remote Sensing Data III - Integration in Land Surface Models

Presiding: H Xie, Univ Texas San Antonio; T R Holmes, USDA ARS

1340h **H13F-01** Prototyping the Multi-Sensor Interdisciplinary Water Cycle Data Portal: **S J Kempfer**, W L Teng, G Leptoukh, B Vollmer, Z Liu

1355h **H13F-02** Monitoring and modeling agricultural drought for famine early warning (*Invited*): **J P Verdin**, C Funk, M E Budde, R Lietzow, G B Senay, R Smith, D Pedreros, J Rowland, G A Artan, G J Husak, J Michaelsen, A Adoum, G Galu, T Magadzire, M Rodriguez

1415h **H13F-03** Development of the Arab Land Data Assimilation System (ALDAS): **J D Bolten**, M Rodell, B F Zaitchik, D L Toll, E Engman, S Habib, M Ozdogan

1425h **H13F-04** Tracking unaccounted water use in data sparse arid environment: **M M Hafeez**, M Edraki, M K Ullah, Y Chemin, J Sixsmith, R Faux

1440h **H13F-05** A Hybrid Approach for Estimating Evapotranspiration Using Remote Sensing (HET): **H M Geli**, C M Neale

1455h **H13F-06** Development and Validation of a MODIS-based Actual Evapotranspiration for Ecosystems in Semi-arid Regions: **T S Hogue**, J Kim

1510h **H13F-07** Role and Impact of Screen-Level Observations in a Land Data System Assimilating Remote Sensing Data: **S Belair**, B Bilodeau, M L Carrera, S J Solomon

1525h **H13F-08** Evapotranspiration Estimates Based on MODIS and Downscaled ISCCP Data: **Q Tang**, D P Lettenmaier

H13G Moscone West: 3005 Monday 1340h
Emerging Trends in the Hydrological Data Record II (*joint with A, C, G*)

Presiding: G J Huffman; M Rodell, NASA/GSFC

1340h **H13G-01** Observed Global Precipitation Variability on the Interannual-to-Interdecadal Time Scales (*Invited*): **G Gu**, R F Adler

1358h **H13G-02** Recent Changes of the Earth's land ice from GRACE: methods, signals and errors (*Invited*): **S B Luthcke**, D Rowlands, J McCarthy, A A Arendt, T J Sabaka, J Boy, F G Lemoine

1416h **H13G-03** Trends in River Basin, Groundwater and Global Water Storage from GRACE (*Invited*): **J S Famiglietti**, D P Chambers, R Nerem, M Rodell, S C Swenson, I Velicogna, J M Wahr

1434h **H13G-04** Changes in Continental Freshwater Discharge from 1948-2004 (*Invited*): **A Dai**, T Qian, K E Trenberth, J D Milliman

1452h **H13G-05** Northern Rocky Mountain streamflow records: global warming trends, human impacts or natural variability?: **J St Jacques**, D Sauchyn

1507h **H13G-06** Multi-sensor time series of remote sensing data indicate rapid warming trend for lakes in California and Nevada: **P Schneider**, S J Hook, R R Radocinski, G K Corlett, G C Hulley, S G Schladow, T E Steissberg

1522h **H13G-07** Trends in Microwave-Based Climate Data Records from Satellites: **K A Hilburn**

H13H Moscone West: 3009 Monday 1340h
Groundwater Inputs to Rivers, Lakes, and Oceans I (*joint with OS*)

Presiding: **Y A Kontar**, University of Illinois at Urbana-Champaign; **P W Swarzenski**

1340h **H13H-01** Transport of Dissolved Constituents from Land to Water via Groundwater – The Impacts of Physical and Biological Processes at the Land-Water Interface (*Invited*): **A Paytan**

1355h **H13H-02** Rock, Water, Critters: Lake Huron's Groundwater-Fueled Submerged Sinkhole Ecosystems (*Invited*): **B A Biddanda**, S A Ruberg, S Kendall, S Nold, N Hawley

1410h **H13H-03** Character of submarine groundwater discharge around islands: **H Bokuniewicz**, R Coffey, M A Charette

1425h **H13H-04** Transport phenomena and microbial conversions in permeable intertidal sands: **D de Beer**, M Huettel, U Werner, M Billerbeck, H Røy

1440h **H13H-05** Storm-Driven Groundwater Flow and Nutrient Transport in a Barrier Island: **A M Wilson**, J Anderson, W S Moore, C Schutte, S B Joye

1455h **H13H-06** Modeling groundwater and benzene discharge to a river from an alluvial aquifer subject to strong interactions with surface water (*Invited*): **S Brouyere**, J Batlle-Aguilar

1510h **H13H-07** Transient Modeling of Reactive Solute Transport in a Submarine Groundwater Discharge Zone: **J A Colman**, J F Bratton, J Crusius, K D Kroeger, S Baldwin, K Lee

1525h **H13H-08** Long-Term Submarine Groundwater Discharge: Model Constraints on Magnitudes and Driving Forces for Passive Margins: **B Dugan**, M A Person, D O Cohen

H13I Moscone West: 3007 Monday 1340h
Near-Surface Monitoring of Natural and Anthropogenic CO₂ From Subsurface Formations: Analogues for Geologic Carbon Sequestration I (*joint with B*)

Presiding: **T L Mcling**, Center for Advance Energy Studies; **K Romanak**, Bureau of Economic Geology

1340h **H13I-01** Lessons from Natural Analog Studies for Geologic Disposal of High-Level Nuclear Waste (*Invited*): **W M Murphy**

1400h **H13I-02** Shallow groundwater monitoring at the SACROC oilfield, Scurry County, TX: good news for geologic storage of CO₂ despite a complex hydrogeologic and geochemical setting (*Invited*): **R C Smyth**, K Romanak, C Yang, S Hovorka

1420h **H13I-03** Soil-Gas Identification of Environmental Factors Affecting CO₂ Concentrations Beneath a Playa Wetland: Implications for Soil-Gas Monitoring at Carbon Storage Sites: **K Romanak**, P Bennett

1435h **H13I-04** Rapid detection and characterization of surface CO₂ leakage through the real-time measurement of $\delta^{13}\text{C}$ signatures in CO₂ flux from the ground: S Krevor, J Perrin, A Esposito, C Rella, S M Benson

1450h **H13I-05** Natural Analog CCS Site Characterization Soda Springs, Idaho Implications for the Long-term Fate of Carbon Dioxide Stored in Geologic Environments: **T L Mcling**, R W Smith, R K Podgorney, J Taylor

1505h **H13I-06** Natural Carbon Dioxide Storage in Mantle Peridotite via Mineral Carbonation (*Invited*): **J M Matter**, P B Kelemen

1525h **H13I-07** Microbiological and Mineralogical Characterization of Columbia River Basalts Prior to Supercritical Carbon Dioxide Addition: **F S Colwell**, M R Fisk, H Yip, A Schwartz, B R Briggs, F Spane

Earth and Space Science Informatics

IN13A Moscone South: Poster Hall Monday 1340h
GIScience II Posters (*joint with G, GC, H, NH, EP, PA*)

Presiding: **P A Fox**, Rensselaer Polytechnic Inst.; **R G Raskin**, Jet Propulsion Laboratory

1340h **IN13A-1071 POSTER** Comparison of transect sampling and object-oriented image classification methods of urbanizing catchments: **Y YANG**, D E Tenenbaum

1340h **IN13A-1072 POSTER** GEOGRAPHIC INFORMATION SYSTEMS IN MANAGING OF TERRITORIAL RESOURCES: AN EXAMPLE FOR THE SABATINI GEOTHERMAL SYSTEM (CENTRAL ITALY): **M Procesi**, D Cinti, P Poncia, D De Rita

1340h **IN13A-1073 POSTER** Processing of Geospatial Data by GPGPU: **J A Harmsen**, K Holland, G Biging, P Gong

1340h **IN13A-1074 POSTER** GIS database model for development of mining information system for the Skarn/Porphyry type ore deposit: **T Roh**, Y Choi, H Park

1340h **IN13A-1075 POSTER** Hyperspectral Remote Sensing Techniques in Predicting Phycocyanin Concentrations in Cyanobacteria: A Comprehensive Study: **S Mishra**, D R Mishra, W M Schluchter

1340h **IN13A-1076 POSTER** Development of New Snowstorm Indices and Databases at the National Climatic Data Center: **M F Squires**, J H Lawrimore, R R Heim, D A Robinson, M Gerbush, T Estilow, C Tabor, A Wilson

1340h **IN13A-1077 POSTER** Analysis of Urban Expansion of the Resort City of Al Ain Using Remote Sensing and GIS: **S Issa**, A AL Shuwaihi

IN13B Moscone South: Poster Hall Monday 1340h
Next Generation Distributed Data Access, Diagnostics, and Collaborations for Climate and Weather Models II Posters (*joint with A*)

Presiding: **G K Rutledge**, NOAA NCDC

1340h **IN13B-1078 POSTER** Using BitTorrent for Large Scale Data Distribution: **E Shepherd**

1340h **IN13B-1079 POSTER** NASA Goddard GIOVANNI Support for HTAP: **N P Kurkowski**, G G Leptoukh, A V Mehta, K Bryant, J Pan, H Rui, D da Silva, R B Husar

1340h **IN13B-1080 POSTER** OceanNOMADS: A New Distribution Node for Operational Ocean Model Output: **S Cross**, T Vance, T Breckenridge

1340h **IN13B-1081 POSTER** Evaluation of a Data Compression Technique for High-Resolution Earth System Models Using Unstructured Grid: **N Wang**, J Bao, J Lee

1340h **IN13B-1082 POSTER** NASA's Climate in a Box: Desktop Supercomputing for Open Scientific Model Development: **G S Wojcik**, M S Seabloom, T J Lee, G R McConaughy, R Syed, A Oloso, E M Kemp, J Greenesid, R Smith

1340h **IN13B-1083 POSTER** An Architecture and Analysis Environment for Model to Observational Data Intercomparisons: **C A Mattmann**, D Williams, A J Braverman, D J Crichton

IN13C Moscone South: 102 Monday 1340h
Sensing, Networking, and Fusing the Data I (*joint with C*)

Presiding: **J K Hart**, University of Southampton; **K Moe**, NASA

1340h **IN13C-01** SEAMONSTER: A wireless Sensor Web prototype applied to studying glaciated watersheds (*Invited*): **M Heavner**, D R Fatland, E W Hood, C L Connor

1355h **IN13C-02** InSAR Scientific Computing Environment (*Invited*): **P A Rosen**, E M Gurrola, G Sacco, H A Zebker, M Simons, D T Sandwell

1410h **IN13C-03** The Science of Wireless Sensor Networks: Improving engineered systems through scientific analysis: **B Kerkez**, M Meadows, S D Glaser, R C Bales

1425h **IN13C-04** Improved data capacity using bandwidth acceleration in HiSeasNet: **S Foley**, J Berger, J A Orcutt, F L Vernon

1440h **IN13C-05** SPAN: A Network Providing Integrated, End-to-End, Sensor-to-Database Solutions for Environmental Sciences: **T Benzel**, Y H Cho, A DeSchon, S Gullapalli, F Silva

1455h **IN13C-06** Low-cost Tools for Aerial Video Geolocation and Air Traffic Analysis for Delay Reduction Using Google Earth: **V Zetterlind**, S Pledgie

1510h **IN13C-07** Networking Sensor Observations, Forecast Models & Data Analysis Tools: **S R Falke**, G Roberts, D Sullivan, P C Dibner, R B Husar

1525h **IN13C-08** From sensors to semantic web: the SensorGrid4env project: **K Martinez**, D DeRoure, K Page, J Sadler, C Hutton, R Newman, S Roe

Nonlinear Geophysics

NG13A Moscone South: Poster Hall Monday 1340h **Nonlinear Dynamics, Spatiotemporal Organization, and Predictability of Hydroclimatic Extremes Posters** (*joint with H*)

1340h **NG13A-1084** POSTER Knowledge discovery and nonlinear modeling can complement climate model simulations for predictive insights about climate extremes and their impacts: **A R Ganguly**, M Steinbach, V Kumar

1340h **NG13A-1085** POSTER Insights from a Low Order Model of Increasing Complexity: Probability and Temporal Structure of Climate Extremes: F Cioffi, **C Karamperidou**, U Lall, P Di Giamberardino

1340h **NG13A-1086** POSTER Projections of Climate Extremes under Potential Climate Change as Represented by Changing Equator-to-Pole Temperature Gradient and Land-Ocean Temperature Contrast: **C Karamperidou**, F Cioffi, U Lall, P Di Giamberardino

1340h **NG13A-1087** POSTER March of the Seasons: A Low-Order Nonlinear Dynamical View: **S Jain**, U Lall

1340h **NG13A-1088** POSTER A DELAY DIFFERENTIAL MODEL FOR EL NINO/SOUTHERN OSCILLATION (ENSO): PULLBACK ATTRACTORS, PHASE LOCKING, AND MULTIPLE SOLUTIONS: M D Chekroun, **I Zaliapin**, M Ghil

1340h **NG13A-1089** POSTER A Multi-Scale Information Theory Approach to Assess Spatial-Temporal Variability in Daily Precipitation and Temperature: **N A Brunsell**

1340h **NG13A-1090** POSTER Hydrology, errors in climate models, and the prediction of extreme events in future climates: **T N Chase**, P Lawrence, V G Anantharaj

1340h **NG13A-1091** WITHDRAWN

NG13B Moscone South: Poster Hall Monday 1340h **Statistical and Stochastic Approaches to Hydrological Extremes Posters** (*joint with H*)

Presiding: **A Carsteanu**, Cinvestav del IPN

1340h **NG13B-1092** POSTER Estimation of Tail Dependence Coefficient in Rainfall Accumulation Fields: G J Ciach, **A Aghakouchak**, E H Habib

1340h **NG13B-1093** WITHDRAWN

1340h **NG13B-1094** POSTER The interplay between zero-rainfall and multifractal estimates of the extremes: a weighed analysis: **A Gires**, D J Schertzer, I Tchiguirinskaia, S Lovejoy

1340h **NG13B-1095** POSTER Sensitivity of Hydro-Meteorological Extremes to the High Frequency Quality of Long Time Series: **T Hoang**, I Tchiguirinskaia, D J Schertzer, S Lovejoy

1340h **NG13B-1096** POSTER Scaling Behavior of Radar-Raingauge Correlations: **A Carsteanu**, C Diaz-Delgado, K M Ba, V H Guerra-Cobian

NG13C Moscone West: 2006 Monday 1340h **Scaling in Hydrology: From Pore-Scale Processes to Groundwater and Precipitation** (*joint with H*)

Presiding: **S Lovejoy**, McGill Univesity; **A G Hunt**, Wright State University; **R M Neupauer**, University of Colorado

1340h **NG13C-01** Characterizing the Scaling Behavior of Rainfall Using Imperfect Data: O P Prat, **A P Barros**, X Sun

1355h **NG13C-02** Multifractals to decipher convective and stratiform signatures in radar data: D J Schertzer, **C Boussard**, I Tchiguirinskaia, S Lovejoy

1410h **NG13C-03** On the quest for power laws in flood events: implications for flood frequency and rainfall-runoff modeling (*Invited*): **W F Krajewski**, R Mantilla, V K Gupta, B M Troutman

1425h **NG13C-04** Long-term Memory and Multi-scaling Properties of River Flow: **F A Hirpa**, M Gebremichael, T Over

1440h **NG13C-05** Scale-up of Network Models of Flow from Laboratory to Field Scale: E J Boyle, M Ferer, W N Sams, **D H Smith**

1455h **NG13C-06** APPARENT/SPURIOUS MULTIFRACTALITY OF DATA SAMPLED FROM FRACTIONAL BROWNIAN/LÉVY MOTIONS (*Invited*): **S P Neuman**

1510h **NG13C-07** Pore scale study of interfacial areas at drainage and imbibition in granular media: **M Prodanovic**, D Wildenschild, E Rodriguez Pin, S L Bryant

1525h **NG13C-08** Modeling and Upscaling of Heterogeneous Porous Media, and Simulation of Multiphase Fluid Flow Therein: Applications of Wavelet Transformations (*Invited*): **M Sahimi**

Natural Hazards

NH13A Moscone South: Poster Hall Monday 1340h **Multidisciplinary Approach to Earthquake Forecast and Prediction III Posters** (*joint with A, G, GP, T, SA, S, MR, V*)

Presiding: **K Hattori**, Chiba University; **A Peresan**, University of Trieste

1340h **NH13A-1112** POSTER Physics-based Study on Electromagnetic Phenomena Possibly Associated with Earthquakes: **Q Huang**

1340h **NH13A-1113** POSTER The Electromagnetically Equivalent Global and Complex System Modeling of Seismic Processes: **T Sengor**

1340h **NH13A-1114** POSTER Natural time analysis of seismicity and multiplicative cascades: E S Skordas, **N V Sarlis**, P Varotsos

1340h **NH13A-1115** POSTER Analysis in natural time domain of geoelectric time series monitored prior two strong earthquakes occurred in Mexico: **A Ramírez-Rojas**, L E Flores-Marquez

1340h **NH13A-1116** POSTER Ionospheric anomalous total electron content variation possibly related to earthquakes around Japan: **S Kon**, M Nishihashi, K Hattori

1340h **NH13A-1117 POSTER** Pre-earthquake deformation observed using high dense GPS array: **C Chen**, T Yeh, J G Liu, C Wang, S Wen, H Yen

1340h **NH13A-1118 POSTER** The dynamic response of geomagnetic sudden commencement to tectonic zone and large earthquakes in China: **X Zeng**, J Zheng, Z Wang, Y Lin

1340h **NH13A-1119 POSTER** Multi-Parameteric Geophysical Observatory: An Integrated Approach to Earthquake Precursory Research: **B K Bansal**, B R Arora, N Kumar

1340h **NH13A-1120 POSTER** Electromagnetic and seismic change before/during the Suruga-bay EQ, Japan (M=6.6) of August 11, 2009: **T Nagao**, K Sayanagi, A Takeuchi, M Harada, K Nakamura, K Tominaga, Y Orihara, S Uyeda, T Kawakami, Y Noda, Y Tomizawa, Y Watanabe, M Kamogawa

1340h **NH13A-1121 POSTER** On the reported magnetic precursor of the 1993 Guam earthquake: J N Thomas, **J J Love**, M J Johnston

1340h **NH13A-1122 POSTER** HIGH VLF SIGNALS OBSERVATIONS OVER WESTERN US FAULTS BY DYNAMIC EXPLORER-2 SATELLITE: **J I Zetzer**, A Lyakhov

1340h **NH13A-1123 WITHDRAWN**

1340h **NH13A-1124 POSTER** The Observation and Direction Findings of ULF Electromagnetic Emissions Possibly Associated with Earthquakes: **J Izutsu**, K Ohta, M Hayakawa

1340h **NH13A-1125 POSTER** ULF geomagnetic changes possibly associated with the 2008 Iwate-Miyagi Nairiku earthquake: **K Hattori**, T Hirano

1340h **NH13A-1126 POSTER** The precursory fault width formation and critical stress state of impending large earthquakes: The observation and deterministic forecasting: **F Takeda**

1340h **NH13A-1127 POSTER** Likelihood-based tests for evaluating space-rate-magnitude earthquake forecasts: **J D Zechar**, M C Gerstenberger, D Rhoades

1340h **NH13A-1128 POSTER** Evaluating Earthquake Models and Forecasts Through CSEP: **J R Holliday**, J B Rundle, D L Turcotte

1340h **NH13A-1129 POSTER** Alerts for Significant Seismicity Changes and the Short-term Prediction of the Mainshock from Foreshocks: Recent Experiences from Greece and Italy: **G Minadakis**, K Orfanogiannaki, G A Papadopoulos

1340h **NH13A-1130 POSTER** Time-dependent vs stationary seismic hazard assessment: an application to Mt. Etna volcano (Southern Italy): **T Tuvè**, R Azzaro, S D'Amico, L Peruzza

1340h **NH13A-1131 POSTER** Real time testing of integrated ground shaking scenarios in Italy: E Zuccolo, **A Peresan**, G F Panza, V G Kossobokov, L L Romashkova, F Vaccari

1340h **NH13A-1132 POSTER** Earthquake forecast/prediction techniques applied to real-time testing experiments: **G Falcone**, M Murru, R Console

1340h **NH13A-1133 POSTER** Collaboratory for the Study of Earthquake Predictability: Design of Prediction Experiments: **D Schorlemmer**, D D Jackson, J D Zechar, T H Jordan

NH13B Moscone West: 3001 Monday 1340h
Severe Storms and Sea Level Rise: A Challenge to Science and Society II (joint with A, G, GC, T, PA, OS, H)

Presiding: Y Gorokhovich, Lehman College, CUNY; H Plag

1345h **NH13B-01** Forecasting and Predicting Coastal Local Sea Level as Support for Coastal Zone Management Decisions and Policy Making (Invited): **H Plag**

1405h **NH13B-02** Coastal Vulnerability to Sea Level Rise and Erosion in Northwest Alaska (Invited): **Y Gorokhovich**, A Leiserowitz

1425h **NH13B-03** Theory and Observation of Postglacial Sediment - Ocean Loading and Geoid Variability: Application to Subsidence in the Gulf of Mexico and other River Delta Systems and Enclosed Basins (Invited): **E R Ivins**, R G Blom, R K Dokka, R B Lohman, V Klemann, E J Fielding

1445h **NH13B-04** Simulations of Sea Level Rise Effects on Complex Coastal Systems: **A W Nledoroda**, M Ye, B Saha, J F Donoghue, C W Reed

1505h **NH13B-05** Potential Inundation in the San Francisco Bay Region Due to Rising Sea Levels: **N Knowles**

Near Surface Geophysics

NS13A Moscone South: Poster Hall Monday 1340h
Urban Geophysics I Posters (joint with S, GP, H)

Presiding: D Muralidharan, National Geophysical Research Institute; P Martinez-Pagan, Technical University of Cartagena (UPCT)

1340h **NS13A-1134 POSTER** Large-Eddy Simulation of Ventilation and Pollutant Removal in Neutrally and Unstably Stratified Street Canyons: **C Liu**, W Cheng, D Y Leung

1340h **NS13A-1135 POSTER** Preliminary Analysis of High-Resolution Seismic Imaging Profiles Acquired Through Reno, Nevada, for Earthquake Hazard Assessment: **R Frary**, W J Stephenson, J N Louie, J K Odum, J Z Maharrey, M Messmer, I Tomlinson, E F Littlefield, A Hughes, S Jha, K Kohls, M S Dhar, S Konkol, A Wakwak, P H Cashman, J H Trexler, R Kent, C Hoffpauir

1340h **NS13A-1136 POSTER** LAND STREAMER SEISMIC DATA FROM NORTHERN DELAWARE: A VIABLE ALTERNATIVE FOR IMAGING AQUIFERS IN SUBURBAN AREAS: **C C Velez**, P P McLaughlin, S E McGeary, S L Sargent

1340h **NS13A-1137 POSTER** Velocity Structure of the Wellington Basin, New Zealand, from Passive Imaging: **B Fry**

1340h **NS13A-1138 POSTER** Geophysical Survey of an Abandoned Cemetery in Prairie View, Texas: Unmarked Burials from Slave Era Discovered on College Campus: **A T Henning**, D S Sawyer, D Wallace, A Kahera

1340h **NS13A-1139 POSTER** Geophysical exploration for lithologic control of arsenic contamination in groundwater in Middle Ganga Plains, India: **S Ahmed**, S Chandra, E Nagaiah, P C Chandra

1340h **NS13A-1140 POSTER** Attenuation Analysis of Quarry Blast Vibrations: **T Brooks**, A M Courtier

1340h **NS13A-1141 POSTER** Non-destructive test for the assessment of concrete structure safety applied to full-scale test model: **S Oh**, B Suh, M Noh, S Han, K Kim, E Cho, T Ahn, Y Ji

1340h **NS13A-1142 POSTER** Effects of silicic spheres for the suppression of radiation heating using on electromagnetic wave scattering theory: **E Ohkawa**, H Mikada, T Goto, J Takekawa, K Onishi, K Taniguchi, Y Ashida

1340h **NS13A-1143 POSTER** Urban Shear-wave Reflection Seismics: A High-resolution Survey in the Landslide-affected Trondheim Harbour Area, Norway: **C M Krawczyk**, U Polom, L Hansen, J L'Heureux, O Longva, I Lecomte

1340h **NS13A-1144 POSTER** Using a 2.5D Electrical Resistivity Imaging Method for Locating the House Remnants and Possible Landslide Victims of Typhoon Morak: **S Chang**, P Chang, H Chen, P Jan

1340h **NS13A-1145 POSTER** Geological-geophysical techniques applied to urban planning in karst hazardous areas. Case study of Zaragoza, NE Spain: **O Pueyo Anchuela**, A Soriano, A Casas Sainz, A Pocoví Juan

1340h **NS13A-1146 POSTER** Urban shear-wave reflection seismics: Reconstruction support by combined shallow seismic and engineering geology investigations: U Polom, A Guenther, I Arsyad, P Wiyono, **C M Krawczyk**

1340h **NS13A-1147 POSTER** Two-dimensional gravity modeling by inversion of Yufuin basin, Kyushu, Japan: **N Inoue**

1340h **NS13A-1148 POSTER** Seismic investigations in downtown Copenhagen, Denmark: **K Martinez**, J A Mendoza, H Olsen

1340h **NS13A-1149 POSTER** Combination of urban shear-wave reflection seismics and direct push measurements for aquifer mapping: T Beilecke, U Polom, U Werban, C Leven, S Hoffmann, **C M Krawczyk**

Ocean Sciences

OS13A Moscone South: Poster Hall Monday 1340h **New Insights From Integrated Multidisciplinary Studies of Oceanic Spreading Center Processes: Ridge 2000 Research III Posters** (joint with T, B, V)

Presiding: **K H Rubin**, Univ Hawaii; **D J Fornari**

1340h **OS13A-1157 POSTER** The L-SCAN Seismic Tomography and Geophysical Mapping Experiment: **R Dunn**, C M Allison, R Austin, K Brooks, J A Conder, M M Conley, E Emry, F Martinez, J D Sleeper

1340h **OS13A-1158 POSTER** The L-SCAN Experiment: Mapping the Axial Magma Chamber Beneath the Eastern Lau Spreading Center: **C M Allison**, R Dunn, K Brooks, J A Conder, F Martinez, M M Conley

1340h **OS13A-1159 POSTER** Geophysical Mapping in the Western Lau Basin Reveals Possible Early Seafloor Spreading, Arc Volcanism, and Remnant Rifted Arc Crust: **R Austin**, F Martinez, R Dunn, B Taylor

1340h **OS13A-1160 POSTER** "Near-bottom sonar mapping along the Eastern Lau Spreading Center and Valu Fa Ridge": **J D Sleeper**, F Martinez, M Edwards, R Dunn, E T Baker

1340h **OS13A-1161 POSTER** Preliminary examination of microearthquake activity along the Eastern Lau Spreading Center and southern Lau Basin: **J A Conder**, R Dunn, K E Godfrey

1340h **OS13A-1162 POSTER** Variations in Style of Crustal Accretion Across the Lau Basin: A Reflection of Mantle Wedge Chemical Heterogeneity and Two Episodes of Backarc Basin Formation: **F Martinez**, R Austin, J D Sleeper, B Taylor, R Dunn

1340h **OS13A-1163 WITHDRAWN**

1340h **OS13A-1164 POSTER** Seismic waveform modeling of the reflection response from a mid-ocean ridge axial melt sill: understanding the message behind the polarity of waves reflected off the melt lens: **M Xu**, R A Stephen, J Canales, S M Carbotte, M R Nedimovic, J C Mutter

1340h **OS13A-1165 POSTER** Structure and kinematics of segment-scale crustal accretion processes in Iceland: **D L Siler**, J A Karson, A J Horst, R J Varga, M Pollock, A Nanfita

1340h **OS13A-1166 POSTER** The Iceland Deep Drilling Project (IDDP): (1) Drilling at Krafla encountered Rhyolitic Magma: **W A Elders**, G O Fridleifsson, A Mortensen, A Gudmundsson, B Gudmundsson, D K Bird, M H Reed, P Schiffman, R A Zierenberg

1340h **OS13A-1167 POSTER** The Iceland Deep Drilling Project (IDDP): (2) Petrology and geochemistry of rhyolitic melts drilled at Krafla: **R A Zierenberg**, W A Elders, G O Fridleifsson, P Schiffman, N E Marks, C E Lesh, J B Lowenstern, E C Pope, D K Bird, A Mortensen, ÁSGRiMUR Gudmundsson

1340h **OS13A-1168 POSTER** Iceland Deep Drilling Project (IDDP): (3) Oxygen and Hydrogen Stable Isotope Composition of a Rhyolite Magma, Krafla Geothermal System: **E C Pope**, D K Bird, S Arnórsson, T Fridriksson, W A Elders, G O Fridleifsson

1340h **OS13A-1169 POSTER** The Iceland Deep Drilling Project (IDDP): (4) A Quartz Fluid Inclusion Tool for Sampling Supercritical Geothermal Fluids Downhole: **M H Reed**, H Grist, T Fridriksson, P Danielsen, D Senkovich, A Johnston, W A Elders, G O Fridleifsson

1340h **OS13A-1170 POSTER** Iceland Deep Drilling Project: (V) Isotopic Evidence of Hydrothermal Exchange and Seawater Ingress from Alteration Minerals in the Reykjanes Geothermal System: **N E Marks**, R A Zierenberg, P Schiffman

1340h **OS13A-1171 POSTER** The Iceland Deep Drilling Project (IDDP): (6) Hydrothermal minerals record CO₂ partial pressures in the Reykjanes Geothermal System, Iceland: **A J Freedman**, D K Bird, S Arnórsson, T Fridriksson, W A Elders, G O Fridleifsson

1340h **OS13A-1172 POSTER** The Iceland Deep Drilling Project (IDDP): (7) Arsenic distribution within a Basalt-Hosted, High-Temperature Geothermal System, Reykjanes, Iceland: **N J Olsen**, D K Bird, S Arnórsson, T Fridriksson, G O Fridleifsson, W A Elders

1340h **OS13A-1173 POSTER** Iceland Deep Drilling Project (IDDP): (8) A Fluid Inclusion Study of Magmatic Gases at the Krafla Geothermal Field: **L B Owens**, A Mortensen, A Gudmundsson, W A Elders, G O Fridleifsson

1340h **OS13A-1174 POSTER** A magmatic robust segment propagating at the Mid-Atlantic Ridge at 21.5° N: **A Dannowski**, I Grevemeyer, J P Morgan, C R Ranero

1340h **OS13A-1175 POSTER** Seismicity And Accretion Process Along The North Mid-Atlantic Ridge From The SIRENA Autonomous Hydrophone Data: **J Perrot**, J Goslin, R P Dziak, J H Haxel, M A Maia, C Tisseau, J Royer

1340h **OS13A-1176 POSTER** Distribution of Seismicity and thermal structure at Lucky Strike Hydrothermal Segment of Mid-Atlantic Ridge: **A Rai**, S C Singh, W C Crawford, J Escartin, M Cannat, T Seher

1340h **OS13A-1177 POSTER** Subsidence and the development of magmatic foliation in Oman ophiolite magma chambers: **F I Boudier**, A J Nicolas

1340h **OS13A-1178 POSTER** Anorthosite Fabrics in Oman Ophiolite Gabbros and Subsidence-related "Corner Flow": **L G Morales**, F I Boudier, A J Nicolas

1340h **OS13A-1179 POSTER** Direct Measurements of Hydrothermal Heat Output at Juan de Fuca Ridge: **L N Germanovich**, D Di Iorio, G Genc, R S Hurt, R P Lowell, J F Holden, D A Butterfield, E J Olson

1340h **OS13A-1180 POSTER** Discovery of New Hydrothermal Venting Sites in the Lau Basin, Tonga Back Arc: **P V Crowhurst**, R J Arculus, G J Massoth, L Baptista, I Stevenson, R Angus, E T Baker, S L Walker, K Nakamura

1340h **OS13A-1181 POSTER** Sulfur and lead isotopes composition of hydrothermal chimney in the NE Lau Basin: Possible link between the contribution of magmatic volatiles to the hydrothermal system and the extent of subduction input in arc and back-arc basin settings: **J Kim**, J Kim, K Lee

1340h **OS13A-1182 POSTER** The Mobility of Fluoride in Back-Arc Hydrothermal Systems: **J M Galluccio**, J M MacLean, S H McFadyen, J E Moore, P J Saccocia, J Seewald

1340h **OS13A-1183 POSTER** H₂ Production from Ultramafic-Bearing Gabbroic Rock Assemblages: An Experimental Study at 420°C, 500 bars: **M E Rough**, W E Seyfried

1340h **OS13A-1184 POSTER** Numerical modeling of two-phase flow in the seafloor hydrothermal systems: **L Han**, R P Lowell, K C Lewis

1340h **OS13A-1185 POSTER** Stability of ridge-ridge-ridge triple junctions based on the mechanics of rift interaction: Examples of the Galápagos and Rodriguez triple junctions: **G A Mitchell**, L G Montesi, W Zhu, H Schouten, D K Smith, J R Cann

1340h **OS13A-1186 POSTER** Constraints on the formation of anhydrite at L Vent, East Pacific Rise 9-10°N from Sr isotopes, Sr concentrations, and 210Pb ages: **H ZHOU**, H Yao, X Peng

1340h **OS13A-1187 POSTER** Effects of Periodic Replenishment, Initial Magma Sill Thickness, and Bulk Composition on Heat Transfer from Magma Chambers: **L Liu**, R P Lowell

1340h **OS13A-1188 POSTER** On the Contribution of Crystal Fractionation to Axial Depth Along the East Pacific Rise: **D T Durant**, D R Toomey, P J Wallace

1340h **OS13A-1189 POSTER** EVIDENCE IN THE OMAN OPHIOLITE SUPPORTING AN UNCONVENTIONAL MODEL OF SEAWATER CIRCULATION AT OCEAN RIDGES: L M Cathles, **A J Nicolas**

1340h **OS13A-1190 POSTER** Models for Near-Ridge Seamounts Constrained by Gravity Observations: **M Kostlan**, J S McClain

1340h **OS13A-1191 POSTER** Preliminary report on MR08-06 Leg1 Marine Geological and Geophysical Research: A complete trans-Pacific Cruise: **N Abe**

1340h **OS13A-1192 POSTER** Mineralogy, petrology and geochemistry of basalts from 49.6°E hydrothermal field, Southwest Indian Ridge: **X Han**, Y Wang, Y Dong

1340h **T51A-1491 POSTER** Transient cracks and triple junctions induced by Cocos-Nazca propagating rift: H Schouten, **D K Smith**, W Zhu, L G Montesi, G A Mitchell, J R Cann

1340h **T51A-1489 POSTER** The Galapagos Microplate Revealed: **D K Smith**, H Schouten, J R Cann, W Zhu, L G Montesi, G A Mitchell

OS13B Moscone West: 3003 Monday 1340h
Advances in Ocean Sciences Using Airborne and Spaceborne Lidars (*joint with A, GC, PA*)

Presiding: **J H Churnside**, NOAA Earth System Research Laboratory; **R A Arnone**, **Y Hu**, NASA LaRC; **S Bougan Petroy**, Ball Aerospace

1345h **OS13B-01** An Overview of Ocean Lidar Studies At NRL Stennis, NOAA ESRL and NASA LaRC (*Invited*): **Y Hu**, R A Arnone, J H Churnside

1359h **OS13B-02** Space-based Laser Remote Sensing of the Oceans (*Invited*): **C S Weimer**, M Stephens, E Saiki

1413h **OS13B-03** 36 Years of Remote Oceanographic Laser Fluorosensing: Findings, Challenges and Pathways to Explore: **A M Chekalyuk**

1425h **OS13B-04** Active-Passive Data Fusion Strategy for the Coastal Zone Mapping and Imaging Lidar (CZMIL) (*Invited*): **G H Tuell**

1439h **OS13B-05** Tracking the Progression of a Diatom Bloom with Airborne Lidar: **J H Churnside**, P L Donaghay, J E Rines, J M Sullivan, M McFarland, R Marchbanks, A Weidemann

1451h **OS13B-06** An accurate yet efficient semianalytic ocean color model based on multi-angle polarimetry: **P Zhai**, Y Hu, C R Trepte, P Lucker, D B Josset

1503h **OS13B-07** Aerosol optical depth direct retrieval using the A-Train: a perspective for ocean color atmospheric correction and ocean ecosystem: **D Josset**, Y Hu, J Pelon, C R Trepte, P Zhai, A H Omar

1515h **OS13B-08** Using CALIPSO's ocean surface lidar return signal and AMSR-E wind fields to determine oceanic aerosol type distributions: **A H Omar**, Y Hu, M Vaughan, Z Liu, C R Trepte, D M Winker, D B Josset

1527h **OS13B-09** An assessment of ocean-aerosol-cloud-climate interaction using CALIPSO ocean surface and sub-surface lidar backscatter measurements: **Y Hu**, S D Rodier, D B Josset, P Zhai, A H Omar, K A Powell, M Vaughan, C R Trepte, D Winker

Planetary Sciences

P13B Moscone South: Poster Hall Monday 1340h
Mars Radar Investigations: Observations, Supporting Theoretical, Field, and Lab Work, and Future Opportunities II Posters

Presiding: **E Heggy**, Institut de Physique du Globe de Paris

1340h **P13B-1272 POSTER** PROC: a new Planetary Radars Operating Centre: **C Catallo**, G Alberti, E Flamini, A Olivieri, R Orosei

1340h **P13B-1273 POSTER** Martian surface radar reflectivity from MARSIS soundings: **A Pommerol**, J Mougnot, W W Kofman, A Safaenili, J J Plaut, C Grima, A Herique, P Beck

1340h **P13B-1274 POSTER** Submillimeter Wave Sounder for the Japanese Mars Mission (MELOS): **T Kuroda**, Y Kasai, H Sagawa, P Hartogh, D P Murtagh, T Manabe, J Mendrok, T Nishibori, S Ochiai, Y Aoyama

1340h **P13B-1275 POSTER** Dual-Frequency Bistatic Radar Probing of Mars: Potential and Pitfalls for Depth Sounding at Centimeter Wavelengths: **R A Simpson**, G L Tyler, M Paetzold, B Haeusler, S W Asmar

1340h **P13B-1276 POSTER** SHARAD Penetrates Only the Youngest Geological Units on Mars: **D Stillman**, R E Grimm

1340h **P13B-1277 POSTER** Pedestal crater deposits as seen by SHARAD: **D C Nunes**, B Fisher, S E Smrekar, J J Plaut, J W Holt, R J Phillips, R Seu, J W Head

1340h **P13B-1278 POSTER** New Insights into the Spiral Troughs of the Northern Polar Layered Deposits, Mars from SHARAD Observations: **I Smith**, J W Holt, R J Phillips

1340h **P13B-1279 POSTER** The NetStation GPR: Lander-Based 3-D Investigations of Subsurface Structure, Stratigraphy, and Volatile Distribution in Planetary Environments: **S M Clifford**, V Ciarletti, D Plettemeier, C Corbel, M Biancheri-Astier

1340h **P13B-1280 POSTER** Shallow Radar Soundings of the Southern Highlands of Mars: **N E Putzig**, R J Phillips, J J Plaut, M T Mellon, J W Head, B A Campbell, L M Carter, A Egan, R Seu

1340h **P13B-1281 POSTER** Estimation of the theoretical MARSIS aquifer detection depth based on observed penetration through the Polar Layered Deposits and Medusae Fossae Formation: **O L White**, E Stofan

1340h **P13B-1282 POSTER** Radar Sounding of Temperate Permafrost (Fairbanks, AK): Study of Dielectric and Scattering Losses in Mars-Analog Environment: **J Boisson**, E Heggy, S M Clifford, A Anglade, K Yoshikawa

1340h **P13B-1283 POSTER** 3D characterization of the surface by a bistatic HF GPR operating from the surface: **M Biancheri-Astier**, V Ciarletti, A Reineix, S M Clifford, C Corbel, Y Simon

P13C Moscone South: 309 Monday 1340h
A Detailed Look at Alteration Processes on Mars II (*joint with EP, V*)

Presiding: **J L Bandfield**; **M D Kraft**, Arizona State University

1340h **P13C-01** Redox on Early Mars and the Origin of Surface Acidity: **J A Hurowitz**, W W Fischer, R Milliken, N J Tosca

1355h **P13C-02** The Origin and Fate of Clay Minerals on Mars: **R Milliken**, D L Bish, J A Hurowitz, W W Fischer

1410h **P13C-03** Experimental Inhibition of Carbonate Mineral Precipitation by Sulfur Dioxide: Implications for Early Mars: **I Halevy**, D P Schrag

1425h **P13C-04** Sulfur in Hydrothermal Deposits at Gusev Crater, Mars: **A S Yen**, B C Clark, R Gellert, R V Morris, R E Arvidson

1440h **P13C-05** Hydrothermal Alteration Constrained by Mineral Assemblages on Mars: Evidence from Craters Near Syrtis Major: **J F Mustard**, B L Ehlmann, S L Murchie

1455h **P13C-06** Evaluating the role of alteration processes on the spectral diversity of Iapygia Terra, Mars: **D Rogers**

1510h **P13C-07** Acid Alteration of Glass-Bearing Materials: Formation of a Major Martian Surface Type: **B Horgan**, J F Bell

1525h **P13C-08** Martian Weathering Environments of the Amazonian Indicated by Correlated Morphologic and Spectral Observation in Acidalia Planitia: **M D Kraft**, D Rogers, R L Fergason, J R Michalski, T G Sharp

P13D Moscone South: 307 Monday 1340h
Planetary Plasma Interactions and Atmospheric Escape II
(joint with A, SM)

Presiding: **D A Brain**, UC Berkeley Space Sciences Lab; **Y Ma**, IGPP, UCLA

1340h **P13D-01** ATMOSPHERIC SPUTTERING MODEL IN THE MARTIAN, VENUS AND TITAN ENVIRONMENTS: **G Rinaldi**, A Mura, A Milillo, S Orsini, V Mangano

1355h **P13D-02** Solar Wind Ablation of Terrestrial Planet Atmospheres (*Invited*): **T E Moore**, M H Fok, D C Delcourt

1415h **P13D-03** The Plasma Environments of Venus, Mars, and Titan: Implications for Atmospheric Escape (*Invited*): **T E Cravens**

1435h **P13D-04** Plasma-induced Escape and Alterations of Planetary Atmospheres: **R E Johnson**, O J Tucker, J Ewring, T A Cassidy, F Leblanc

1455h **P13D-05** The general circulation of Titan and the topside escape rates of N₂, CH₄, and H₂: **J M Bell**, J H Waite, B A Magee, D Gell, J H Westlake, K E Mandt

1510h **P13D-06** Ion Loss from Titan's Atmosphere versus Local Time: A two-fluid MHD Study: **Y Ma**, C T Russell, A F Nagy, G Toth, M K Dougherty, T E Cravens, A Wellbrock, A J Coates, P Garnier, J Wahlund, F J Crary

1525h **P13D-07** 3D Multi-fluid Model of the Coupled Ion and Neutral Interaction between Titan's Ionosphere and Saturn's Magnetosphere: **D S Snowden**, R Winglee

Paleoceanography and Paleoclimatology

PP13A Moscone South: Poster Hall Monday 1340h
Late Pleistocene Variability in Ventilation of Deep and Intermediate Water Masses III Posters

Presiding: **F Mekik**, Grand Valley State University; **R F Anderson**, Lamont-Doherty Earth Observatory

1340h **PP13A-1361 POSTER** An Improved Method for Estimating Water-Mass Ventilation Age from Radiocarbon Measurements: **T J DeVries**, F W Primeau

1340h **PP13A-1362 POSTER** Brine formation in the Nordic seas: Stable isotope signals in foraminifera from Holocene and glacial sediments: **T L Rasmussen**, E Thomsen

1340h **PP13A-1363 POSTER** Wavelet spectra analysis of magnetic proxies from the core MD052928: **Y Huang**, T Lee, S Hsu

1340h **PP13A-1364 POSTER** Interpreting Nd isotope and ²³¹Pa/²³⁰Th records in the deep Western North Atlantic: **N L Roberts**, A M Piotrowski, J F McManus, L D Keigwin

1340h **PP13A-1365 POSTER** Nd and Pb isotope evolution of the Indian Ocean during Termination 1: **D J Wilson**, A M Piotrowski, A Galy

1340h **PP13A-1366 POSTER** Changes in Holocene to LGM water mass stratification near Southern Africa inferred from Nd isotopes: **K M Jones**, S L Goldstein, S R Hemming, I R Hall, R Zahn

1340h **PP13A-1367 POSTER** Deglacial Neodymium Isotopic Ratios in the Florida Straits and the Response of Intermediate Waters to Reduced Meridional Overturning Circulation: **F Marcantonio**, M W Schmidt, A Franklin, J M Lynch-Stieglitz

1340h **PP13A-1368 POSTER** Dependence between Ventilation and Climate as recorded with Biomarkers over the last 420,000 years in the Guianas Region (North-western Amazon Basin): **O Rama**, G Lopez-Otálvaro, B Martrat, J Flores, F J Sierro, J O Grimalt

1340h **PP13A-1369 POSTER** Variability in North Atlantic Bottom Water nutrients and carbonate ion during the last 467,000 years BP: **H Rashid**, T Marchitto, E A Boyle, M E Smith

1340h **PP13A-1370 POSTER** A $\delta^{13}\text{C}$ -based estimate of glacial changes in Pacific Deep Water ventilation: **L E Lisiecki**

1340h **PP13A-1371 POSTER** MARINE ISOTOPE STAGE 11 IN THE SOUTH ATLANTIC: COMPARISON WITH ICE RECORDS: **N Vazquez Riveiros**, C Waelbroeck, L Skinner, E Michel

1340h **PP13A-1372 POSTER** Restructuring of surface and deep water exchange in the South Atlantic and Pacific Oceans during Glacials: **P W Loubere**, M Fariduddin

1340h **PP13A-1373 POSTER** Subduction rates in the South Atlantic Ocean for different climatic periods: **I Wainer**, M P Goes, P R Gent, F Bryan, E C Brady, B L Otto-Bliesner

1340h **PP13A-1374 POSTER** ²³¹Pa/²³⁰Th in the Argentine Basin: Faster flow of Antarctic Intermediate water during the last glacial?: **B J Hickey**, G M Henderson, A L Thomas, J Rae, S Mulitza, C Chiessi

1340h **PP13A-1375 POSTER** Downslope transport does not explain higher ²³⁰Th inventories in the Panama Basin: **A K Singh**, F Marcantonio, M W Lyle

1340h **PP13A-1376 POSTER** THE CD ISOTOPE SIGNATURE OF THE SOUTHERN OCEAN: **W Abouchami**, S J Galer, R Middag, H de Baar, M O Andreae, H Feldmann, I Raczek

1340h **PP13A-1377 POSTER** Mercury Stable Isotopic Variations in the Central Arctic Ocean - 100 kyr to the Present: **J D Gleason**, J D Blum, T C Moore, M Jakobsson

1340h **PP13A-1378 POSTER** Cenozoic evolution of the boron isotopic composition of seawater: **M S Raitzsch**, B Hoenisch

1340h **PP13A-1379 POSTER** The B/Ca proxy for deep-water carbonate ion concentration: A new species-specific calibration for *Nuttallides umbonifera*: **RE Brown**, L D Anderson, E Thomas, J C Zachos

1340h **PP13A-1380 POSTER** Deep Pacific carbonate ion concentration and CaCO₃ compensation since the last ice age: **W C Doss**, T Marchitto

1340h **PP13A-1381 POSTER** Trends in glacial and interglacial intermediate and deep ocean sedimentary CaCO₃ records over the last 150,000 years: **B Hoogakker**, H Elderfield, A Ridgwell

1340h **PP13A-1382 POSTER** Mixed Messages from Multiple Proxies: Is There a Deglacial Carbonate Preservation Peak?: **M A Wicker**, F Mekik, R F Anderson

1340h **PP13A-1383 POSTER** Oxygen and hydrogen isotopic composition of the Bering Sea during the Last Glacial Maximum: constraints from pore water analyses: **A Ijiri**, Y Kawada, A Hirota, U Tsunogai, F Nakagawa, N Harada, T Sakamoto

1340h **PP13A-1384 POSTER** Intermediate Water formation in the Bering Sea during glacial periods: Evidence from neodymium isotope ratios: **K Horikawa**, Y Asahara, K Yamamoto, Y Okazaki

1340h **PP13A-1385 POSTER** Changes in Deep Water Circulation in the Pacific during and after the Miocene carbonate crash based on Nd isotopes: **D Newkirk**, E E Martin

1340h **PP13A-1386 POSTER** Evolution of Seawater Nd and Hf Isotope in the South China Sea over the last 30 Ma from Fe-Mn oxyhydroxide: **C Chen**, C You, K Huang, B Wang, H Liu

1340h **PP13A-1387 POSTER** Eastern Guaymas Basin: laminated but not anoxic: **H Cheshire**, J W Thurow

PP13B Moscone South: Poster Hall Monday 1340h
New Approaches to Cenozoic Terrestrial Ecosystem and Climate Reconstructions III Posters (*joint with GC*)

Presiding: **M T Hren**, Yale University; **J E Nichols**, Brown University; **S P Harrison**; **B J Tipple**, University of Utah

1340h **PP13B-1388 POSTER** Paleoclimate from Tree Rings of *Picea morrisonicola* in Ta-Ta-Chia Area of Central Taiwan: **T Chen**, W E Wright, K Wei, E R Cook

1340h **PP13B-1389 POSTER** Stable isotopic and chemical indicators of volcanic eruptions in tree rings from Paricutin, Mexico: **C France**, P R Sheppard, N Jimenez Cano, R J Speakman

1340h **PP13B-1390 POSTER** Coupled Climate Model Simulations of a Late Cretaceous (Maastrichtian) Greenhouse Climate: Comparison with Proxy Data: **G R Upchurch**, J T Kiehl, C A Shields, C Scotese

1340h **PP13B-1391 POSTER** Organic Proxies of the Lacustrine Sediments from Central Taiwan Evidence the Late Holocene Climatic and Environmental Change: E Yu, **Y Hsu**, T Lee, P Liew

1340h **PP13B-1392 POSTER** Concentration And $\delta^{13}\text{C}$ Values Of Occluded CO_2 In Coexisting Gibbsite And Goethite Of A Cenomanian Paleosol: W FENG, C J Yapp

1340h **PP13B-1393 POSTER** Climate Proxy Signals in the Plio-Pleistocene Chemeron and Miocene Lukeino Formations, Baringo Basin, Kenya: **A L Deino**, J Kingston, A Hill, K E Wilson, R Edgar, E Goble

1340h **PP13B-1394 POSTER** Effect of temperature and precipitation on C3/C4 plants evolutions since late Quaternary in the East Asian Monsoon Area: Evidence from carbon isotopes of alkanes and elemental carbon: **B Zhou**, H Zheng, C Shen, G Wei, L Li

1340h **PP13B-1395 POSTER** When did C_4 Photosynthesis originate: New evidence from $\delta^{13}\text{C}$ analysis of single grass-pollen grains: M A Urban, D M Nelson, A Pearson, F Hu

1340h **PP13B-1396 POSTER** Environmental changes in Southwest Africa during the Miocene C_4 plant expansion: **L M Dupont**, F Rommerskirchen, T Condon, G Mollenhauer, E Schefuss

1340h **PP13B-1397 POSTER** Influence of dynamic vegetation change to climate and carbon storage in the Last glacial maximum and mid-Holocene using a GCM with dynamical vegetation based on LPJ-MIROC: **R O'ishi**, A Abe-Ouchi

1340h **PP13B-1398 POSTER** Rapidly strengthening East Asian summer monsoon during the Younger Dryas period: **B Hong**, Q Lin, Y Zhu, Y Wang, Y Liu, Y Hong

1340h **PP13B-1399 POSTER** Compound Specific δD Values Across a Tropical Precipitation Gradient: Implications for Low-latitude Paleoclimate Reconstructions: P M Douglas, M Pagani, M Brenner, J H Curtis, D A Hodell

1340h **PP13B-1400 POSTER** Vertical variation of $\delta^{13}\text{C}$ of sphagnum in the four peat cores collected from both the hemispheres: S Ooki, T Akagi, L Franzen, R McCulloch, G D Skrzypek

1340h **PP13B-1401 POSTER** Precipitation isotope ($\delta^{18}\text{O}$) gradients depict modern atmospheric circulation over the conterminous United States: Z Liu, G J Bowen, J M Welker

1340h **PP13B-1402 POSTER** Radiocarbon constraints on fossil rhinolite tufa formation in the Mono Basin, CA, USA: **S L LeRoy**, S R Zimmerman, S R Hemming, S Stine, T P Guilderson

1340h **PP13B-1403 POSTER** Aquatic Macrophytes Inputs of Middle Chain Length *n*-alkyl Lipids into Lake Sediments: a Linear Algebra Approach: **L Gao**, Y Huang

1340h **PP13B-1404 WITHDRAWN**

1340h **PP13B-1405 POSTER** Paleosols from Paleogene Volcanic Provinces in the North Atlantic as Terrestrial Monitors of Global Climate Trends and Aberrations: **M S Riishuus**, D K Bird

1340h **PP13B-1406 WITHDRAWN**

1340h **PP13B-1407 POSTER** Biology's role in long-term CO_2 sequestration: Questions raised by some process studies: **C K Keller**, Z Balogh-Brunstad

1340h **PP13B-1408 POSTER** High Resolution Photoabsorption Cross-Sections of Isotopologues of SO_2 : **D Blackie**, G Stark, J R Lyons, J C Pickering, P L Smith, A Thorne

1340h **PP13B-1409 POSTER** Holocene precipitation seasonality captured by a dual isotope approach at Steel Lake, Minnesota: **D M Nelson**, A Henderson, F Hu, Y Huang, B N Shuman, J W Williams

1340h **PP13B-1410 POSTER** Environmental controls on the distribution of branched GDGTs in soils: Implications for paleoenvironmental reconstruction: **S S Dirghangi**, M T Hren, B J Tipple, M Pagani

1340h **PP13B-1411 POSTER** Response of the European Vegetation to the Global Climatic Changes during the Neogene: **S Popescu**, G Jimenez-Moreno, J Suc, M Rabineau

1340h **PP13B-1412 POSTER** Using an Isotope enabled coupled atmosphere-ocean model to understand variations in isotope records from peatlands: **J E Nichols**, A N LeGrande, S Lewis, R K Booth, G A Schmidt, D M Peteet, Y Huang

1340h **PP13B-1413 POSTER** Stable isotope record of Holocene climate and ecological change from brine shrimp cyst chitin for the Great Salt Lake, UT: **K E Nielson**, G J Bowen

1340h **PP13B-1414 POSTER** An attempt to extract climatic factors from $\delta^{13}\text{C}$ record of sphagnum peat cores in both the hemispheres: T Akagi, S Ooki, L Franzen, R McCulloch

PP13C Moscone South: Poster Hall Monday 1340h
Paleoclimate Records of North Pacific Climate Variability: Ocean-Atmosphere Interactions II Posters (*joint with OS*)

Presiding: **D A Fisher**, GSC NRCAN; **A Dallimore**, Royal Roads University

1340h **PP13C-1415 POSTER** THE TROPICAL CONNECTION BETWEEN THE ATLANTIC SECTOR ICE CORES AND THE NORTH PACIFIC MT LOGAN ICE CORE: **D A Fisher**

1340h **PP13C-1416 POSTER** The Influence of Aleutian Low Intensity on Trans-Pacific Lead Pollution Transport as Recorded in Two Saint Elias Ice Cores: **E C Osterberg**, K J Kreutz, P A Mayewski, D A Fisher, C P Wake, M Handley

1340h **PP13C-1417 POSTER** Ice Layers as an Indicator of Summer Warmth and Atmospheric Blocking in Alaska: **E P Kelsey**, C P Wake, K J Kreutz, E C Osterberg

1340h **PP13C-1418 POSTER** Accumulation Reconstruction from a 270 Year Ice Core Retrieved from the Gorshkov Crater Glacier, Ushkovsky Ice Cap, Kamchatka: R Greve, **T Sato**, T Shiraiwa, T Zwinger, H Seddik

1340h **PP13C-1419 WITHDRAWN**

1340h **PP13C-1420 POSTER** Constraining the timing of proglacial Lake Missoula outburst floods into the Northeast Pacific: Insights from Cascadia Basin sediments: **E Khadun**, A Shevenell, T P Guilderson, S L Hautala, L Thompson, I L Hendy

1340h **PP13C-1421 POSTER** Investigating a transect of anoxic waters in the Santa Barbara Basin during the past 15 ka: **S Myhre**, T M Hill, J Kennett, R J Behl, K Ohkushi

1340h **PP13C-1422 POSTER** Reconstruction of cyclical and abrupt changes in northeastern Pacific precipitation during the Late Holocene based on marine sediments preserved in Effingham Inlet, British Columbia: **A Dallimore**, R Thomson, R J Enkin

1340h **PP13C-1423 POSTER** A ~276 years cyclicity of western Pacific coastal upwelling during Late Pleistocene (Termination I) and Holocene as revealed by the microscale facies and elemental analysis of the varved record of Saanich Inlet, BC: **K Kanamaru-Shinn**, P Francus, M J Jercinovic

1340h **PP13C-1424 POSTER** Developing a biomarker-based proxy of sea ice extent and duration in the Bering and Chukchi Seas: **C J Sharko**, B Caissie, S Petsch, J Brigham-Grette, G G Masse

1340h **PP13C-1425 POSTER** Biomarker reconstruction of phytoplankton productivity and community structure changes in the Japan Sea over the last 166 ka: **L Xing**, R Zhang, Y Liu, H Zhang, X Shi, M Zhao

1340h **PP13C-1426 POSTER** Intrusion of the Kuroshio Current to the Okinawa Trough during 40-100 thousand years before present?: **Y Chen**, Y Chang, M Chen, L Lo, K Wei, C Shen

1340h **PP13C-1427 POSTER** Orbital-scale stratigraphy and paleoenvironmental changes in the Japan Sea during the last 230 kyr based on oxygen and carbon isotopes of benthic foraminifera: **K Nakahashi**, K Kimoto, R Tada, K Tamaki

1340h **PP13C-1428 POSTER** Last glacial climate instability documented by coarse-grained sediments within the loess sequence, at Fanjiaping, Lanzhou, China: **H Jiang**, P Wang, J Thompson, Z Ding, Y Lu

PP13D Moscone South: Poster Hall Monday 1340h
The Heat Is On: Past, Present, and Future Climate Change in the Indo-Pacific Warm Pool II Posters (*joint with GC*)

Presiding: **C Chazen**, Brown University; **J E Tierney**, Brown University

1340h **PP13D-1429 POSTER** A decadal-resolution stalagmite record of Asian summer monsoon during 28-30 thousand years in Northwestern Vietnam: **D C Nguyen**, Y Chen, C Shen, Y Lin, H Chiang, L D Doan

1340h **PP13D-1430 POSTER** An absolute-dated and high-resolution Indian Monsoon record over the past 245 kyr from Xiaobailong Cave, southwest China: Y Cai, **Z An**, H Cheng, R Edwards, L Tan, C Shen

1340h **PP13D-1431 POSTER** Reconstructing Paleo-Rainfall in the Western Tropical Pacific: Developing Speleothem Proxies: **J W Partin**, J Banner, J W Jenson, F W Taylor, T M Quinn, C Shen, C R Maupin, D J Sinclair, M B Cardenas, J E Mylroie

1340h **PP13D-1432 POSTER** Potential for the slow growing coral *Diploastrea heliopora* to yield multi-century Western Pacific Warm Pool climate records: **C R Maupin**, T M Quinn, F W Taylor

1340h **PP13D-1433 POSTER** Independent SST and SSS reconstructions from coral skeleton, by using Neural Network: **A Juillet-Leclerc**

1340h **PP13D-1434 POSTER** Inter- and intrannual variability in the production of planktonic foraminifera: implications for ENSO reconstruction based on the oxygen isotope distribution of individuals: **D Khider**, L D Stott, R Thunell

1340h **PP13D-1435 POSTER** Paleolimnological records of decade-to century-scale rainfall variability in East Java, Indonesia during the past millennium: **J R Rodysill**, J M Russell, S Bijaksana, E T Brown, C Bousquet, L Safiuddin

1340h **PP13D-1436 POSTER** The Indonesian Throughflow: Oceanographic responses to Holocene changes in the mean Pacific state: **A W Jacobel**, D Oppo, T I Eglinton, F T Gibbons, D Montlucon, Y Rosenthal, B K Linsley

1340h **PP13D-1437 POSTER** Coherent Response of Deglaciation in the tropical Indian Ocean and the Northern Hemisphere Solar Insolation Changes: **D N Pothuri**

1340h **PP13D-1438 WITHDRAWN**

1340h **PP13D-1439 POSTER** Upper Ocean Variability in the Indo-Pacific Warm Pool during the Late Holocene, Early Holocene and Last Glacial Maximum: **J Xu**, W Kuhnt, A E Holbourn, N Andersen

1340h **PP13D-1440 POSTER** Biogenic and terrestrial sediment records of the last two glacial cycles from offshore southeastern Papua New Guinea: **L Shiau**, C Huh, S C Clemens, M Yamamoto, Y Liao, Y Yokoyama, M Chen

1340h **PP13D-1441 POSTER** Paleotemperature variation in the South China Sea and the displacement of the Intertropical Convergence Zone during the last 30 kyrs: **M Yamamoto**, T Shintani, H Sai, M Chen

1340h **PP13D-1442 POSTER** TEX86 and UK37' paleotemperature records from the southern South China Sea during the last two glacial cycles: **H Sai**, M Yamamoto, M Chen

1340h **PP13D-1443 POSTER** Organic biomarker records of terrigenous organic matter input to the Indonesian Archipelago, western equatorial Pacific, 0-160,000 years BP: Implications for regional climate: **K A Hastings**, M Kienast, N Dubois, C Normandeau, T Bolliet, A E Holbourn, C E Laj

1340h **PP13D-1444 POSTER** Benthic and planktonic $\delta^{18}\text{O}$ from the northern South China Sea: Implications for East Asian Monsoon seasonality and the marine $\delta^{18}\text{O}$ chronology: R P Caballero Gill, S C Clemens

1340h **PP13D-1445 POSTER** Characterising the Pliocene Equatorial Warm Pool from Individual Foraminifera: **R E Rickaby**, N Scroton, M Hermoso, F Minoletti

1340h **PP13D-1446 POSTER** Evolution of nutricline dynamics in the equatorial Pacific during the late Pliocene: **C T Bolton**, S Gibbs, P Wilson

1340h **PP13D-1447 POSTER** The formation of a permanent temperature SST gradient at the Plio-Pleistocene boundary: Highlights from the Western Pacific Warm Pool periphery area: **L Lo**, K Wei, C Shen, M Lee, H Mii, H Ke, C Chuang, C Chen

1340h **PP13D-1448 POSTER** Explaining a perpetual Pliocene El Niño with enhanced MJO-like momentum forcing: **N Arnold**, E Tziperman

1340h **PP13D-1449 POSTER** Evolution of Mediterranean sea surface temperature: Evidence for an intensification of European glaciation at the Pliocene-Pleistocene boundary?: **T Herbert**, G Ng, L C Cleaveland

1340h **PP13D-1450 POSTER** Temperature Gradient Reconstructions from the Eastern Equatorial Pacific Cold Tongue: **H L Ford**, C Ravelo, S A Hovan

1340h **PP13D-1451 POSTER** Glacial-interglacial sea-surface temperature (SST) variability in the eastern tropical Pacific: spatial patterns from the late Pleistocene to present: **K Dyck**, C Ravelo

PP13E Moscone West: 2004 Monday 1340h
Deep and Surface Water Coral Archives of Oceanographic Change II (*joint with B, GC, OS*)

Presiding: **E Roark**, Texas A&M University; **T M Hill**, UC Davis

1340h **PP13E-01** ^{13}C Suess effect in scleractinian corals mirror changes in the anthropogenic CO_2 inventory of the surface oceans: **P K Swart**, L Greer, B E Rosenheim, C S Moses, A Winter, R E Dodge, K P Helmle

1355h **PP13E-02** Trace metal incorporation and diagenesis in deep-sea scleractinian corals: implications for dating and climate reconstructions (*Invited*): **L F Robinson**, M E Auro, J F McManus

1410h **PP13E-03** Age Determination and Growth Rates in Deep-Water Bamboo Corals (Isididae): **S J Fallon**, R Thresher, O Sherwood

1425h **PP13E-04** Bamboo coral skeletal Sr/Ca: An indicator of growth rate or other vital effects?: **T M Hill**, M LaVigne, H J Spero, T P Guilderson

1440h **PP13E-05** Nutrient and carbonate ion proxy calibrations in the deep sea coral *D. dianthus* (*Invited*): **E Anagnostou**, M LaVigne, A C Gagnon, J F Adkins, W F McDonough, R M Sherrell

1455h **PP13E-06** Nd isotopes in deep-sea corals in the Northeastern Atlantic: **K Copard**, C Colin, A Freiwald, E Douville, G Gudmundsson, B De Mol, N Frank

1510h **PP13E-07** Paleoenvironmental reconstruction of deep-water carbonate mound initiation in the Porcupine Seabight, NE Atlantic: **J Raddatz**, A Rüggeberg, V Liebetrau, S Margreth, A Eisenhauer, C Dullo

1525h **PP13E-08** Survivor or opportunist? Oxygen isotope records from *Stylaster miniata* in the Florida Straits: **B E Rosenheim**, J F Adamic, J K Reed, A D Rosenberg, M Grasmueck, P K Swart, G P Eberli, T S Correa

PP13F Moscone West: 2002 Monday 1340h
Global Lake Drilling in the 21st Century: The Emergence of Long Continental Paleoenvironmental Records II (*joint with OS*)

Presiding: **D Ariztegui**, University of Geneva; **J Brigham-Grette**, University of Massachusetts; **B Zolitschka**, GEOPOLAR, Institute of Geography

1340h **PP13F-01** Lake Suigetsu 2006 varved sediment project - towards a purely terrestrial radiocarbon calibration model (*Invited*): **T Nakagawa**, C Bronk-Ramsey, C Bryant, R Staff, F Brock, H Lamb, A Brauer, M Marshall, G Schlögl, Y Yokoyama, P Tarasov, R L Payne, E J Pearson, T Haraguchi, H Yonenobu, R Tada, J J Tyler, K Gotanda, A Kossler, D Demske, K Takemura

1355h **PP13F-02** Paleotemperature reconstruction in Lake Biwa, central Japan, during the last 50,000 years: **T Ajioka**, M Yamamoto, T Okino, K Takemura, A Hayashida

1405h **PP13F-03** Unraveling the climatic causes of past lake level change using lake energy and water balance models: **C Morrill**, Y Li

1415h **PP13F-04** Deep Drilling 2009 at Lake El'gygytyn, NE Russia: Success and Recovery of a Continuous 3.6 Myr Arctic Paleoclimate Record: **J Brigham-Grette**, M Melles, P Minyuk, C Koeberl

1425h **PP13F-05** The Impact of Mass Movement Events on the Pelagic Sediment Record in Lake El'gygytyn, NE Russia: **M Melles**, O Juschus, V Wennrich, J Brigham-Grette, C Gebhardt

1435h **PP13F-06** Deep lakes in the Polar Urals - unique archives for reconstructing the Quaternary climate and glacial history in the Russian Arctic: **J Svendsen**, R Gyllencreutz, M Henriksen, O S Lohne, J Mangerud, D Nazarov

1445h **PP13F-07** Monsoon variability of the East Asian mainland during the last glacial/interglacial cycle as recorded from varved lake sediments (*Invited*): **J Mingram**, M Stebich, G Schettler, J Han, G Chu, P Rioual, Q Liu, P Dulski, N Nowaczyk, U Frank, A Lücke, H You, A Spangenberg, J Liu, A Brauer

1500h **PP13F-08** Completion and Preliminary Achievements of Chinese Cretaceous Continental Scientific Drilling Project- SK-1: **C Wang**

1510h **PP13F-09** Arctic Environmental Change Recorded In Lake Sediments from Baffin Island, Canada: The Past Century Compared With the Past 200,000 Years: **Y Axford**, J P Briner, C A Cooke, D R Francis, N Michelutti, G H Miller, J P Smol, E K Thomas, C R Wilson, A P Wolfe

1520h **PP13F-10** Distribution of lacustrine Crenarchaeota in Lake Superior: implications for the application of the TEX86 temperature proxy: **M L Woltering**, J P Werne, R Hicks, J Kish, R Oster, S Schouten, J S Sinninghe Damsté

1530h **PP13F-11** Mid-Pleistocene Orbital and Millennial Scale Climate Change in a 200 ky lacustrine sediment core from SW North America: **P J Fawcett**, J P Werne, R S Anderson, J M Heikoop, E T Brown, M A Berke, S Smith, F E Goff, L L Hurley, L M Cisneros Dozal, S Schouten, J S Sinninghe Damsté, Y Huang, J L Toney, J E Fessenden, G W WoldeGabriel, J W Geissman, C D Allen

PP13G Moscone West: 2008 Monday 1340h
Reconstruction and Modeling of the Transient Climate Evolution of the Past 21,000 Years II

Presiding: **P J Bartlein**, University of Oregon; **Z Liu**, University of Wisconsin-Madison

1340h **PP13G-01** The terrestrial paleoclimatic record of climate-system reorganization over the past 21,000 years (*Invited*): **P J Bartlein**

1355h **PP13G-02** Elucidating mechanisms of orbitally forced Southern Hemispheric climate change with an earth system model (*Invited*): **A Timmermann**, O Elison Timm, A Abe-Ouchi

1410h **PP13G-03** The hydrologic and thermal evolution of tropical Africa since 21 kyr BP: Recent progress and synthesis: **J M Russell**, T C Johnson, Y Huang, J P Werne, J T Overpeck, Z Liu, B L Otto-Bliesner

1425h **PP13G-04** A global perspective on deglacial climate change: **J D Shakun**, A E Carlson

1440h **PP13G-05** Termination I in Brazilian speleothems: **X Wang**, R Edwards, A Auler, X Kong, F da Cruz, H Cheng, Y Wang, W S Broecker

1455h **PP13G-06** A multi-proxy, high resolution record of the Younger Dryas in Cariaco Basin: **K Gibson**, L C Peterson, L N Yurco

1510h **PP13G-07** The Role of Dust in Abrupt Glacial Climate Transitions: **B Farrell**, D S Abbot

1525h **PP13G-08** Sensitivity of ice-atmosphere interactions since the Last Glacial Maximum: **G Gascon**, M J Sharp, A B Bush

SPA - Aeronomy

SA13A Moscone South: Poster Hall Monday 1340h **Ionospheric Modifications and Active Experiments With Radio Waves II Posters** (*joint with SM, AE*)

Presiding: **M Cohen**, Stanford University; **G M Milikh**, University of Maryland

1340h **SA13A-1466 POSTER** A statistical survey of electron temperature enhancements in heater modulated polar mesospheric summer echoes at EISCAT: **G Routledge**, **M Kosch**, A Senior, A J Kavanagh, I McCrea, M T Rietveld

1340h **SA13A-1467 POSTER** ELF/VLF Wave Generation with the HAARP Facility: **M Cohen**, U S Inan, M Golkowski, N G Lehtinen, D Piddychiy

1340h **SA13A-1468 POSTER** TEC enhancements during HF ionospheric heating experiments: **C T Fallen**, B J Watkins, J A Secan

1340h **SA13A-1469 POSTER** Scattering of VLF waves on HF-heated D-region disturbances: **N G Lehtinen**, M Cohen, U S Inan

1340h **SA13A-1470 POSTER** Studies of Strong Langmuir Turbulence Experiments at HAARP: **J P Sheerin**, N Adham, J M Gerres, M R Keith, A C Wittbrodt, B J Watkins, W A Bristow, P A Bernhardt, C A Selcher, S Oyama

1340h **SA13A-1471 POSTER** SAVNET and Japanese VLF observations of ionospheric disturbances caused by giant recurrent gamma-ray flares on January 2009: **Y Tanaka**, J Raulin, B Fernando, N J Schuch, T Terasawa, M Hayakawa, T Takahashi

1340h **SA13A-1472 POSTER** Occurrence statistics and drifts of daytime 150-km echoes studied using observations from the Equatorial Atmosphere Radar in Indonesia and ionosonde network: **N Mizutani**, Y Otsuka, K Shiokawa, T Yokoyama, M Yamamoto, A K Patra, T Maruyama, M Ishii

1340h **SA13A-1473 POSTER** Nighttime medium-scale traveling ionospheric disturbances propagating northward observed by the SuperDARN Hokkaido HF radar and GEONET: **A Ichihara**, N Nishitani, T Ogawa, T Tsugawa

1340h **SA13A-1474 POSTER** Model of Artificial Ionospheric Ducts due to the HF-heating: **A Vartanyan**, G M Milikh, A G Demekhov, K Papadopoulos, J Huba, G R Joyce

1340h **SA13A-1475 POSTER** Characterizing the Ionosphere at Sub-mesoscale Resolution using NASA's SMAP Mission: **A Freeman**, X Pi

1340h **SA13A-1476 POSTER** Recent Results of DEMETER Satellite Observations of HAARP-generated HF and ELF Waves: **D Piddychiy**, U S Inan, T F Bell, M Cohen, M Parrot

1340h **SA13A-1477 POSTER** SPEAR (Space Plasma Exploration by Active Radar): New Developments and Future Plans: **L J Baddeley**, **K Oksavik**

1340h **SA13A-1478 POSTER** A New Technique for Probing the D-Region Ionosphere above HAARP: **R C Moore**

1340h **SA13A-1479 POSTER** Active Modification of VHF and HF PMSE during the 2009 EISCAT Campaign: **A Mahmoudian**, W Scales, M Kosch, A Singer, M T Rietveld

1340h **SA13A-1480 POSTER** Recent Investigations of Polar Mesospheric Summer Echoes (PMSE) Subject to RF Modification with the MORRO and the EISCAT Radars: **C La Hoz**, O Havnes, M K Bekele

1340h **SA13A-1481 POSTER** Observations and characterization of HAARP induced F-region decameter scale plasma density irregularities using the new imaging capabilities of the Kodiak Island SuperDARN radar: **R T Parris**, W A Bristow

SA13B Moscone South: 301 Monday 1340h **Unsolved Problems in Ionospheric Electrodynamics I** (*joint with SM*)

Presiding: **J C Foster**; **S Sazykin**, Rice University

1340h **SA13B-01** Modeling Ionospheric Electrodynamics (*Invited*): **J D Huba**

1355h **SA13B-02** The Role of Electrodynamics In The Storm-Time Electron Density Response Of The Earth's Ionosphere: **A J Mannucci**, B Tsurutani, O P Verkhoglyadova, A Komjathy

1410h **SA13B-03** Ionospheric response to the initial phase of geomagnetic storms: Dependence on storm onset time: **W Wang**, J Lei, A G Burns, S C Solomon, M J Wiltberger

1425h **SA13B-04** Does the dayside equatorial ionosphere respond to substorm events?: **M C NAIR**, S Maus, H Luhr

1440h **SA13B-05** Variability of storm time electric fields associated with nonlinear interactions in the coupled geospace system (*Invited*): **N Maruyama**, T J Fuller-Rowell, M Codrescu, D N Anderson, A D Richmond, A I Maute, S Sazykin, F Toffoletto, R W Spiro, R Wolf, G H Millward

1455h **SA13B-06** Empirical Models of Equatorial Storm-Time Electric Fields: **B G Fejer**

1510h **SA13B-07** An Absence of Equatorial Scintillation Activity Prior to Large Geomagnetic Storms: **D N Anderson**, R J Redmon

1525h **SA13B-08** Positive Phase Ionospheric Storms at Geophysically-Equivalent Sites: **M Mendillo**, C L Narvaez

SPA - Solar and Heliospheric Physics

SH13A Moscone South: Poster Hall Monday 1340h **Dynamics and Magnetism of the Solar Interior II Posters**

Presiding: **T Rogers**, University of Arizona; **F Hill**, NSO

1340h **SH13A-1506 POSTER** Stellar magnetic fields: observations and nonlinear modeling: **M Lindborg**, M Korpi, I Tuominen, T Hackman, I Ilyin, P Käpylä

1340h **SH13A-1507 POSTER** Time-Distance Helioseismology Data Analysis Pipeline for SDO/HMI: **J Zhao**, S P Couvidat, K Parchevsky, T L Duvall, J G Beck, A C Birch, A G Kosovichev

1340h **SH13A-1508 POSTER** The McClymont Jerk: A driver of solar seismicity: **J C Martinez Oliveros**, H S Hudson, S Krucker

1340h **SH13A-1509 POSTER** A Functional Analytic Approach to Fréchet Traveltime Kernels: **R Schlottmann**, A G Kosovichev

1340h **SH13A-1510 POSTER** The Interaction of Internal Gravity Waves and Magnetic Fields in stellar interiors: **T Rogers**

SH13B Moscone South: Poster Hall Monday 1340h **Solar Wind and Interplanetary Magnetic Field II Posters**

Presiding: **A Roberts**

1340h **SH13B-1511 POSTER** Heliophysics Science: **M Austin**, K Schrijver, G L Siscoe, A Bhattacharjee, D W Longcope, J J Sojka, M Guhathakurta

1340h **SH13B-1512 POSTER** Solar Tutorial and Annotation Resource (STAR): **C Showalter**, R Rex, N E Hurlburt, E J Zita

1340h **SH13B-1513 POSTER** Influence of free parameters on time delay calculations using magnetic field-based methods for solar wind propagation simulation from a single spacecraft: **A V Kulchitsky**

1340h **SH13B-1514 POSTER** Application of a constant-alpha force-free field in a toroid to fit magnetic clouds: **M Vandas**, E Romashets

1340h **SH13B-1515** WITHDRAWN

1340h **SH13B-1516 POSTER** Examining Solar Wind Number Density Structures Observed in SECCHI HI 1: **N M Viall**, H E Spence, A Vourlidas, R A Howard

1340h **SH13B-1517 POSTER** The Relationship between ICMs and Extremely Low Density Events in the Solar Wind: K W Ogilvie, **A Roberts**

1340h **SH13B-1518 POSTER** Simulations of Plasma Expansion: the Role of Kinetic Instabilities: **D Burgess**, E Camporeale

1340h **SH13B-1519 POSTER** Spatial localization of Langmuir waves generated by a suprathermal electron beam propagating in the solar wind: **A Zaslavsky**, A Volokitin, V Krasnoselskikh, M Maksimovic, S Bale

1340h **SH13B-1520 POSTER** Radial evolution of the solar wind speed as one source of alpha to proton ratio variations: **S L McGregor**, W Hughes, J C Kasper, C N Arge

1340h **SH13B-1521 POSTER** Observation of Low-Frequency Waves due to Interstellar Pickup He⁺: C J Joyce, **C W Smith**, P A Isenberg, N Murphy, N A Schwadron

1340h **SH13B-1522 POSTER** Variability of Pickup Ions and Possible Correlations with the Solar Wind from New Horizons/SWAP around 11 AU: **B Randol**, H A Elliott, D J McComas, N A Schwadron

1340h **SH13B-1523 POSTER** MULTI-SPACECRAFT OBSERVATION OF THE HELIOSPHERIC CURRENT SHEET LOCAL STRUCTURE: **D Arrazola Pérez**, J Blanco Ávalos, J Rodríguez-Pacheco, M A Hidalgo, J Medina

1340h **SH13B-1524 POSTER** Observations of Large Amplitude, Monochromatic Whistlers at Stream Interaction Regions: **A W Breneman**, C A Cattell, K Kersten, L B Wilson, P J Kellogg, S Schreiner, K Goetz

1340h **SH13B-1525 POSTER** STEREO observations of mirror mode trains and storms: **O Enriquez-Rivera**, X Blanco-Cano, C T Russell, L Jian, J G Luhmann

1340h **SH13B-1526 POSTER** A comparative statistical study of the occurrence of magnetic holes using VEX and Cluster data: **O A Amariutei**, M Balikhin, T Zhang, S N Walker

1340h **SH13B-1527 POSTER** Microscale properties of Langmuir waves observed by STEREO and CLUSTER inside solar wind magnetic holes: **J Soucek**, C Briand, A Mangeney, S Bale, K Goetz, J S Pickett

1340h **SH13B-1528 POSTER** Magnetic Hole observations in the near earth space: T Xiao, Q Shi, **L Li**, Z Pu, Q Zong, S Fu, T Zhang, L Xie, W Sun, Z Liu, A N Fazakerley, H Reme, E A Lucek

1340h **SH13B-1529 POSTER** Modelling Coulomb Collisions in Anisotropic Plasmas: **P Hellinger**, P M Travnicek

1340h **SH13B-1530 POSTER** Quasi-Thermal Noise in Space Plasma with “Kappa” Distributions : first results: **G Le Chat**, K Issautier, N Meyer-Vernet, Y Zouganelis, M Maksimovic, S Hoang

1340h **SH13B-1531 POSTER** Numerical simulation of surface waves in a stratified magnetoplasma using a Plasma Fluid Finite Difference Time Domain Simulation (PF-FDTD): **T ANDRIYAS**, E A Spencer

1340h **SH13B-1532 POSTER** LFM-helio MHD model and comparisons with Ulysses Fast Latitude Scan data: **D M Pahud**, V G Merkin, W Hughes, J Lyon, S L McGregor

1340h **SH13B-1533 POSTER** Ensemble Modeling of the Inner Heliosphere Using WSA-ENLIL and SWMF Models: **A Taktakishvili**, P J MacNeice, M Hesse

1340h **SH13B-1534 POSTER** The magnetic field at the heliospheric base during solar minimum: **X Zhao**, T Hoeksema

1340h **SH13B-1535 POSTER** Multi-element RIMS Analysis of Genesis Solar Wind Collectors: **I V Veryovkin**, C E Tripa, A V Zinovev, B V King, M J Pellin, D S Burnett

1340h **SH13B-1536 POSTER** Prediction of background levels for the Wind/WAVES instrument and implications for the galactic background radiation: **D Hillan**, I H Cairns, P A Robinson, A Mohamed

1340h **SH13B-1537 POSTER** Solar Orbiter: Exploring the Sun-Heliosphere Connection: **R G Marsden**, D Mueller

SH13C Moscone South: 303 Monday 1340h
The Long and Quiet Solar Minimum at the End of Solar Cycle 23 II (*joint with SM, SA*)

Presiding: **E R Christian**, NASA Goddard; **P Riley**, Predictive Science Incorporated

1340h **SH13C-01** Abnormal cycles from normal dynamos (*Invited*): **P Charbonneau**

1404h **SH13C-02** The subdued solar cycle 23/24 minimum revealed by microwave butterfly diagram: **N Gopalswamy**, S Yashiro, P A Makela, K Shibasaki

1416h **SH13C-03** The Solar Radio Microwave Flux and the Sunspot Number: **L Svalgaard**, H S Hudson

1428h **SH13C-04** The Evolution Of The Brightness Of The White Light Corona Over A Solar Cycle: **R A Howard**, K Battams, A Vourlidas, J S Morrill, G Stenborg

1440h **SH13C-05** Comparing High-Resolution MHD Simulations of the Present and Preceding Solar Minima: **Z Mikic**, J A Linker, P Riley, R Lionello, V S Titov

1452h **SH13C-06** Comparing the Large-Scale Magnetic Field During the Last Three Solar Cycles (*Invited*): **J T Hoeksema**

1516h **SH13C-07** Irradiance Calibration Using a Cryogenic Radiometer and a Broadband Light Source: **J S Morrill**, D McMullin, L E Floyd, S R Lorentz, C M Korendyke

1528h **SH13C-08** Galactic Cosmic Ray Intensities Reach Record Levels in 2009: **R A Mewaldt**, A J Davis, K A Lave, R A Leske, M E Wiedenbeck, W R Binns, E R Christian, A C Cummings, G A de Nolfo, M H Israel, E C Stone, T T von Rosenvinge

SPA - Magnetospheric Physics

SM13A Moscone South: Poster Hall Monday 1340h
Boundary Layer Processes II Posters (*joint with SH*)

Presiding: **Y Wang**, Goddard Space Flight Center; **H Zhang**, NASA Goddard Space Flight Center

1340h **SM13A-1591 POSTER** Simulating the viscous interaction under a variety of solar wind conditions, with some comparisons to satellite data: **R J Bruntz**, R E Lopez, E J Mitchell, M J Weberg, S K Bhattarai, J Lyon, M J Wiltberger

1340h **SM13A-1592 POSTER** Sources of Transients in the LBL: **Z Nemecek**, O Tkachenko, J Safrankova

1340h **SM13A-1593 POSTER** Flow vortices inside the magnetopause associated with FTEs moving along the magnetopause: **H Zhang**, M G Kivelson, K K Khurana, V Angelopoulos, Z Pu, Q Zong, J P McFadden, K Glassmeier, U Auster

1340h **SM13A-1594 POSTER** Hybrid Simulation of Mode Conversion at the Magnetopause: **Y Lin**, J Johnson, X Wang

1340h **SM13A-1595 POSTER** Structure of kinetic/non-kinetic scale velocity shear layers and associated Kelvin-Helmholtz vortices: particle simulations: **T Nakamura**, H Hasegawa, I Shinohara

1340h **SM13A-1596 POSTER** A Simulation and Theoretical Study of Energy Transport on the Kelvin-Helmholtz Instability in the MHD Plasmas: **S Lai**, L Lyu

1340h **SM13A-1597 POSTER** Reliability of Prediction of Magnetosheath Magnetic Field Components from IMF Observations: **J Safrankova**, Z Nemecek, O Gutynska, M Hayosh
 1340h **SM13A-1598 POSTER** A New 3D Asymmetric Magnetopause Model with New Consistent Magnetopause Crossing Database and Machine Learning Techniques: **Y Wang**, D G Sibeck, S A Boardsen, H Karimabadi, T Sipes

SM13B Moscone South: Poster Hall Monday 1340h
Comparison of Different Modes of Geomagnetic Activity II Posters

Presiding: **X Cai**, Virginia Tech; **A D DeJong**, Southwest Research Institute

1340h **SM13B-1599 POSTER** An Investigation of the Solar Cycle Effect on Substorms: **T Hsu**, R L McPherron, J Kissinger, M G Kivelson, V Angelopoulos, H Zhang, Y Ge
 1340h **SM13B-1600 POSTER** Relation of plasma sheet flows to different modes of magnetospheric response: **R L McPherron**, T Hsu, J Kissinger, V Angelopoulos
 1340h **SM13B-1601 POSTER** An Investigation of the Association between Steady Magnetospheric Convection and CIR Stream Interfaces: **J Kissinger**, R L McPherron, V Angelopoulos
 1340h **SM13B-1602 POSTER** A New Method for Identifying SMCs: **A D DeJong**, J Kissinger, K A McWilliams, R L McPherron, J Jahn
 1340h **SM13B-1603 POSTER** Evolution of flows and fields from the reconnection region to the inner edge of the plasma sheet: **V Angelopoulos**, A Runov, R E Ergun, V A Sergeev, J P McFadden, D E Larson, J W Bonnell, H U Frey, U Auster, K Glassmeier, O LeContel, A Roux
 1340h **SM13B-1604 POSTER** Relationship between the sawtooth period and solar wind drivers: **X Cai**, C R Clauer, D R Weimer
 1340h **SM13B-1605 POSTER** The Lack of Ring Current Response to Large Y-Component IMF: **E J Mitchell**, R E Lopez, M J Wiltberger, J Lyon, R Allen, P Whittlesey
 1340h **SM13B-1606 POSTER** Multi-fluid/multi-scale simulations of the February 26, 2008 substorm: **E M Harnett**, T Lerud, R Winglee
 1340h **SM13B-1607 POSTER** An RCM-E simulation of a steady magnetospheric convection event: **J Yang**, F Toffoletto, R Wolf, Y Song
 1340h **SM13B-1608 POSTER** Global simulations of dynamic magnetosphere response to steady southward IMF driving: K Patel, **M M Kuznetsova**, M Hesse, L Rastaetter, G Toth, D De Zeeuw, T I Gombosi
 1340h **SM13B-1609 POSTER** INTERNAL VS EXTERNAL SUBSTORM TRIGGERS: TRANSFER ENTROPY AS A MEASURE OF CAUSALITY: R Snider, **J Johnson**, S Wing, M Echm
 1340h **SM13B-1610 POSTER** Can Steady Magnetospheric Convection Events Inject Plasma into the Ring Current?: **C Lemon**, M W Chen, T B Guild

SM13C Moscone South: Poster Hall Monday 1340h
System Effects of Ionospheric-Magnetospheric Plasma Redistribution During Storms I Posters (*joint with SA*)

Presiding: **W Lotko**, Dartmouth College; **C Mouikis**, University of New Hampshire

1340h **SM13C-1611 POSTER** Storm-Time Ion Velocity Distributions in the Generalized Polar Wind: **A R Barakat**, R W Schunk
 1340h **SM13C-1612 POSTER** IMAGE RPI Observations of a Plasmaspheric Density Trough: **J Tu**, H Fu, P Song, B W Reinisch

1340h **SM13C-1613 POSTER** High-Altitude High-Latitude Electron-Density and Magnetic-Field Enhancements Observed during Magnetic Storms – Including the Storm of 17 April 2002: **R F Benson**, D Bilitza, J M Grebowsky, V Truhlik, Y Wang, B W Reinisch

1340h **SM13C-1614 POSTER** Investigating Changes in the High-Latitude Topside Ionosphere During Large Magnetic Storms: J Fainberg, **R F Benson**, V A Osherovich, V Truhlik, Y Wang, S F Fung, D Bilitza

1340h **SM13C-1615 POSTER** DyFK simulation of storm enhanced density transport and comparison with radar/satellite observations: **W Zeng**, R E Lopez

1340h **SM13C-1616 POSTER** Heavy ion content of ionospheric origin of the plasma sheet as a function of geomagnetic and solar activity - Cluster observations: **C Mouikis**, L M Kistler, Y Liu, B Klecker, I S Dandouras

1340h **SM13C-1617 POSTER** Coupling RAM-SCB to a Magnetospheric GCM and Polar Wind Outflow Model: **D T Welling**, V Jordanova, S G Zaharia, G Toth

1340h **SM13C-1618 POSTER** Coordinated observations of electron density enhancements in the polar magnetosphere and ion upflows in the ionosphere during geomagnetic storms: **N Kitamura**, Y Nishimura, N Terada, T Ono, A Kumamoto, A Shinbori, M Iizima, A Matsuoka, M R Hairston

1340h **SM13C-1619 POSTER** Effects of ionospheric oxygen on the magnetopause boundary wave activity: **V G Merkin**, J Lyon

1340h **SM13C-1620 POSTER** O⁺ Outflow in the Multi-Fluid LFM: Effects on Cross Polar Cap Potential: **K S Garcia**, V G Merkin, W Hughes

1340h **SM13C-1621 POSTER** Effects of Stormtime Causally Driven Outflow in the MFLFM Global Simulation: **O J Brambles**, W Lotko, P A Damiano, B Zhang, M J Wiltberger, J Lyon

SM13D Moscone South: Poster Hall Monday 1340h
System Level Science for Geospace: Bridging Reductionism and Natural Complexity II Posters (*joint with SA, SH*)

Presiding: **W Liu**, Canadian Space Agency

1340h **SM13D-1622 POSTER** Thoughts on New Three Dimensional Asymmetric Model of the Magnetopause: **X Zhang**, R Lin, S Liu, Y Wang, J Gong

1340h **SM13D-1623 POSTER** Alfvén Wave - DC Dualism in the Description of Stationary Field-Aligned Currents: **G V Khazanov**, W B Lyatsky, J A Slavin

1340h **SM13D-1624 POSTER** Study of the ionospheric outflow response to interplanetary disturbances and the influence of ionospheric mass source on magnetospheric processes: **Y Yu**, A J Ridley

1340h **SM13D-1625 POSTER** The Dungey-Alfvén Magnetosphere: **G L Siscoe**

1340h **SM13D-1626 POSTER** High speed solar wind streams : Repeatable drivers for system science in the magnetosphere: **M H Denton**, J E Borovsky

1340h **SM13D-1627 POSTER** Magnetopause Reconnection Rate and Cold Plasma: A Study using SuperDARN: **M Lester**, S M Imber, S E Milan, M H Denton, J E Borovsky

SM13E Moscone South: 305 Monday 1340h
Inner Magnetosphere Research: Where Are We and Where Are We Going? II

Presiding: **Y Zheng**, JHU/APL; **R M Millan**, Dartmouth College

1340h **SM13E-01** Outstanding Issues and Future Directions of Inner Magnetospheric Research (*Invited*): **P C Brandt**

1400h **SM13E-02** The Temporal Evolution of Proton Precipitation Associated with the Plasmaspheric Plume: **M Spasojevic**, S A Fuselier

1415h **SM13E-03** WITHDRAWN

1430h **SM13E-04** Limitation on Earth's Radiation Belt Particle Fluxes: **D Summers**, R Tang, R M Thorne

1445h **SM13E-05** Coincident Precipitation of ring current ions and radiation belt electrons by EMIC waves: **Y Miyoshi**, K Sakaguchi, K Shiokawa, J M Albert, D S Evans, M G Connors, V Jordanova

1500h **SM13E-06** Ring Current Electrons in HEIDI and Their Relative Total Energy Content: **M W Liemohn**

1515h **SM13E-07** Connections between large-scale transport to the inner magnetosphere from the distant plasma sheet, region 2 coupling to the ionosphere, and substorm and storm dynamics (*Invited*): **L R Lyons**, C Wang, S Zou, M Gkioulidou, Y Nishimura, Y Shi, H Kim, X Xing, M J Nicolls, C J Heinselman

Study of Earth's Deep Interior (DI)

DI13A Moscone South: Poster Hall Monday 1340h
Seismic Discontinuities, Phase Transitions, and Compositional Boundaries in the Earth's Mantle III Posters (*joint with MR, S, T*)

Presiding: **E A Day**, University of Cambridge

1340h **DI13A-1628 POSTER** P'P' and PP precursor studies of the mantle transition zone: **E A Day**, A F Deuss, S A Redfern

1340h **DI13A-1629 POSTER** Upper mantle discontinuities beneath the petit-spot region: **A Shito**, D Suetsugu, H Sugioka, A Ito, H Shiobara, T Kanazawa

1340h **DI13A-1630 POSTER** Pressure response of iron's hyperfine parameters and solid state amorphism in (Mg_{0.87}Fe_{0.13})SiO₃ orthopyroxene: **D Zhang**, J M Jackson, W Sturhahn

1340h **DI13A-1631 POSTER** A Statistical Boundary Layer Model for the Mantle D"-Region: **B Wu**, P E Driscoll, P Olson

1340h **DI13A-1632 POSTER** A study of upper mantle discontinuities beneath the Korean Peninsula using teleseismic receiver functions: **S Lee**, J Rhie

1340h **DI13A-1633 POSTER** Imaging crustal and mantle discontinuities by crosscorrelating weak energetic waves recorded by the HiNet seismic network: **Y He**, Y Zheng

1340h **DI13A-1634 POSTER** Joint Receiver Function - ScS Reverberation Analysis Examining Discontinuity Structure Beneath Ocean Islands: **A M Courtier**, G M Leahy

1340h **DI13A-1635 POSTER** Thickness of oceanic lithosphere measured from continents: P Kumar, **H Kawakatsu**

1340h **DI13A-1636 POSTER** Seismic attenuation in multi-phase coexistence regions: **J Matas**, Y R Ricard, F Chambat, S Durand

1340h **DI13A-1637 POSTER** Seismic discontinuity at 300 km depth beneath the tectonically active areas of Europe and North America: M Malinowski, B Nita, **E Perchuc**

1340h **DI13A-1638 POSTER** Evidence for Hot Material Subducted beneath the Kurile Slab: **C Thomas**, N C Schmerr

1340h **DI13A-1639 POSTER** Dynamic origins of small-scale lateral wave speed variation in the deep Earth with application to Central America mantle structure: **D J Bower**, D Sun, M Gurnis, D V Helmberger

1340h **DI13A-1640 POSTER** Characterizing the 410 km discontinuity beneath Utah using RISTRA 1.5 array data: **Z Zhang**, K G Ducker

1340h **DI13A-1641 POSTER** Shear wave velocity structure in the lowermost mantle beneath Central Asia: **K Konishi**, K Kawai, R J Geller, N Fuji

1340h **DI13A-1642 POSTER** DEEP STRUCTURE OF THE CRUST AND MANTLE BENEATH IBERIA FROM P AND S RECEIVER FUNCTIONS AND SKS WAVEFORMS: **I Morais**, L P Vinnik, M M Silveira, S Kiselev, L M Matias

1340h **DI13A-1643 POSTER** Relationship Between Differential Travel Time of SS Precursors and Mantle Temperature and Composition Based on Mineral Physics Modeling: **Y Wang**, L Wen, D J Weidner

1340h **DI13A-1644 POSTER** A broad 660-km discontinuity beneath northeast China revealed by dense regional seismic networks in China: B Wang, **F Niu**

1340h **DI13A-1645 POSTER** Mapping the subducted Nazca plate in the lower mantle beneath South America: S M Contenti, Y J Gu, **A Okeler**

1340h **DI13A-1646 POSTER** PdS and SdP Receiver Functions Image of the Lithosphere underneath the Southern African Regions: **M Yousof**, H Thybo, A Levander, X Yuan

1340h **DI13A-1647 POSTER** Plume-fed Asthenosphere: a possible origin for 250-350km deep seismic reflectors?: **C Shi**, J P Morgan

1340h **DI13A-1648 POSTER** Fe in Perovskite: Spin Transitions and Physical Properties: **R Caracas**

1340h **DI13A-1649 POSTER** High-resolution Imaging of Global Subduction Zones Using Migrated SS Precursors: **A Okeler**, Y J Gu, S M Contenti

1340h **DI13A-1650** WITHDRAWN

1340h **DI13A-1651 POSTER** Mantle discontinuities mapped by inversion of global surface wave data: **A Khan**, L Boschi, J Connolly

Mineral and Rock Physics

MR13A Moscone South: Poster Hall Monday 1340h
Advanced Technologies for Advanced Characterizations of Minerals Under High Pressure II Posters (*joint with DI, V*)

Presiding: **W Yang**, Carnegie Institution of Washington

1340h **MR13A-1652 POSTER** Synthesis of Coesite Nanocrystals from Periodic Mesoporous Organosilicas (PMOs) at High Pressure and Temperature: **Z Liang**, Y Fei, K Landskron

1340h **MR13A-1653 POSTER** Temperature Dependence of Anomalous Paramagnetically Shifted Nuclear Magnetic Resonance Peaks in Iron-Bearing Pyrope and Rare Earth Element Orthophosphates: **A Palke**, J F Stebbins, P Grandinetti

1340h **MR13A-1654 POSTER** High-Resolution Fe XANES Pre-Edge Spectroscopy of Micas: **J M Tucker**, M D Dyar, M Gunter, J S Delaney, A Lanzirotti

1340h **MR13A-1655 POSTER** Building a 3D earth model conditioned by the spatial statistics of petrophysical data: **E L Bongajum**, J Huang, I White, B Milkereit

1340h **MR13A-1656 POSTER** Application of Pascal Principle in Earth Science: **M Samimi Namin**

1340h **MR13A-1657 POSTER** Experimental studies of the CaEsK component in pyroxene at high PT in multianvile apparatus: **P Y Nee**, S Zhao, H W Green, L Dobrzynetska

1340h **MR13A-1658 POSTER** Raman Spectroscopy Research of Perovskites Lead Free Ferroelectrics: **L Luo**, W Ge, J Li, D Viehland, C Farley, R J Bodnar

1340h **MR13A-1659** POSTER Cation Disorder in Spinel of Fe₂SiO₄ and FeAl₂O₄: **L Li**, L Ehm, C A McCammon, S Ghose, L Wang

1340h **MR13A-1660** POSTER Precise Stress Measurements with White Synchrotron X-rays: **M T Vaughan**, D J Weidner, L Wang, H Long, L Li, N A Dixon, W B Durham

1340h **MR13A-1661** POSTER Developments in GHz-ultrasonic interferometry for elasticity studies in geophysics and materials science: application to diamond: **Y Chang**, S D Jacobsen, C M Holl, C R Bina

1340h **MR13A-1662** POSTER Radiative Heat Transfer at the Core Mantle Boundary with Emissivity Measurements at High Pressures and Temperatures and Improved Temperature Measurements: **E Hyung**, D M Reaman, A Kavner, W R Panero

1340h **MR13A-1663** POSTER High-Pressure Elasticity and Stability of Osmium: An Analog for Iron in Earth's Core: **B K GODWAL**, J Yan, S M Clark, R Jeanloz

1340h **MR13A-1664** POSTER Grain-boundary effects in Brillouin scattering at ambient and high pressure: R Jeanloz, **A E Gleason**, B Chen

1340h **MR13A-1665** POSTER Acoustic emissions monitoring and synchrotron X-ray diffraction analysis of mineral dehydrations at high pressures and temperatures: J Gasc, S Guillon, **A J Schubnel**, F Brunet, C Lathe, H Mueller

1340h **MR13A-1666** POSTER The olivine-wadsleyite phase transformation in mantle peridotite: **J Zhang**, Y Zhao, L Wang, Y Wang

1340h **MR13A-1667** POSTER Advanced microtomography combined synchrotron x-ray diffraction techniques for phase transformation researches in amorphous materials under pressure: **L Wang**, H Liu

1340h **MR13A-1668** POSTER Ultrastability and Size-dependent High Pressure Behavior in Nanoscale Y₂O₃: **L Wang**, W Yang, Y Ding, G Shen, H Mao

1340h **MR13A-1669** POSTER Density of BCR-2 basalt glass at high pressure by X-ray Absorption Microtomography: **A N Clark**, C E Leshner, S J Gaudio, A Yamada, Y Wang

1340h **MR13A-1670** POSTER Phase Transition and Equation of State of Yttrium Iron Garnet, Y₃Fe₅O₁₂, at High Pressures: **J Wang**, Z Mao, S M Dorfman, V Prakapenka, T S Duffy

MR13B Moscone South: Poster Hall Monday 1340h
Dynamic Induced Phase Transformation Processes in Terrestrial and Planetary Materials II Posters (*joint with P, DI*)

Presiding: **T G Sharp**, Arizona State University; **O D Tschauner**

1340h **MR13B-1671** POSTER Shock-induced structural changes in silica upon compression and release: **L B Han**, R S Fu, O D Tschauner

1340h **MR13B-1672** POSTER Cathodoluminescence characterization of experimentally shocked alkali feldspar: **M Kayama**, H Nishido, T Sekine, K Ninagawa

1340h **MR13B-1673** POSTER Ringwoodite rim around olivine core in shock-induced melt veins of Antarctic chondrite : Mechanisms of transformation and Fe-Mg diffusion: **Z Xie**, X Li, T G Sharp, P S De Carli

1340h **MR13B-1674** POSTER Coherent and incoherent phase transformation from olivine to ringwoodite and the time scale for shock events on asteroids: **M Miyahara**, E Ohtani, M Kimura, A El Goresy, S Ozawa, T Nagase, M Nishijima, K Hiraga

1340h **MR13B-1675** POSTER Chemically fractionated olivine-wadsleyite-ringwoodite assemblages in Grove Mountains meteorites: Constraints on formation mechanism of ringwoodite: **L Feng**, M Miyahara, T Nagase, E Ohtani, S Hu, Y Lin

1340h **MR13B-1676** POSTER Shock recovery of a magnesium-silicate spinelloid: **O D Tschauner**, P D Asimow, T J Ahrens, N Kostandova

1340h **MR13B-1677** POSTER High-Pressure Minerals in RC106: Formation at Modest Shock Pressures and very High Temperatures: **T G Sharp**, R Trickey, P S De Carli, Z Xie

1340h **MR13B-1678** POSTER Shock Recovery and Heating Experiments on Baddeleyite: Implications for U-Pb Isotopic Systematics of Martian Meteorites: **K Misawa**, T Niihara, H Kaiden, T Sekine, T Mikouchi

1340h **MR13B-1679** POSTER Impact cratering as a major process in planet formation: Projectile identification of meteorite craters: **G Schmidt**, K Kratz

1340h **MR13B-1680** POSTER Current Capabilities in Laser-Driven Dynamic Compression Experiments: **D K Spaulding**, R Jeanloz

1340h **MR13B-1681** POSTER The effects of vacancy on melting of Cu under hydrostatic and shock wave loading: **H Li**, S Ni

MR13C Moscone West: 2003 Monday 1340h
Computational Approaches and Applications in Mineral Physics I (*joint with DI*)

Presiding: **B B Karki**, Louisiana State University; **R M Wentzcovitch**, Univ Minnesota

1340h **MR13C-01** Computational spectroscopy using the Quantum ESPRESSO distribution (*Invited*): **S Baroni**, P Giannozzi

1404h **MR13C-02** Modeling the rheology of MgO under pressure, temperature and strain-rate conditions of the Earth's mantle: **P Cordier**, P CARREZ

1416h **MR13C-03** Advances in understanding of electronic transitions in FeO under compression: **R E Cohen**, J Ojwang', L Shulenburg, K Esler, S Savrasov, X Wan

1428h **MR13C-04** d-electrons' occupancy and crystal structure in transition metal sesquioxides: **K Umemoto**, R M Wentzcovitch

1440h **MR13C-05** Thermal conductivity of MgO and MgSiO₃ perovskite at lower mantle conditions (*Invited*): **S Stackhouse**, L P Stixrude, B B Karki

1504h **MR13C-06** Lattice Thermal Conductivity of MgSiO₃ Perovskite at Lower Mantle Conditions: A First-Principles Study: **X Tang**, J Dong, A Kavner

1516h **MR13C-07** Unexpected Structural and Spin Effects on Mössbauer Spectra and Implications for Iron Spin in (Mg,Fe)SiO₃ Perovskite: **D Morgan**, A K Bengtson, J Li

1528h **MR13C-08** Spin states and hyperfine interactions of iron in (Mg,Fe)SiO₃ perovskite under pressure: **H Hsu**, K Umemoto, P Blaha, R M Wentzcovitch

Seismology

S13A Moscone South: Poster Hall Monday 1340h
Innovations and Advances in Earthquake Early Warning Systems Around the World I Posters (*joint with NH*)

Presiding: **A Zollo**, Università di Napoli Federico II

1340h **S13A-1714** POSTER Earthquake Early Warning in Japan - Result of recent two years -: **T Shimoyama**, K Doi, M Kiyomoto, M Hoshiba

1340h **S13A-1715 POSTER** A new prototype system for earthquake early warning in Taiwan: **N Hsiao**, Y Wu, D Chen, K Kuo, T Shin

1340h **S13A-1716 POSTER** Application of strong-motion building array records in earthquake early warning system: **Y Wu**, J Shieh, L Zhao, W Chao, C Wu

1340h **S13A-1717 POSTER** Developing Performance Measures for the CISEN Earthquake Early Warning Testing Center: **P J Maechling**, T H Jordan, M Liukis, S Callaghan

1340h **S13A-1718 POSTER** CISEN ShakeAlert: Three Years of Comparative Real-Time Earthquake Early Warning Testing in California: **G B Cua**, R M Allen, M Boese, H Brown, D Given, M Fischer, E Hauksson, T H Heaton, M Hellweg, T H Jordan, O Khainovski, P J Maechling, D S Neuhauser, D H Oppenheimer, K Solanki

1340h **S13A-1719 POSTER** CISEN ShakeAlert: Specification of the Prototype Earthquake Early Warning System: **H Brown**, R M Allen, M Boese, G B Cua, D D Given, E Hauksson, M Fischer, T H Heaton, M Hellweg, T H Jordan, O Khainovski, P J Maechling, D S Neuhauser, D H Oppenheimer, K Solanki

1340h **S13A-1720 POSTER** CISEN ShakeAlert: Using early warnings for earthquakes in California: M Vinci, **M Hellweg**, L M Jones, O Khainovski, K Schwartz, D Lehrer, R M Allen, D S Neuhauser

1340h **S13A-1721 POSTER** Elarms: Big earthquakes in Japan and realtime testing in California: O N Khainovski, **H Brown**, R M Allen, D S Neuhauser, M Hellweg

1340h **S13A-1722 POSTER** Effect of time window length for maximum amplitude estimation on P wave magnitude: application for Earthquake Early Warning: **M Hoshiba**, K Iwakiri, K Ohtake

1340h **S13A-1723 POSTER** T_p^d , a damped predominant period function with improvements for magnitude estimation: **A Rietbrock**, M Hildyard

1340h **S13A-1724 POSTER** Magnitude Estimation in Real-Time for Earthquake Early Warning applications using Inversion of Displacement Spectra: **M Caprio**, M Lancieri, G B Cua, A Zollo, S Wiemer

1340h **S13A-1725 POSTER** Magnitude Scaling of the early displacement for the 2007, Mw 7.8 Tocopilla sequence (Chile): **M Lancieri**, A Fuenzalida, S Ruiz, R I Madariaga

1340h **S13A-1726 POSTER** The Earthquake Early Warning System for Southern Italy: Concepts, Capabilities and Future Perspectives: C Satriano, L Elia, C Martino, M Lancieri, A Zollo, **G Iannaccone**

1340h **S13A-1727 POSTER** NEAR REAL TIME GROUND SHAKING MAP COMPUTATION FOR POINT AND FINITE SOURCE MODELS: A Emolo, **V Convertito**, R De Matteis, M Caccavale, A Zollo

1340h **S13A-1728 POSTER** Real-time processing of earthquake information in Iceland: E Kjartansson, **K S Vogfjord**

1340h **S13A-1729 POSTER** B-FEARS: The Belgian Felt Earthquake Alert and Report System: G Rapagnani, **T Lecocq**, H Martin, F Devos, M Hendrickx, M J Van Camp, K Vanneste, T Camelbeeck

1340h **S13A-1730 POSTER** The Earthquake Closet: Making Early-Warning Useful: **M Wyss**, G Trendafiloski

1340h **S13A-1731 POSTER** The First Results of Testing Methods and Algorithms for Automatic Real Time Identification of Waveforms Introduction from Local Earthquakes in Increased Level of Man-induced Noises for the Purposes of Ultra-short-term Warning about an Occurred Earthquake: **V V Gravirov**, K V Kislov

1340h **S13A-1732 POSTER** Realtime source inversion using W-phase and GRiD MT for regional tsunami early warning: **H Tsuruoka**, L A Rivera, H Kawakatsu, H Kanamori

1340h **S13A-1733 POSTER** Using W-phase for regional source inversion: An application to the data from the virtual seismic network in the Western Pacific region: **W Liang**, L Zhao, P Chen, Y Yu, C Liu, B Huang, H Kanamori

1340h **S13A-1734 POSTER** Rapid Regional Centroid Solutions: **S Wei**, Z Zhan, Y Luo, S Ni, Y Chen, D V Helmberger

1340h **S13A-1735 POSTER** Precursory superconducting gravity signals of large earthquakes: **W Shen**, D Wang, C Hwang

1340h **S13A-1736 POSTER** Feasibility of an Earlier Warning of Earthquakes by means of Observing Magnetic Signals Arising from Seismic Wave Propagations in the Earth's Magnetized Crust: **K Yamazaki**

1340h **S13A-1737 POSTER** Potential of tsunami observations in ultra long period seismic data and in infrasound data for early warning: **A RAVELOSON**, R Kind, X Yuan, L Ceranna

S13B Moscone South: Poster Hall Monday 1340h
Joint Inversion of Seismic and Multidisciplinary Geophysical Data III Posters (*joint with GP, DI, T, V*)

Presiding: **M Moorkamp**, IFM-GEOMAR; **E Roux**, DIAS

1340h **S13B-1738 WITHDRAWN**

1340h **S13B-1739 POSTER** Constraining the rupture processes of the intermediate and large earthquakes using geophysical data: **C Ji**

1340h **S13B-1740 POSTER** High-Resolution Analysis of Seismicity Patterns and Focal Mechanisms in the Vicinity of the 2008 Chino Hills Mw5.4 Earthquake, Southern California: **W Yang**, E Hauksson

1340h **S13B-1741 POSTER** Observation of Anomalous Groundwater Level Changes: monitoring of moderate-size earthquake in Korea: **H Lee**, N C Woo, T Hong

1340h **S13B-1742 POSTER** Source parameters of M5.5-6.5 earthquakes from joint inversion of local, regional and teleseismic data: **Z Wang**, K Wan, S Ni, S Wei

1340h **S13B-1743 POSTER** Modeling of Morelia Fault Earthquake (Mw=5.4) source fault parameters using the coseismic ground deformation and groundwater level changes data: **O Sarychikhina**, E Glowacka, R J Mellors, R Vázquez

1340h **S13B-1744 POSTER** Joint inversion of surface wave and gravity data for three-dimensional tomographic imaging of East Africa: **R Modrak**, M Maceira, J W van Wijk, M E Pasyanos

1340h **S13B-1745 POSTER** Joint inversion of teleseismic body wave residuals and Joint Inversion of Teleseismic Body Wave Residuals and Bouguer Gravity Data to Constrain the Origin of the Colorado Rockies: **J K MacCarthy**, R C Aster, S M Hansen, J C Stachnik, K G Dueker, K E Karlstrom

1340h **S13B-1746 POSTER** Seismic constraints on the flexural response of the lithosphere to loading at the Cape Verde Swell: **D J Wilson**, C D Peirce, A B Watts, I Grevemeyer

1340h **S13B-1747 POSTER** Overlapping strain fields beneath the eastern flank of Mt. Etna volcano (Sicily, Italy) from seismic and geodetic data: S Alparone, G Barberi, **A Bonforte**, V Maiolino, A Ursino

1340h **S13B-1748 POSTER** Spline-based joint gravity and normal mode inversion: **V Michel**, P Berkel

1340h **S13B-1749 POSTER** Towards 3D joint inversion of full tensor gravity, magnetotelluric and seismic refraction data: **M Moorkamp**, M D Jegen, R W Hobbs, A W Roberts, B Heincke

1340h **S13B-1750 POSTER** Common Structure in Different Physical Properties: Electrical Conductivity and Surface Waves Phase Velocity: **E Mandolesi**, A G Jones, E Roux, S Lebedev

1340h **S13B-1751 POSTER** Three-dimensional controlled-source electromagnetic and magnetotelluric joint inversion: **M Commer**, G A Newman

1340h **S13B-1752 POSTER** Joint Inversion of Receiver Functions and Surface Wave Phase Velocities Using USArray Data for the Colorado Plateau: **I W Bailey**, M S Miller, A Levander, K Liu

1340h **S13B-1753 POSTER** Joining Receiver Functions, Teleseismic delay times and Gravity anomalies in a Single Inversion Scheme: C Tiberi, **C Basuyau**

1340h **S13B-1754 POSTER** Joint Inversion of Receiver Functions and Surface Waves from Ambient Noise and Earthquake Data: Australian Crust: E Saygin, **H Tkalcic**, S Fishwick

1340h **S13B-1755 POSTER** Constraints on Southeast Australian Lithosphere From Multi-Step Modeling of Teleseismic and Noise Data Recorded by the SEAL3 Experiment: A Kumar, **H Tkalcic**, P Arroucau, N Rawlinson, M Sambridge, B L Kennett

1340h **S13B-1756 POSTER** Joint Geophysical Imaging of the Utah Area Using Seismic Body Waves, Surface Waves and Gravity Data: **H Zhang**, M Maceira, M N Toksoz, R Burlacu, Y Yang

1340h **S13B-1757 POSTER** Study of Southern Tyrrhenian and Sicilian regions by a sequential procedure to integrate WAM seismic tomographies and Bouguer anomaly data: S Panepinto, **M M Calo**, D Luzio, C Dorbath

1340h **S31D-07 POSTER** Lithospheric imaging from teleseismic data by frequency-domain full-waveform tomography: **D Pageot**, S Operto, M Vallée, J Virieux

S13C Moscone West: 2005 Monday 1340h
Seismic Anisotropy, Mantle Flow, and Fault Mechanics: The Silver Lining II (*joint with T, DI, G*)

Presiding: **S C Solomon**, Carnegie Inst of Washington; **D E James**, Carnegie Institution

1340h **S13C-01** Dynamic Topography at Earth's Surface: Fact or Fiction? (*Invited*): **C R Lithgow-Bertelloni**, P G Silver

1355h **S13C-02** Mantle shear-wave velocity structure beneath the Hawaiian hotspot from the PLUME deployments of ocean-bottom and land seismometers: **C J Wolfe**, S C Solomon, G Laske, J A Collins, R S Detrick, J A Orcutt, D Bercovici, E H Hauri

1410h **S13C-03** Shear Wave Splitting and Patterns of Mantle Flow (*Invited*): **M J Fouch**

1425h **S13C-04** Joint analysis of GPS and shear-wave splitting data to understand large-scale continental deformation in the India-Eurasia Collision zone (*Invited*): **L M Flesch**, P G Silver

1440h **S13C-05** SKS Splitting and Surface Wave Anisotropies in Stratified Crust and Mantle: **J Montagner**, M J Obrebski

1455h **S13C-06** Automatic shear wave splitting and time-varying anisotropy on Ruapehu volcano, New Zealand: N A Teanby, **M K Savage**, A Wessel, T Hurst

1510h **S13C-07** A two-dimensional hybrid method for modeling seismic waves propagation in laterally-varying anisotropic media and its application to central Tibet: L Zhao, **L Wen**

1525h **S13C-08** The SH-1 Reference Model for Shear Wave Splitting Observations in Western North America: **W E Holt**, P G Silver

Tectonophysics

T13A Moscone South: Poster Hall Monday 1340h
Heat Transfer From Pluton to Plate Scales I Posters (*joint with MR, V*)

Presiding: **A Hofmeister**, Washington U; **P I Nabelek**, University of Missouri; **A G Whittington**, University of Missouri

1340h **T13A-1842 POSTER** Modelling the Influence of Magma Weight on the Growth of Laccoliths and Large Mafic Sills: **A P Bunger**, A R Cruden

1340h **T13A-1843 POSTER** Geometry, scaling relationships and emplacement dynamics of a ca. 6 Ma shallow felsic sill complex, Calamita Peninsula, Elba Island, Italy: **A R Cruden**, F Mazzarini, A P Bunger, G Musumeci

1340h **T13A-1844 POSTER** Towards a Coupled Model for Deformation and Heat Transfer Around a Composite Felsic Intrusion: **W H Hirt**, J Hatton

1340h **T13A-1845 POSTER** Thermal maturation of incrementally assembled plutons: **J Davis**, D S Coleman, M T Heizler

1340h **T13A-1846 POSTER** Size Effect of the 2-D Bodies on the Geothermal Gradient and Q-A Plot: **M Thakur**, D D Blackwell

1340h **T13A-1847 POSTER** Modelling the thermal evolution of orogens: where's the heat?: **D Healy**, C Clark

1340h **T13A-1848 POSTER** Constraints on Thermal Structure of the Indian Shield Lithosphere from Heat Flow and Shear Wave Travel Time Delays: **S Roy**, J Mareschal

1340h **T13A-1849 POSTER** Sharp Thermal Transition in the Forearc Mantle Wedge as a Consequence of Nonlinear Mantle Wedge Flow: **I Wada**, K Wang, H Jiangheng

1340h **T13A-1850 POSTER** Post Rift Thermal Evolution of Extended Lithosphere: R R Cardoso, **V M Hamza**

1340h **T13A-1851 POSTER** Formation of Oceanic Lithosphere by Basal Magma Accretion: **V M Hamza**, R R Cardoso, C H Alexandrino

1340h **T13A-1852 POSTER** New Roles for Variable Heat Transport Properties in Thermal and Thermoelastic Models of the Lithosphere: **C J Grose**

1340h **T13A-1853 POSTER** A New U.S. Marine Heat Flow Capability: **R N Harris**, A T Fisher

1340h **T13A-1854 POSTER** Anomalously low heat flow around a "petit-spot" volcano on the old Pacific plate: M Yamano, **H Hamamoto**, K Baba, A Takahashi, Y Kawada, N Abe

1340h **T13A-1855 POSTER** Diffuse flow at hydrothermal vents: A new technique for measuring fluid velocity by tracking of apparent background deformation: **E L Mittelstaedt**, A B Davaille, J Escartin

1340h **T13A-1856 POSTER** Regional silica heat flow variation in active tectonic area: Taiwan and its implication: **C Liu**, S Song, W Lo, T Wang

1340h **T13A-1857 POSTER** Terrestrial heat flow and thermal structure in Tokyo metropolitan area of central Japan: **T Matsumoto**

1340h **T13A-1858 POSTER** GRAVIMETRIC STUDY OF THE IXTLAN DE LOS HERVORES, GEOTHERMAL AREA, MIDWESTERN MEXICAN VOLCANIC BELT (MVB): **T Gonzalez**, I Ortiz

T13B Moscone South: Poster Hall Monday 1340h
Lithosphere and Asthenosphere Interaction: Top Down or Bottom Up? II Posters (*joint with MR, V*)

Presiding: **R Meyer**, Massachusetts Institute of Technology; **S Pilet**, University of Lausanne

1340h **T13B-1859 POSTER** The Lithospheric Structure Beneath Canary Islands from Receiver Function Analysis: C Martinez-Arevalo, F Mancilla, **G R Helffrich**, A Garcia

1340h **T13B-1860 POSTER** Comparison of North America Lithospheric Thickness from Seismic Tomography & Thermo-Dynamic Models: **M I Billen**, S van der Lee

1340h **T13B-1861 POSTER** A possible origin for upper mantle plumes: **Z zarifi**, R S Huismans

1340h **T13B-1862 POSTER** Small scale convection at the edge of the Colorado Plateau: Implications for topography, magmatism, and evolution of Proterozoic lithosphere: **J W Van Wijk**, W S Baldrige, J van Hunen, S D Goes, R C Aster, D D Coblentz, S P Grand, J F Ni

1340h **T13B-1863 POSTER** Imaging lithosphere structure beneath the Colorado Plateau using Rayleigh wave tomography: **K Liu**, A Levander, M S Miller

1340h **T13B-1864 POSTER** Geochemical constraints on the extent of lithosphere removal beneath the central Rio Grande Rift: **B L Byerly**, J C Lassiter

1340h **T13B-1865 POSTER** Propagating Rift Model for the V-shaped Ridges South of Iceland: **R N Hey**, F Martinez, A Hoskuldsson, ÁSDís Benediktsdóttir

1340h **T13B-1866 POSTER** Can ridge axial deformation constrain mantle viscosity?: **E Choi**, W R Buck

1340h **T13B-1867 POSTER** Deformation of a Bubble at Low Reynolds Number: A Model of Interaction between a Plume Head and a Subducting Slab: **M Lapotre**, C GERLEIN, C Huber, J M Watkins, M Manga

1340h **T13B-1868 POSTER** Discordant Tidal Characteristics Between the Lithosphere and the Asthenosphere as a Possible Contributing Plate-Driving Mechanism: **S Thorne**, S Hildreth, J Rector

1340h **T13B-1869 POSTER** The Influence of Continental Roots on Plate Motions and Plate-Mantle Coupling: **J van Summeren**, C P Conrad, C R Lithgow-Bertelloni

1340h **T13B-1870 POSTER** Exploring the asthenosphere via geodynamic modeling: **E H Fahy**, P Hall, U H Faul

1340h **T13B-1871 POSTER** How important is the mantle's fingerprint on the lithospheric stress field?: **K Ruckstuhl**, P T Meijer, M J Wortel, R M Govers

1340h **T13B-1872 POSTER** Insights in the dynamics of free subduction from semi-analytical and numerical models: **B J Kaus**, T W Becker

1340h **T13B-1873 POSTER** Mantle tomography of southern Cascadia subduction zone: slab edge/asthenosphere interaction beneath the Mendocino Triple Junction: **L O'Driscoll**, B Schmandt, E Humphreys

1340h **T13B-1874 POSTER** Constraints on upper-mantle viscosity inferred from the flow-induced pressure gradient across a continental keel: **C Harig**, S Zhong, F J Simons

1340h **T13B-1875 POSTER** Coupled delamination and indentor-escape tectonics in the southern part of the c. 650-500 Ma East African/Antarctic Orogen: **J Jacobs**, R J Thomas, K Ueda, I Kleinhanns, B Emmel, R Kumar, A Engvik, B Bing

1340h **T13B-1876 POSTER** Source-Side Shear Wave Splitting and Upper Mantle Flow in the Romanian Carpathians and Surroundings: R M Russo, **VI Mocanu**

1340h **T13B-1877 POSTER** Implications of 3D electrical conductivity beneath the Payun Matru basalt province in western Argentina (36.5S, 69.5W): **J R Booker**, A Burd, R Mackie, A Favetto, C Pomposiello

1340h **T13B-1878 POSTER** How lithosphere and asthenosphere interact during the formation of an accretionary orogen – a case study from the Chinese Altai: **P Wong**, M Sun, G Zhao, C Yuan, W Xiao

1340h **T13B-1879 POSTER** Relationship between seismic velocities and composition: Ophiolites and orogenic peridotites: **K E Godfrey**, U H Faul

T13C Moscone South: Poster Hall Monday 1340h
Tectonic Processes at Continental Transform Faults III Posters
(joint with NH, G, S)

Presiding: B Carpenter, The Pennsylvania State University;
K J McDonald, Oregon State Univeristy

1340h **T13C-1880 POSTER** Basins beyond Bends along Continental Transforms in NW Turkey and Southern California: Rapid, Asymmetric, and Time-Transgressive Growth: L Seeber, **D J Shillington**, G Cifci, E Demirbag, C C Sorlien, M S Steckler

1340h **T13C-1881 POSTER** Gas, slumps and faulting in the Marmara Sea: new results from TAMAM high-resolution seismic reflection data: **D J Shillington**, D Dondurur, L Seeber, M S Steckler, C C Sorlien, J B Diebold, G Cifci, S Gurcay, S Okay, C Imren, H Kurt, D Timur, E Demirbag

1340h **T13C-1882 WITHDRAWN**

1340h **T13C-1883 POSTER** Late Pleistocene-Holocene Evolution Of Faulting In The Sea Of Marmara Pull-Apart (North Anatolian Fault): **G Ucarkus**, R Armijo, Z Cakir, N Pondard, B F Mercier De Lepinay, B Meyer

1340h **T13C-1884 POSTER** Rupture Characteristics of the 1912 Mürefte (Ganos) Earthquake Segment of the North Anatolian Fault (Western Turkey): **E M AKSOY**, M Meghraoui, M Vallée, Z Cakir

1340h **T13C-1885 POSTER** Insights into the relationship between surface and subsurface activity from mechanical modeling of the 1992 Landers M7.3 earthquake: **E H Madden**, D D Pollard

1340h **T13C-1886 POSTER** Diversity of fault zone damage and trapping structures in the Parkfield section of the San Andreas Fault from comprehensive analysis of near fault seismograms: **M A Lewis**, Y Ben-Zion

1340h **T13C-1887 POSTER** Seismicity as a key to Understanding the Dead Sea Transform Fault – Results From a Temporary Dense Seismic Network in the Southern Dead Sea Basin: **B Braeuer**, M H Weber, G Asch, C A Haberland, A Hofstetter, R El-Kelani, Y Darwish

1340h **T13C-1888 POSTER** Near surface structure of an active transform fault, North Dead-Sea Basin: **A Sagy**, Y Sagy, Y Nahmias

1340h **T13C-1889 POSTER** The Global Fracture Zone and Magnetic Lineation Project: **P Wessel**, D Müller, D T Sandwell, S C Cande

1340h **T13C-1890 POSTER** Mapping Active Faults and Tectonic Geomorphology offshore central California: **S Y Johnson**, J T Watt, P E Hart, R W Sliter, F L Wong

1340h **T13C-1891 POSTER** Neogene Basin and Plate Boundary Development in the Outer Continental Borderland Offshore Southern California: **G De Hoogh**, C Nicholson, C C Sorlien, R D Francis

1340h **T13C-1892 POSTER** Coarse Clasts Imply Substantial Mid-Late Miocene Slip and Complex Kinematics on Miller Creek and Related Faults, East San Francisco Bay Area: **A V Buising**, J P Walker, J R Allen

1340h **T13C-1893 POSTER** TIMING, EXTENT, AND SPATIAL PROGRESSION OF NEOGENE DISPLACEMENT TRANSFER, SOUTHERN WALKER LANE, WESTERN GREAT BASIN: **J W Geissman**, J S Oldow, D F Stockli, J S Grow

1340h **T13C-1894 POSTER** Late Pleistocene Slip Rates Along the Panamint Valley Fault Zone, Eastern California: **W Hoffman**, E Kirby, E McDonald, J D Walker, J Gosse

1340h **T13C-1895 POSTER** LATE PLIOCENE TO PLEISTOCENE TECTONIC ACTIVITY IN SW PORTUGAL: NEW DATA FROM FIELD OBSERVATIONS AND TRENCHING: **P Marques Figueiredo**, J Cabral, T K Rockwell

1340h **T13C-1896 POSTER** BEHAVIOR OF THE NORTH ANATOLIAN FAULT, TURKEY, INSIGHTS FROM AN INTEGRATED PALEOSEISMIC DATASET: J G Fraser, **K Vanneste**, A Hubert-Ferrari

1340h **T13C-1897 POSTER** Stress fields during the evolution of large-scale strike-slip systems and tectonic slivers, Atacama Fault Zone, northern Chile: **E E Veloso**, R Gomila

1340h **T13C-1898 POSTER** Evolution of the crust and upper mantle structure beneath the Kunlun Shan in Northern Tibet from INDEPTH magnetotelluric data: **F Le Pape**, A G Jones, J Vojar, M J Unsworth

1340h **T13C-1899 POSTER** Process zone heating and strike-slip volcanism: **M Devès**, S Tait, G C King, R Grandin, P tapponnier

1340h **T13C-1900 POSTER** Preliminary Heat Flow Measurements from Plate Boundary Observatory Boreholes along the San Andreas Fault System: **K J McDonald**, R N Harris, C Williams, F V Grubb, P M Fulton, D S Chapman

1340h **T13C-1901 POSTER** Reconciling patterns of interseismic strain accumulation with thermal observations across the Carrizo segment of the San Andreas Fault: **P M Fulton**, G M Schmalzle, R N Harris, T H Dixon

1340h **T13C-1902 POSTER** Lithologic Influence on the Topography of the Santa Cruz Mountains, CA: **M H Gudmundsdottir**, G E Hilley

1340h **T13C-1903 POSTER** A Model of Deformation in a Transpressional Tectonic Environment, Chugach Metamorphic Complex, Southern Alaska: **M Scharman**, T L Pavlis

T13D Moscone South: Poster Hall Monday 1340h
The Many Faces of Slow Slip, Tremor, and Earthquakes II
Posters (*joint with G, H, MR, NH, V, S, NG*)

Presiding: **C King**, Earthquake Prediction Research, Inc.

1340h **T13D-1904 POSTER** Slow transients and seismic tremor reproduced in simulations of fault slip with a rate-, temperature- and state-dependent friction law: **H Noda**, N Lapusta

1340h **T13D-1905 POSTER** Numerical Simulations of Slow Slip Events and Stress Build-up in Seismic Cycles of Large Inter-Plate Earthquakes: **T Matsuzawa**, H Hirose, B Shibazaki, K Obara

1340h **T13D-1906 POSTER** Models of Slow Slip Event Using a 3D Membrane Lithosphere Perturbed by Shear Fractures: **C J Trahan**, L L Lavier, R A Bennett

1340h **T13D-1907 POSTER** A Dynamic Model of Deep Low-frequency Earthquakes: **R Ando**, R Nakata, T Hori

1340h **T13D-1908 POSTER** Inelastic Caterpillar-like Deformational Wave as a Trigger of Tremors, Very-low-frequency Earthquakes and Slow Slip Events: **N I Gershenzon**, G Bambakidis, E C Hauser

1340h **T13D-1909 POSTER** Non Volcanic Tremor nucleation: Insights from a friction laboratory experiment: **D Zigone**, C Voisin, E F Larose, F Renard

1340h **T13D-1910 POSTER** Transition from Slow to Fast Slip with Temperature, Forcing Velocity and Normal Stress: Experimental Evidence: **E K Mitchell**, K M Brown, Y A Fialko

1340h **T13D-1911 POSTER** The Slumgullion Natural Laboratory for Observing Slip Phenomena: **J S Gomborg**, W H Schulz, P Bodin, J W Kean, G Wang, J A Coe, P MacQueen, K Foster, K Creager

1340h **T13D-1912 POSTER** The Slumgullion Natural Laboratory: Overview of the 2009 Multidisciplinary Reconnaissance: **P Bodin**, W H Schulz, J S Gomborg, J W Kean, J A Coe, G Wang, P MacQueen, K Foster, K Creager

1340h **T13D-1913 POSTER** Mechanism of Sustained Coseismic Groundwater-level Changes: **P Wang**, Y Chia, R Lee, P Lu

1340h **T13D-1914 POSTER** Kinematics of Fault Creep: **C King**

1340h **T13D-1915 POSTER** Nonvolcanic Tremor Evolution and the San Simeon and Parkfield, California Earthquakes: **R M Nadeau**, A Guilhem

1340h **T13D-1916 POSTER** Systematic Search of Remotely Triggered Tremor in Northern and Southern California: **A Fabian**, L Ojha, Z Peng, K Chao

1340h **T13D-1917 POSTER** Study of Triggered Tremor Characteristics and Triggering Threshold in Anza Region, Southern California: **T Wang**, E S Cochran

1340h **T13D-1918 POSTER** Systematic Search for Spontaneous Non-Volcanic Tremor in Southern California: **G Hillers**, J P Ampuero

1340h **T13D-1919 POSTER** Aseismic slow slip on an inland active fault triggered by a nearby shallow event, the 2008 Iwate-Miyagi Nairiku Earthquake (Mw6.8): **T Iinuma**, M Ohzono, Y Ohta, S Miura

1340h **T13D-1920 POSTER** Accelerated strain accumulation along the western North Anatolian fault: A possible precursory signal to an impending earthquake: **J F Dolan**

1340h **T13D-1921 POSTER** The Search for Triggered Seismicity Associated with the 2007 Nicoya Peninsula, Costa Rica, Slow Slip Event: **N M Bartlow**, S Y Schwartz, A R Dominguez, P Segall

1340h **T13D-1922 POSTER** Analysis of Low Frequency Earthquakes (LFE) as a means of locating Non-Volcanic Tremor (NVT): **A L Husker**, X Novo, N M Shapiro, V Kostoglodov

1340h **T13D-1923 POSTER** Developing an Automated Seismic Tremor Detection and Location System: **B B Woods**, T I Melbourne, C W Scrivner

1340h **T13D-1924 POSTER** A Comparison of Methods for Locating Non-Volcanic Tremor: **A J Klaus**, H Kao, J R Brown, A Wech, G C Beroza, K C Creager

1340h **T13D-1925 POSTER** Evaluation of Non-Volcanic Tremor Detection Techniques: **S M Sit**, M R Brudzinski, H Kao

1340h **T13D-1926 POSTER** Monitoring System of Non-volcanic Low-frequency Tremors in Southwest Japan using Vertical Seismic Array: **N Takeda**, K Imanishi, N Koizumi, N Matsumoto, M Takahashi

1340h **T13D-1927 POSTER** Aseismic and seismic slip around hypocenter of the giant Off-Tokachi earthquakes: **M Matsubara**, Y Yagi

1340h **T13D-1928 POSTER** Building a Global Catalog of Nonvolcanic Tremor Events Using an Automatic Detection Algorithm: **B C Bagley**, J Revenaugh

T13E Moscone West: 2009 Monday 1340h
Earthquakes at the Edge: Observing and Understanding
Transitions of Seismogenic Properties and Processes Along
Subduction Zones III (*joint with G, S*)

Presiding: **S L Bilek**, New Mexico Institute of Mining and Technology; **E Sreaton**, Univ Florida

1340h **T13E-01** Using Postseismic Geodetic Data to Constrain the Sunda Downip Transition Zone: **K A Grijalva**, R Burgmann, P Banerjee

1355h **T13E-02** The study of geometry and seismic properties of the subducting Cocos plate: **Y Kim**, R W Clayton

1410h **T13E-03** Detailed imaging of the 2007 Pisco co-seismic and post-seismic deformation – implications on the seismogenic behavior of subduction megathrusts: H Perfettini, **A Sladen**, J Avouac, M Simons, J Nocquet, F Bondoux, A Kositsky, M Chlieh, H Tavera, L Audin, A Konca, E J Fielding, D Farber, F H Ortega

1425h **T13E-04** Understanding seismogenic zone transitions in New Zealand's subduction zones (*Invited*): **M Reyners**, D M Eberhart-Phillips

1440h **T13E-05** Detecting Seismicity Rate Transients in the Hokkaido Corner: **A L Llenos**, J J McGuire, Y Ogata

1455h **T13E-06** Seismicity and velocity structure around the fault boundary region of the great earthquakes along the Nankai Trough revealed by repeating long-term OBS observations: **K Mochizuki**, K Nakahigashi, A Kuwano, T Yamada, M Shinohara, S Sakai, T Kanazawa, K Uehira, H Shimizu

1510h **T13E-07** The Velocity-Strengthening Nature of Marine Sediments and Possible Requirements for Seismic Slip in Subduction Zones: **M Ikari**, C Marone, D M Saffer

1525h **T13E-08** Does velocity-strengthening to velocity-weakening transition really determine the updip limit of the seismogenic zone in subduction megathrusts?: **T Shimamoto**

T13F Moscone West: 2007 Monday 1340h
Fault Processes in Nature and Laboratory: From Microscale to 3-D Regional Observations and Models II (*joint with MR, NS, S, NH*)

Presiding: **P Eichhubl**, University of Texas at Austin; **C Tuitz**, University of Vienna

1340h **T13F-01** Analysis of the growth of strike-slip faults using effective medium theory together with field data (*Invited*): **A Aydin**, J G Berryman

1355h **T13F-02** Fracture patterns and their elastic and hydraulic properties down to 8.5 km depth at the Continental Deep Drillhole (KTB), Germany: **W Rabbel**, E Szalajova, K Iwanowski

1410h **T13F-03** Structural controls on fluid flow defined through a comparison of fault architecture and seismicity patterns along reactivated faults: **J D Kirkpatrick**, S Pytharouli, F H Bezerra, A do Nascimento, Z K Shipton, R J Lunn

1425h **T13F-04** Three-Dimensional Fault Morphology and its Causes: **D C Tanner**, S Prüfer, D Kuhn, C M Krawczyk

1440h **T13F-05** Slip Heterogeneity on a Corrugated Fault: **P G Resor**, V Meer

1455h **T13F-06** From Fault Seal to Fault Leak: Effect of Mechanical Stratigraphy on the Evolution of Transport Processes in Fault Zones (*Invited*): **J L Urai**, J Schmatz, H W van Gent, S Abe, M Holland

1510h **T13F-07** Prediction of Subseismic Deformation – A Workflow between 1-D Well data and 3-D Reflection Seismics: T Lohr, **C M Krawczyk**, D C Tanner, O Oncken

1525h **T13F-08** Reflection seismic imaging of end-glacial faults in northern Sweden: **C Juhlin**, B Lund

T13G Moscone West: 201 I Monday 1340h
Lithospheric Structure of East Asia II (*joint with S, NH*)

Presiding: **R D van der Hilst**, MIT

1340h **T13G-01** Lithospheric Structure of Central Asia: R J Martin, **L Gulen**, Y Sun, M N Toksoz

1355h **T13G-02** Converging Lithosphere beneath Tibet in 3-D: Highlights from Matching Hi-CLIMB Data with New Techniques (*Invited*): **W Chen**, R L Nowack, T Tseng, S Hung, B Huang

1410h **T13G-03** Shear-Velocity Profiles Across the Tibetan Plateau, From Broadband Interstation Dispersion of Surface Waves: **M R Agius**, S Lebedev

1425h **T13G-04** Seismic Velocity Structure of the Northeastern Tibetan Plateau: A Review of The ASCENT Seismic Experiment (*Invited*): **E A Sandvol**, Y J Chen, J F Ni, F J Tilmann, S Zhou, Y Ma, X Zhang, H Yue, S Ceylan, X Bao, T M Hearn

1440h **T13G-05** Lithospheric Structure of Tibet and East Asia: New Constraints From Surface Waves (*Invited*): **S Lebedev**, M R Agius, R D van der Hilst

1455h **T13G-06** The crust and lithospheric mantle beneath SE Tibet and Sichuan Province (SW China) (*Invited*): **R D van der Hilst**, H Yao, H Huang, Q Liu

1510h **T13G-07** Lithospheric deformation of SE Tibet from azimuthal and radial anisotropy using surface wave and ambient noise array data: **H Yao**, R D van der Hilst, H Huang, J Montagner

1525h **T13G-08** Vertically Coherent Deformation in Tibet and Its Geodynamic Implications: **M Liu**, E A Sandvol, Y Yang, S Ceylan

Volcanology, Geochemistry and Petrology

V13A Moscone South: Poster Hall Monday 1340h
Chemical Evolution of the Mantle: Timing and Tempo? II
Posters (*joint with MR*)

Presiding: **V C Bennett**, J D Vervoort, Washington State University; **A Lenardic**

1340h **V13A-1998 POSTER** Textural and Geochemical Implications of Spinel-Peridotite Xenoliths (Type I) in Basaltic Rocks from Jeju Island, South Korea: **J Yu**, K Yang, B Hwang, S Lee

1340h **V13A-1999 POSTER** Textural and Geochemical Implications of Type II xenoliths in Basaltic Rocks from Jeju Island, South Korea: **S Lee**, K Yang, B Hwang, J Yu

1340h **V13A-2000 POSTER** Implications of the Nuvvuagittuq “faux-amphibolite” for the formation of Earth's early crust: **J O'Neil**, D Francis, R W Carlson

1340h **V13A-2001 POSTER** Evidence for chondritic Lu/Hf in the early crust – mantle system from Antarctic and Western Australian Eoarchean zircon: **J Hies**, V C Bennett, L Black, S M Eggins

1340h **V13A-2002 POSTER** Major Pb Loss in the Silicate Earth at ~ 4.52 Ga: **J D Vervoort**, F Albarede, J Blichert-Toft, R Thorpe

1340h **V13A-2003 POSTER** Re-Os and PGE Systematics of Neoarchean Websterite Xenoliths and Diamondiferous Lamprophyres of the Wawa Area, Superior Province, Canada: **S B Shirey**, J A Ayer, D A Wyman

1340h **V13A-2004 POSTER** Lu-Hf systematics of the ultra-high temperature Napier Complex, East Antarctica: evidence for the early Archean formation of continental crust: **S Choi**, S B Mukasa, A V Andronikov, Y Osanai, S L Harley, N M Kelly

V13B Moscone South: Poster Hall Monday 1340h
Crystals, Glass, Cracks, and Bubbles: Degassing and Crystallization in Silicic Conduits and Lavas III **Posters** (*joint with MR*)

Presiding: **J M Castro**, Smithsonian Institution; **B M Kennedy**, University of Canterbury; **H Tuffen**, Lancaster University

1340h **V13B-2005 POSTER** Shear deformation experiments on vesicular rhyolite: Implications for brittle fracturing, degassing, and compaction of magmas in volcanic conduits: **S Okumura**, M Nakamura, T Nakano, K Uesugi, A Tsuchiyama

1340h **V13B-2006 POSTER** Large strain experiments on crystal- and bubble-bearing silicic magmas: **M Pistone**, L Caricchi, L Burlini, P Ulmer

1340h **V13B-2007 POSTER** Simulating bubble number density of rhyolitic pumices from Plinian eruptions: constraints from fast decompression experiments: **M Hamada**, D Laporte, N Cluzel, K T Koga, T Kawamoto

1340h **V13B-2008 POSTER** Bubble nucleation, growth and coalescence during the 1997 Vulcanian explosions of Soufrière Hills Volcano, Montserrat: T H Druitt, **T Giachetti**, A Burgisser, L Arbaret

1340h **V13B-2009 POSTER** How explosive are volcanic eruptions?: F Capuccini, **D Perugini**, M A Alatorre-Ibarguengoitia, U Kueppers, D B Dingwell

1340h **V13B-2010 POSTER** Did Magma Degassing Trigger Exceptionally Violent Phreatomagmatic Fragmentation During The 181 AD Taupo Eruption?: **H Tuffen**, B F Houghton, D B Dingwell, H Pinkerton

1340h **V13B-2011 POSTER** No Evidence of Degassing-Induced Oxidation of Hydrous Andesites and Dacites: An Analytical Study: **S M Crabtree**, R A Lange

1340h **V13B-2012 POSTER** The Hydration of Subglacial Rhyolite to Form Perlite: **J S Denton**, H Tuffen, J S Gilbert

1340h **V13B-2013 POSTER** Tube pumice kinematics using non-destructive neutron tomography: **K Hess**, A Flaws, B Schillinger, B Cordonnier, M Mühlbauer, M Schulz, J Marti, D B Dingwell

1340h **V13B-2014 POSTER** Investigating Degassing in Felsic and Mafic Magmas by 3-D Imaging of Vesicle Pathways: **M Polacci**, D R Baker, M Piochi, L Mancini

1340h **V13B-2015 POSTER** An integrated methodology to investigate vesicle textures in volcanic rocks: I-Presentation: **T Shea**, B F Houghton, L Gurioli, K V Cashman, J E Hammer, T Giachetti, T H Druitt

1340h **V13B-2016 POSTER** An integrated methodology to investigate vesicle textures in volcanic rocks: II-Applications: **J E Hammer**, T Shea, B F Houghton, L Gurioli, K V Cashman, T Giachetti, T H Druitt

1340h **V13B-2017 POSTER** A microanalytical perspective on late stage conduit dynamics at Tungurahua and Cotopaxi Volcanoes, Ecuador: **G J Swarr**, K A Garman, K S Harpp, J Dufek, D Geist

1340h **V13B-2018 POSTER** Clast morphologies and heating experiments constrain the thermal conditions during pyroclastic density current emplacement at Tungurahua volcano, Ecuador: **K A Garman**, G J Swarr, J Dufek, K S Harpp, D Geist

1340h **V13B-2019 POSTER** Three-dimensional textural analysis of products from the Vulcanian explosions of Soufrière Hills Volcano, Montserrat, 1997, using X-ray computed microtomography: comparison with 2D data and implications for vesiculation processes: **T Giachetti**, A Burgisser, T H Druitt

1340h **V13B-2020 POSTER** Using X-ray tomography as a tool to better quantify bubble network characteristics in volcanic tephra in three-dimensions: **M A Davis**, S D Walsh, M O Saar, J J Roberts, A A Proussevitch

1340h **V13B-2021 POSTER** DECOMPRESSION-INDUCED CRYSTALLIZATION: APPLICATION TO MAGMA ASCENT RATES IN THE VOLCANIC CONDUIT OF MT PELEE (MARTINIQUE, FWI): **C Martel**

1340h **V13B-2022 POSTER** KINETICS OF DECOMPRESSION-INDUCED CRYSTALLIZATION IN RHYOLITIC MELTS: **E Mollard**, C Martel, J Bourdier

1340h **V13B-2023 POSTER** Magma fragmentation within a propagating dike: **B Taisne**, C P Jaupart

1340h **V13B-2024 POSTER** Rheology of the 2006 Eruption at Tungurahua Volcano, Ecuador: **J B Hanson**, F Goldstein, Y Lavallee, U Kueppers, F W von Aulock, P A Mothes, J Bustillos, G DOUILLET, K Hess, D B Dingwell

1340h **V13B-2025 POSTER** Volcano in the basement, a new experimental rig for the development of volcanic textures: P Ashwell, **B M Kennedy**, K Buchanan, D Drabble, F W von Aulock

1340h **V13B-2026 POSTER** Structures within two ancestral eruptive sites at Cotopaxi Volcano, Ecuador: **F W von Aulock**, Y Lavallee, J B Hanson, B M Kennedy, J M Castro, D B Dingwell

1340h **V13B-2027 POSTER** Using hornblendes to compare petrological evidence with geophysical models for magma storage and ascent at Augustine 2006: **S Henton**, J F Larsen, M L Coombs

1340h **V13B-2028 POSTER** Permeability and pore-connectivity variation of pumices from a single pyroclastic flow eruption: Implications for partial fragmentation: **M Nakamura**, K Otaki, S Takeuchi

1340h **V13B-2029 POSTER** Can the geometry of dike emplacement be influenced by magma rheology? Comparison of analogue experiments and observations in megacrystal bearing dikes of southern Mexico: **M J Chavez Alvarez**, M Cerca

1340h **V13B-2030 POSTER** A High-Temperature Micro-Furnace for In-Situ TIR Spectral Analysis of Quartzofeldspathic Melts: **R Lee**, M Ramsey

1340h **V13B-2031 POSTER** Pumice, a window into the volcanic conduit: **W Degruyter**, J Dufek, O Bachmann

1340h **V13B-2032 POSTER** Textures from magmatic vesiculation: Statistical characterization from Monte Carlo simulations of brittle fragmentation and formation of fine ash: **A A Proussevitch**, D L Sahagian

1340h **V13B-2033 WITHDRAWN**

1340h **V13B-2034 POSTER** Melt-Bubble Surface Tension in Hydrous Magmas and the Effects of Alkalinity, Temperature, and Water Content: **A E Lewis**, J E Gardner

1340h **V13B-2035 POSTER** Melt inclusions are not reliable proxies for magmatic liquid composition: evidence from crystal-poor andesites and dacites in the Tequila volcanic field, Mexico: **H M Frey**, R A Lange

1340h **V13B-2036 POSTER** Constraints on Eruption Dynamics, Mount St. Helens, WA, 2004-2008: **A Schneider**, A W Rempel, K V Cashman

V13C Moscone South: Poster Hall Monday 1340h
Early Earth II Posters (joint with MR, DI)

Presiding: **J Badro**, IMPMC - CNRS; **M J Walter**, University of Bristol; **F J Ryerson**, Lawrence Livermore National Laboratory

1340h **V13C-2037 POSTER** Detail lithology and isotope result of midarchean black shale sequence: DXCL Drilling Project of 3.2Ga Dixon Island - Cleaverville formations, Pilbara, Australia: **R Sakamoto**, S Kiyokawa, T Ito, M Ikehara, H Naraoka, K E Yamaguchi, Y Suganuma, K Hosoi, Y Miyamoto

1340h **V13C-2038 POSTER** Archean hydrothermal oceanic floor sedimentary environments: DXCL drilling project of the 3.2 Ga Dixon Island Formation, Pilbara, Australia: **S Kiyokawa**, T Ito, M Ikehara, K E Yamaguchi, H Naraoka, R Sakamoto, Y Suganuma

1340h **V13C-2039 POSTER** Evidence of ancient cataclysm in modern sand: shock microstructures in detrital quartz, zircon, and monazite from the Vaal River, Vredefort Dome, South Africa: **A J Cavosie**, R R Quintero-Mendez, H A Radovan, D E Moser, J W Valley

1340h **V13C-2040 POSTER** Simulations of Diffusive Pb-, Ti- and REE-loss in Terrestrial and Lunar Zircon and Apatite as a Function of Impact Heating During Impact Bombardments: **O Abramov**, S J Mojzsis

1340h **V13C-2041 POSTER** Do the Jack Hills zircons record evidence of the Late Heavy Bombardment?: **E A Bell**, M M Wielicki, S S Abbott, S J Mojzsis, T M Harrison

1340h **V13C-2042 POSTER** Hadean Boninites and TTG Genesis: **J Adam**, T A Rushmer, J O'Neil, D Francis

1340h **V13C-2043 POSTER** The fate of the earliest crust: the bulk silicate Earth and the meaning of 142Nd anomaly: **J Korenaga**

1340h **V13C-2044 POSTER** Behavior of oxygen partitioning between iron metal and silicate or oxide up to 21 GPa and 2600 degree C: **A Ricolleau**, Y Fei, J Badro

1340h **V13C-2045 POSTER** Siderophile elements, oxygen and single-stage core formation: A Corgne, **J siebert**, J Badro

1340h **V13C-2046 POSTER** Monte Carlo Error Analysis Applied to Core Formation: The Single-stage Model Revived: **E Cottrell**, M J Walter

1340h **V13C-2047 POSTER** Thermal Distribution Resulting from Planetary Core Formation by Iron Rain in a Magma Ocean: **H Ichikawa**, S J Labrosse, M Kameyama

1340h **V13C-2048 POSTER** Why might planets and moons have early dynamos?: **J Monteux**, M Jellinek, C L Johnson

1340h **V13C-2049 POSTER** Melting of Peridotite at Lower Mantle Conditions: Implications for Magma Ocean Differentiation and Melting Processes at the CMB: **G Fiquet**, A Auzende, J siebert, A Corgne, H Bureau, H Ozawa, G Garbarino

1340h **V13C-2050 POSTER** Composition of the Ultra-Low Velocity Zone from Shock Data: **T J Ahrens**, P D Asimow

1340h **V13C-2051 POSTER** Eutectic melting temperature of the lowermost Earth's mantle: **D Andrault**, G Lo Nigro, N Bolfan-Casanova, M Bouhifd, G Garbarino, M Mezouar

1340h **V13C-2052 POSTER** Paleoproterozoic rhyolitic volcanism and the origin of the granitic continental crust: **C Sanchez-Garrido**, G Stevens, R Armstrong, J Moyan, M Herve, R Doucelance

V13D Moscone South: Poster Hall Monday 1340h
Quantitative Modeling and Cyberinfrastructure in Volcanology, Geochemistry, and Petrology II Posters (*joint with MR*)

Presiding: **W A Bohrsen**, Central Washington University; **M S Ghiorso**, OFM Research Inc.; **F J Spera**

1340h **V13D-2053 POSTER** Interoperability of Databases in the Cyberinfrastructure for Geochemistry: Identifying and Retrieving Related Records Between LEPR and EarthChem: **M S Ghiorso**, D Walker, J M Ash

1340h **V13D-2054 POSTER** Development of Cyber-Infrastructure for Experimental Data and Trace Element Partitioning (traceDs): **R L Nielsen**, M S Ghiorso, A A Koppers

1340h **V13D-2055 POSTER** Thermodynamic modeling of mantle melting: **K Ueki**, H Iwamori

1340h **V13D-2056 POSTER** Thermodynamic Calibration of Cr-Al Exchange Equilibria for Garnet and Spinel: **E A Hamecher**, P M Antoshechkina, M S Ghiorso, P D Asimow

1340h **V13D-2057 POSTER** Integrating MELTS Modeling with *In Situ* Textural and Chemical Plagioclase Data to Document Ascent and Storage Conditions of Four Historical Mount Etna Magmas: **M N Moses**, W A Bohrsen

1340h **V13D-2058 POSTER** Using MELTS to understand the evolution of silicic magmas: Challenges and successes in modeling the Highland Range Volcanic Sequence (NV): **R C Vaum**, G A Gualda, M S Ghiorso, C F Miller, L L Colombini

1340h **V13D-2059 POSTER** THERMODYNAMIC MODELLING AS A TOOL TO UNDERSTAND THE EVOLUTION OF MAGMATIC SYSTEMS. CAMPI FLEGREI (ITALY)'S CASE STUDY: **C Cannatelli**, F J Spera

1340h **V13D-2060 POSTER** Thermochemistry and Dynamics of Assimilation-Fractional Crystallization: **W A Bohrsen**, F J Spera, J B Creamer, M S Ghiorso

1340h **V13D-2061 POSTER** Thermodynamics and Phase Equilibria of Concurrent Assimilation and Fractional Crystallization (AFC) in Crustal Magma Bodies: **J B Creamer**, F J Spera, W A Bohrsen, M S Ghiorso

1340h **V13D-2062 POSTER** Knowledge Sharing and Collaboration in Volcanic Risk Mitigation at Galeras Volcano, Colombia: A Participative Workshop to Reduce Volcanic Risk: **M F Sheridan**, G A Cordoba

1340h **V13D-2063 POSTER** Volcano Modelling and Simulation gateway (VMSg): A new web-based framework for collaborative research in physical modelling and simulation of volcanic phenomena: T Esposti Ongaro, S Barsotti, **M de' Michieli Vitturi**, M Favalli, A Longo, L Nannipieri, A Neri, P Papale, G Saccorotti

1340h **V13D-2064 POSTER** Aggregation of volcanic ash in explosive eruptions: **J W Telling**, J Dufek

1340h **V13D-2065 POSTER** Molecular dynamics determination of the shear viscosity, self-diffusivity of Ca, Mg, Si, Al and O, and EOS of 1-bar eutectic composition (An₄₂Di₅₈) liquid at 1500-4000 K and 0-80 GPa: Comparison with laboratory data: F J Spera, **G B Martin**, D Nevins, M S Ghiorso

1340h **V13D-2066 POSTER** Channeled fluid flow through slabs: reactive porosity waves: **Y Podladchikov**, T John, A Beinlich, R Klemm

1340h **V13D-2067 POSTER** Quantitative Analysis of Water Confined in Ion-Exchanged Zeolites: **J Wang**, P S Neuhoff

1340h **V13D-2068 POSTER** Lattice Boltzmann Simulation of Isotope Fractionation During Snow Crystal Growth in Clouds: **G Lu**, D J Depaolo, Q Kang, D Zhang

1340h **V12C-07 POSTER** Atomistic simulations of magma rheology: **N Petford**, D G Heyes, R English

V13E Moscone South: Poster Hall Monday 1340h
Volcanism in the East African Rift System (EARS) II Posters (*joint with T*)

Presiding: **T P Fischer**, University of New Mexico; **D R Hilton**, UCSD; **T Furman**, Penn State University

1340h **V13E-2069 POSTER** Geochemistry and degassing systematics of silicate magma at Ol Doinyo Lengai, Tanzania: **J de Moor**, T P Fischer, P L King, D R Hilton, Z D Sharp, P H Barry, C Ramirez, F Mangasini

1340h **V13E-2070 POSTER** Degassing from a Mafic Alkaline Shield Volcano: Nyamulagira, D.R. Congo: E M Head, **S A Carn**, K W Sims, A M Shaw, P J Wallace, A Maclean

1340h **V13E-2071 POSTER** Dike injection and magma mixing in Kenya rift volcanoes: **E Y Anthony**, V Espejel, J Biggs

1340h **V13E-2072 POSTER** Stalled eruption or dike intrusion at Harrat Lunayyir, Saudi Arabia?: **H M Zahran, W A McCausland, J S Pallister, Z Lu, S El-Hadidy, A Aburukba, J Schawali, K Kadi, A Youssef, J W Ewert, R A White, P Lundgren, M Mufti, I C Stewart**

1340h **V13E-2073 POSTER** Thermal history of the deepest parts of orogens through U-Pb thermochronology of Tanzanian deep crustal xenoliths: **M S Blondes, R L Rudnick, S A Bowring, P M Piccoli, J Ramezani**

1340h **V13E-2074 POSTER** Water content of the Tanzanian cratonic mantle: **H Hui, A H Peslier, C Lee, R L Rudnick**

1340h **V13E-2075 POSTER** Geochemistry and age of the Essimigor volcano, northern Tanzania (East Africa): **S Mana, G F Mollel, M Feigenson, M J Carr, B D Turrin, T Furman, C C Swisher**

1340h **V13E-2076 POSTER** Geochemistry of 24 Ma Basalts from Northeast Egypt: Implications for Small-Scale Convection Beneath the East African Rift System: **C A Endress, T Furman, M Ali Abu el-Rus**

V13F Moscone West: 2016 Monday 1340h
Layered Intrusions I

Presiding: **M Humphreys**, University of Cambridge; **C E Leshner**, UC Davis

1340h **V13F-01** Compaction in Igneous Rocks (*Invited*): **A E Boudreau**

1355h **V13F-02** On the Principles of Building a Layered Intrusion: **B D Marsh**

1410h **V13F-03** Pre-Cumulus zoning, Residual Porosity, and Impermeable Barriers in Igneous Cumulates: **S A Morse**

1425h **V13F-04** Differentiation and compaction in the Skaergaard intrusion: **C Tegner, P Thy, M Holness, J K Jakobsen, L Salmonsens, M Humphreys, C E Leshner**

1440h **V13F-05** Constraining the Thickness of the Crystal Mush in Layered Mafic Intrusions: **M B Holness, C Tegner, T F Nielsen**

1455h **V13F-06** Polarization of mafic and felsic rocks In the Skaergaard Layered Series (*Invited*): **A R McBirney, A Johnston, J D Webster**

1510h **V13F-07** Timing, Formation and Mobility of Melano Granophyric Liquids in the Skaergaard Intrusion: **R B Larsen, B Sorensen, A Müller**

1525h **V13F-08** Occurrence of cyclic layering: natural examples and numerical simulations: **A Toramaru, M Matsumoto**

V13G Moscone West: 2018 Monday 1340h
Mechanistic Understanding of Factors Influencing Non-Mass-Dependent Fractionation II

Presiding: **K Kritee**, Princeton University; **B A Bergquist**, University of Toronto

1340h **V13G-01** Long Term $\delta^{17}\text{O}$, $\delta^{18}\text{O}$ measurements of tropospheric carbon dioxide and potential application to the global carbon cycle. (*Invited*): **M H Thiemens**

1355h **V13G-02** Triple Isotopic Composition of Atmospheric Carbonates: A Novel Technique to Identify Heterogeneous Chemistry on Aerosol Surfaces in Polluted Environment: **R Shaheen, J Horn, G Dominguez, A Masterson, A V Ivanov, M H Thiemens**

1410h **V13G-03** Accidental Predissociation: A Special Case of Photo-Induced Isotope Fractionation Effect and Possible Occurrence in Nature: **S Chakraborty, M H Thiemens**

1425h **V13G-04** Mass-Independent Fractionation of Oxygen Isotope in Earth Wind: First Principle Calculations for Photodissociation: **A Yamada, S Nanbu, Y Kasai, M Ozima**

1440h **V13G-05** Mass-dependent and mass-independent sulfur isotope effects during laboratory photolysis experiments of carbonyl sulfide and sulfur dioxide (*Invited*): **S Ono, Y Lin, S Kopf, E Cordner**

1455h **V13G-06** High-resolution SO_2 isotopologue spectra as evidence for sulfur MIF due to SO_2 self-shielding: **J R Lyons, G Stark, D Blackie, J C Pickering**

1510h **V13G-07** Mass-independent fractionation of Hg stable isotopes during Arctic atmospheric mercury depletion events: **L S Sherman, J D Blum, K Johnson, G J Keeler, J A Barres, T A Douglas**

1525h **V13G-08** Fractionation of mercury isotopes by photo-oxidation in aquatic systems: **S Ghosh, B A Bergquist, J D Blum**

V13H Moscone West: 2020 Monday 1340h
Volatiles in the Earth: From Past to Present II (*joint with MR, P, DI, T*)

Presiding: **H M Gonnermann**, Rice University; **R Dasgupta**, Rice University

1340h **V13H-01** Volatile behavior in the aftermath of the moon-forming impact to the present: **N H Sleep**

1355h **V13H-02** Behavior of Volatile Material During Accretion of Terrestrial Planets (*Invited*): **Y Abe**

1410h **V13H-03** Experimental investigation of the volatility of elements in respect to temperature and fO_2 : **W Ertel, D B Dingwell, S Pohl**

1425h **V13H-04** Evidence for ancient atmospheric xenon in Archean quartz and implications for the early evolution of the atmosphere: **M Pujol, B Marty**

1440h **V13H-05** The Chlorine Abundance of Earth: Evidence for Early Atmospheric Loss and Creation of a Life-Supporting Planet: **Z D Sharp, D S Draper**

1455h **V13H-06** Global mantle convection: Evidence from carbon and nitrogen isotopes in super-deep diamonds (*Invited*): **M Palot, P Cartigny, J Harris, F V Kaminsky, T Stachel**

1510h **V13H-07** Mapping CO_2 degassing and fluxes along the Mid-Ocean Ridge system: **D Chavrit, E Humler, A Bezos, Y Morizet**

1525h **V13H-08** Fluid pathways in subduction zones: **M W Spiegelman, P E Van Keken, B R Hacker**

Union

U14A Moscone South: 103 Monday 1600h
An Earthquake in an Ancient City: The April 2009 L'Aquila (Central Italy) Seismic Sequence III

Presiding: **P F Biagi**, University of Bari; **D P Ouzounov**, NASA/GSFC; **V Tramutoli**, University of Basilicata

1600h **U14A-01** Electrical imaging of the April 2009 L'Aquila earthquake fault ($M_w=6.3$, central Italy): **S Piscitelli, P Galli, A Giocoli, E Peronace, G Romano**

1615h **U14A-02** The on-demand DInSAR-GPOD processing system based on the SBAS algorithm: the case study of the L'Aquila earthquake: **R Lanari, F Casu, R Cossu, L Fusco, S Guarino, M Manunta, G Mazzarella, E Sansosti**

1630h **U14A-03** Radon observations by Gamma Detectors "PM-4 and PM-2" during the seismic period (January – April 2009) in L'Aquila Basin. (*Invited*): **G G Giuliani, R Giuliani, G Totani, G Eusani, F Totani**

1645h **U14A-04** Robust Satellite Techniques (RST) for monitoring Earthquake active regions: the case of Abruzzo April 6th 2009 event. (*Invited*): **N Pergola**, C Aliano, R Corrado, N Genzano, M Lisi, G Mazzeo, V Tramutoli, I Coviello, C Filizzola, T Lacava, R Paciello

1700h **U14A-05** Possibility of reliable earthquake forecast using several preseismic events: Abruzzo case as example: **O Molchanov**, M Hayakawa

1715h **U14A-06** PRE SEISMIC ANOMALIES REVEALED IN THE AREA WHERE THE ABRUZZO EARTHQUAKE (M = 6.3) OCCURRED ON APRIL 6, 2009: **P F Biagi**, L Castellana, T Maggipinto, A Ermini

1730h **U14A-07** Atmosphere and radon activities observed prior to Abruzzo M6.3 earthquake of April 6, 2009: S A Pulinet, **D P Ouzounov**, G G Giuliani, L Ciraolo, P T Taylor

1745h **U14A-08** Comparing independent observations at the time of Abruzzo April 6th 2009 earthquake: new vs false ideas: N Genzano, C Aliano, R Corrado, I Coviello, C Filizzola, M Lisi, T Lacava, G Martinelli, G Mazzeo, R Paciello, N Pergola, **V Tramutoli**

Atmospheric Sciences

A14A Moscone West: 3004 Monday 1600h
Aerosols and Climate in Asia III: Modeling (*joint with GC, H*)

Presiding: **V Ramaswamy**, NOAA/ GFDL; **S C Liu**, Academia Sinica

1600h **A14A-01** Quantification of the Impacts of Asian Pollution on Pacific Storm Track (*Invited*): R Zhang, **Y Wang**

1620h **A14A-02** Aerosol-climate interactions over China: **H Liao**, W Chang, L Zhang, J Li

1635h **A14A-03** Coupled Monitoring and Modeling of Air Quality and Regional Climate during the 2008 Beijing Olympic Games: **Y Zhang**, J A Smith, A P Michel, M L Baeck, Z Wang, J D Fast, C Gmachl

1650h **A14A-04** BC (black carbon) effective climate forcing in comparison with that of anthropogenic CO₂: **C E Chung**, P Räisänen, M T Kulmala

1705h **A14A-05** The Impact of Detailed Urban Scale Processing on the Simulation of the Concentration and Distribution of Aerosols in Asia: **J B Cohen**, C Wang, R G Prinn

1720h **A14A-06** Aerosol changes associated with land use change in Asia and their impacts on climate: **K Sudo**, K Takata, H Kanzawa, T Yasunari

1735h **A14A-07** WITHDRAWN

1748h **A14A-08** Trend of surface solar radiation over Asia simulated by aerosol transport-climate model: **T Takemura**, A Ohmura

A14B Moscone West: 3002 Monday 1600h
Indian Monsoons I (*joint with NH*)

Presiding: **D S Niyogi**; **B Rajagopalan**, University of Colorado; **R P Singh**

1600h **A14B-01** Tracing the antecedents of droughts over India (*Invited*): **T N Krishnamurti**

1615h **A14B-02** The delayed effect of major El Niño events on Indian monsoon rainfall: **H Park**, J C Chiang, B R Lintner

1630h **A14B-03** Indian Monsoon Precipitation: spatio-temporal modeling and inferences from daily rainfall data (*Invited*): U Lall, **C B Krishnamurthy**, C H Lima

1645h **A14B-04** Sub-annual Variability of Indian Monsoon Rainfall: **B Rajagopalan**, A Verdin, M Merrill, K Kumar, R R Nemani

1700h **A14B-05** Land-Use and Land-Cover Change and Associated Changes in Hydrological Cycle and Energy Exchange Processes in Monsoon Asian Region (*Invited*): **A Jain**, M Liang, R Barman, M Erickson, L Cao, G Bala

1715h **A14B-06** Impacts of Land Use Land Cover Change on the Indian Monsoon Rainfall: **D S Niyogi**

1730h **A14B-07** Monsoon Depression: Formation mechanism, propagation property, water vapor budget, and its impact on the interannual variation of the northeast Indian monsoon rainfall (*Invited*): **T Chen**

1745h **A14B-08** Climate change projections of daily rainfall statistics over India: Downscaling using a hidden Markov model: **A W Robertson**, A M Greene, P Smyth, S Triglia

A14C Moscone West: 3008 Monday 1600h
Multisensor and Model Aerosol Data Intercomparison and Integration I (*joint with IN*)

Presiding: **R A Kahn**, NASA/Goddard Space Flight Ctr; **G G Leptoukh**, NASA

1600h **A14C-01** Towards an integrated framework for characterizing mineral dust aerosol from multi-satellite, multi-sensor observations and regional transport model data (*Invited*): **I N Sokolik**, G Boer, H CHOI, A S Darmanov, O V Kalashnikova, D Winker

1620h **A14C-02** Dust aerosol optical depth and altitude retrieved from hyperspectral infrared observations (AIRS, IASI) and comparison with other aerosol datasets (MODIS, CALIOP, PARASOL): **S Peyridieu**, A Chédin, D Tanré, V Capelle, C Pierangelo, N Lamquin, R Armante

1635h **A14C-03** A 30-Month Global Record of Aerosol Single Scattering Albedo from the Combined use of OMI and CALIOP Observations: **O Torres**, Z Chen

1650h **A14C-04** Improved particulate matter air quality modeling through integration of MODIS reflectance with GEOS-Chem simulations: **J Wang**, X Xu, R J Spurr, Y Wang

1700h **A14C-05** Sensitivity of Satellite-derived Critical Reflectance to Aerosol Physical and Optical Properties: **K C Wells**, J Martins, L A Remer, S M Kreidenweis, G L Stephens

1710h **A14C-06** The assessment of climatology of absorbing aerosol field with integration of aerosol-climate model, and ground-based and satellite remote sensing measurements: **G Jeong**, C Wang, N M Mahowald, M L Rigby, J Martins

1725h **A14C-07** Secondary Aerosol Particles and their Precursor Gases: Comparisons of Observations from OMI and MODIS Observations and GEOS-Chem Model Results: **J P Veefkind**, F Boersma, J Wang, T P Kurosu, P Levelt

1740h **A14C-08** Observability considerations for multi-sensor and product fusion: Bias, information content, and validation (*Invited*): **J S Reid**, J Zhang, E J Hyer, J R Campbell, S A Christopher, R A Ferrare, G G Leptoukh, P W Stackhouse

A14D Moscone West: 3006 Monday 1600h
Organics in the Atmosphere: Chemical and Physical Transformations III

Presiding: **D O De Haan**, University of San Diego; **J L Jimenez**, University of Colorado-Boulder

1600h **A14D-01** Atmospheric glyoxal and methylglyoxal: their role as SOA precursors and their potential as diagnostics for surface ozone sensitivity (*Invited*): **T Fu**

1622h **A14D-02** Modeling SOA formation in the aqueous phase - Comparing chemical processes in aqueous aerosol particles and cloud droplets: **B Ervens**, R Volkamer

1636h **A14D-03** Glyoxal Formation in the Tropical Pacific Ocean Detected during the VOCALS-Rex 2008 Field Campaign: **R Sinreich**, B K Dix, S Coburn, R Volkamer

1650h **A14D-04** Aerosol Formation by Oligomerization: Kinetics and Aerosol Yields: **D O De Haan**, S E Wood, J J Turley

1704h **A14D-05** Surface-active and Light-absorbing Secondary Organic Aerosol (SOA) Material: **V F McNeill**, N Sareen, A N Schwier, E L Shapiro

1718h **A14D-06** SOA Measurements vs. Models: a Status Report: **J L Jimenez**, J A De Gouw

1732h **A14D-07** Contributions of Selected Biogenic and Aromatic Compounds to the Formation of Tropospheric Secondary Organic Aerosol over Several Sites in the United States: **M Jaoui**, T E Kleindienst, M Lewandowski, J H Offenberg, E W Corse, T Gerald, E Edney

1746h **A14D-08** An AEROCOM Intercomparison Exercise in Organic Aerosol Modeling: **K Tsigaridis**, M Kanakidou

Biogeosciences

B14A Moscone West: 3018 Monday 1600h
Adaptation of Vegetation to Changes in Environmental Forcing I (*joint with A, GC, H, H*)

Presiding: **S J Schymanski**, Max Planck Institute for Biogeochemistry; **S Zaehle**, Max Planck Institute for Biogeochemistry; **K P Tu**, UC Berkeley; **T N Buckley**, Sonoma State University

1600h **B14A-01** On the representation of hydrological processes in current SVAT schemes - comparison and perspective (*Invited*): **C J Kuells**, J Zabori

1620h **B14A-02** Significant contribution of largely neglected semi-arid forests to the climate system: **D Yakir**, E Rotenberg

1635h **B14A-03** Response of the Vegetation-Climate System to High Temperature (*Invited*): **J A Berry**

1655h **B14A-04** Importance of Acclimation for Modeling Canopy Photosynthesis: LAI, Amax and Optimality: **K P Tu**

1710h **B14A-05** Optimisation modelling predicts leaf trait variation and response to elevated CO₂: **D A Pepper**, R E McMurtrie, R J Norby

1725h **B14A-06** OPTIMALITY PRINCIPLE INTEGRATES PLANT RESPONSES TO ELEVATED CO₂ AND SOIL NITROGEN AVAILABILITY: **O Franklin**

1740h **B14A-07** Optimisation explains global leaf trait patterns and plant adaptations to global change (*Invited*): **R C Dewar**, R E McMurtrie

B14B Moscone West: 3016 Monday 1600h
Measuring and Modeling the Emission of Biogenic Volatile Organic Compounds From Crop and Forest Ecosystems II (*joint with A, EP, GC*)

Presiding: **S Fares**, University of California; **D R Worton**, University of California Berkeley; **E Ormeño**, UC Berkeley

1600h **B14B-01** Scots pine chemotypic characterization in a boreal forest stand: **J K Bäck**, J Aalto, M Henriksson, H Hakola, J Rinne

1615h **B14B-02** Observations of BVOC (Biogenic Volatile Organic Compound) Fluxes and Vertical Gradients in a Ponderosa Pine Forest during BEARPEX 2009: **J Park**, S Fares, R Weber, A H Goldstein

1630h **B14B-03** Effects of Bark Beetle Infestation on Secondary Organic Aerosol Precursors in the Western United States: **K E Huff Hartz**, H Amin, C Dodson, P T Atkins, G Hallar

1645h **B14B-04** Origin of monoterpene emissions from boreal tree species: Determination of de novo and pool emissions by ¹³CO₂ labeling: **J Rinne**, A Ghirardo, K Koch, R Taipale, I Zimmer, J Schnitzler

1700h **B14B-05** Constraints on regional sources of volatile organic compounds from tall tower measurements in the Upper Midwest: **L Hu**, M Mohr, D B Millet

1715h **B14B-06** Modeling the response of forest isoprene emissions to future increases in atmospheric CO₂ concentration and changes in climate (*Invited*): **R K Monson**, C L Heald, A B Guenther, M Wilkinson

1730h **B14B-07** Photosynthesis-dependent isoprene emissions in a coupled global chemistry-climate-ecosystem model: **N Unger**, A Arneth, N Y Kiang, G Schurgers, I D Aleinov

1745h **B14B-08** An above-canopy flux network for improving and evaluating biogenic VOC emission models: GLOBal Organic Emissions NETwork (GLOBOENET) (*Invited*): **A B Guenther**, A Turnipseed, T Duhl, S Shertz, T Karl, R Monson, M E Litvak, K J Jardine, L Abrell, C Geron, R Seco

Cryosphere

C14A Moscone West: 3014 Monday 1600h
Outlet Glacier and Ice Shelf Changes: Observations and Modeling I (*joint with G, GC*)

Presiding: **E Y Larour**, Jet Propulsion Laboratory; **E J Rignot**, University California Irvine; **T K Dupont**, University of California

1600h **C14A-01** Marine ice in Larsen Ice Shelf (*Invited*): **P Holland**, H Corr, D Vaughan, A Jenkins, P Skvarca

1615h **C14A-02** Merging observations with numerical models in oceanography: some approaches and experiences gained within ECCO (*Invited*): **P Heimbach**

1630h **C14A-03** Jakobshavn Isbræ: is there a speed limit?: **M P Luethi**, M A Fahnestock, M Truffer, R J Motyka

1645h **C14A-04** A computationally inexpensive approximation to the Blatter/Pattyn equations and applications to inverse modeling of observations (*Invited*): **D N Goldberg**

1700h **C14A-05** Larsen C Ice Shelf rheology inferred by combining InSAR observations and numerical modeling: **A Khazendar**, E J Rignot, E Y Larour

1715h **C14A-06** Interdecadal Ice Loss Rates Adjacent to the Drake Passage Inferred from GRACE Measurement: **E R Ivins**, M M Watkins, D Yuan, R O Dietrich, G Casassa, A Rülke

1730h **C14A-07** Modeling of Nioghalvfjærdsfjorden glacier ice flow (79 North) using inverse control methods and higher order formulations: **H L Seroussi**, M Morlighem, E Y Larour, E Rignot

1745h **C14A-08** Humboldt Glacier, Greenland sub-marine melt rates derived from CTD/current casts: **E Lauchman**, J E Box, I M Howat, A Hubbard, R Bates

Education and Human Resources

ED14A Moscone West: 3020 Monday 1600h
Using Web 2.0 Technologies to Facilitate Science Communications III

Presiding: **C M Martinez**, American Geological Institute; **C E Meth**, Consortium for Ocean Leadership

1600h **ED14A-01** Incorporating Web 2.0 Technologies from an Organizational Perspective: **R Owens**

1615h **ED14A-02** Science, Society, and Social Networking: **K S White**, T Lohwater

1630h **ED14A-03** Using Web 2.0 technologies to recruit the next generation of talent to the geoscience workforce: **C M Martinez**, C M Keane

1645h **ED14A-04** Brave New Media World: A Science Communications Voyage to the Great Pacific Garbage Patch: **A Reisewitz**, C L Clark

1700h **ED14A-05** Education and Public Outreach at The Pavilion Lake Research Project: Fusion of Science and Education using Web 2.0: **B R Cowie**, D S Lim, R Pendery, B Laval, G F Slater, A L Brady, W L Dearing, M Downs, A Forrest, D S Lees, R A Lind, M Marinova, D Reid, M A Seibert, R Shepard, D Williams

1715h **ED14A-06** Using Web 2.0 tools to connect shore-based users to live science from the wide blue ocean: **S K Cooper**, L Peart, J Collins

1730h **ED14A-07** Outreach for Outreach: Targeting social media audiences to promote a NASA kids' web site: **C C Pham**

1745h **ED14A-08** Using An Online Photo-Sharing Tool (Flickr) to Connect Students During Earth Science Week: **L A Guertin**

Geodesy

G14A Moscone West: 3022 Monday 1600h
Terrestrial Reference Systems: Theory, Realizations, and Applications II (*joint with PA, C, OS, T*)

Presiding: **Z Altamimi**, Institut Geographique National; **RS Gross**, Jet Propulsion Laboratory; **C C Boucher**, MEEDDM

1600h **G14A-01** Terrestrial Reference Systems and Frames. A review of current activities: **C C Boucher**

1615h **G14A-02** Surface displacement due to degree-1 loading in reference frames realized by imperfect geodetic networks: **M Fang**, B H Hager

1630h **G14A-03** Assessment and improvement of the accuracy of GPS terrestrial origin and scale (*Invited*): **T Herring**

1645h **G14A-04** Strategies for Defining the Terrestrial Reference Frame from GPS Alone: **B J Haines**, W Bertiger, S D Desai, A Sibois, J P Weiss, Y Bar-Sever

1700h **G14A-05** ITRF2008 computations at DGFI: **M Seitz**, M Blossfeld, D Angermann, H Drewes

1715h **G14A-06** Quality Assessment of the ITRF2008: **Z Altamimi**, X Collilieux, L Metivier

1730h **G14A-07** The Impact of the Reference Frame on the Determination of Mean Sea Level (*Invited*): **F G Lemoine**, N P Zelensky, B D Beckley, D D Rowlands, R D Ray, S B Luthcke

1745h **G14A-08** GEODVEL vs. MORVEL: Comparison of plate motion determined from space geodesy with that determined from magnetic anomalies and transform azimuths (*Invited*): **D Argus**, C DeMets, R G Gordon

Hydrology

H14A Moscone West: 3007 Monday 1600h
Advances in the Quantitative Characterization of Karstic and Fractured Aquifers II (*joint with NS*)

Presiding: **M D Covington**, University of Minnesota - Twin Cities; **M Sauter**, Universitaet Goettingen; **D H Doctor**

1600h **H14A-01** What does the early recession of spring hydrographs tell about aquifer properties? (*Invited*): **S Birk**, S Hergarten

1615h **H14A-02** Influence of Phreatic Conduit Floods on Matrix Storage in Unconfined Karst: **J L Wilson**, K Koski

1630h **H14A-03** Dependence of hydraulic conductivity estimates from slug tests on displacement depth: **M Sauter**, R Brauchler

1645h **H14A-04** Thermal Signals as a Means of Characterizing Karst Aquifers: **M D Covington**, A J Luhmann, E C Alexander, S C Alexander, M O Saar, C M Wicks

1700h **H14A-05** Identifying Source Waters in the Karstic Madison Aquifer on the Basis of Water Chemistry, Wind Cave National Park, South Dakota: **J F Valder**, A J Long, A Davis, S Kenner

1715h **H14A-06** Multi-sourced, 3D geometric characterization of volcanogenic karst features: Integrating lidar, sonar, and geophysical datasets (*Invited*): **J M Sharp**, **M O Gary**, R Reyes, T Halihan, N Fairfield, W C Stone

1730h **H14A-07** Delineating saturated conduit patterns and dimensions in the upper Floridan aquifer through numerical groundwater flow modeling (*Invited*): **T R Kincaid**, B A Meyer

1745h **H14A-08** Distributed Modeling of Hydrological Processes in a Karst Watershed of Southwest China: **X Chen**, Z Zhang, S Peng, X Xue

H14B Moscone West: 3009 Monday 1600h
Challenges and Progress in Regional Groundwater Flow, Transport, and Reactive Transport Modeling II (*joint with B, NS*)

Presiding: **L Foglia**, UC Davis and Larry Walker Associates; **C Green**, USGS; **T Ginn**, UC Davis

1600h **H14B-01** Regional modeling of groundwater flow and arsenic transport in the Bengal Basin: challenges of scale and complexity (*Invited*): **H A Michael**, C I Voss

1615h **H14B-02** Modeling and Managing Regional Aquifers in Arid Countries: **C Schüth**, R Rausch

1630h **H14B-03** Regional Simulation of Groundwater Transport of Nitrate in the Delmarva Peninsula, USA (*Invited*): **W E Sanford**

1645h **H14B-04** The Central Valley Hydrologic Model: **C Faunt**, K Belitz, R T Hanson

1700h **H14B-05** Integrated Hydrological Modeling of the Greater San Joaquin River Basin, California: **S Y Moqbel**, R M Maxwell, A F Tompson, J L Wagoner, K Mansoor, S Smith, C S Woodward, J K Lundquist, J Mirocha

1712h **H14B-06** Linking economic and integrated hydrologic models to investigate the effects of reduced surface water deliveries on the aquifers of California's Central Valley: **C F Brush**, L L Dale, N L Miller, E C Dogrul, T Kadir, S D Vicuna, F I Chung

1724h **H14B-07** Regional groundwater flow and geochemical processes within an intercratonic sedimentary basin affected by long-term episodes of freshwater: **S A Bea**, K U Mayer, K T MacQuarrie

1736h **H14B-08** An integrated multi-scale hydrogeological model for performance and safety assessment of French geological high level and long live radwaste disposal in clay formation: **H Benabderrahmane**, F J Cornaton, J Kerrou

1748h **H14B-09** Resurgence flows in porous media: **P M Adler**, V Mityushev

H14C Moscone West: 301 I Monday 1600h
Everything, Everywhere, Every Time: Advances in High-Resolution Data Acquisition and Their Integration Into High-Fidelity Hydrologic Models I (*joint with A, B*)

Presiding: **M B Cardenas**, The University of Texas at Austin; **Z Yang**, University of Texas at Austin

1600h **H14C-01** Simulating Regional-Scale Terrestrial Hydrologic Fluxes at Fine Resolution with the Integrated Landscape Hydrology Model (ILHM) (*Invited*): **D W Hyndman**, **A D Kendall**

1615h **H14C-02** Superconducting gravimeter measurements for land surface model assessment: **S Gascoin**, **L Longuevergne**, **J Boy**, **S Rinaldi**, **A Ducharne**, **N Florsch**, **J Hinderer**

1630h **H14C-03** Modeling Prairie Pothole Lakes: Linking Satellite Observation and Calibration (*Invited*): **F W Schwartz**, **G LIU**, **B Zhang**, **Z Yu**

1645h **H14C-04** Imaging and spatio-temporal analysis of turbulent mixing of hydrothermal water discharging into a river (Breitenbush Hot Springs, Oregon): **B J Andrews**, **M B Cardenas**, **P Bennett**

1700h **H14C-05** High resolution temperature observations and modeling to quantify groundwater-surface water interactions: **M Westhoff**, **T Bogaard**, **H Savenije**

1715h **H14C-06** Improving stream temperature model predictions using high-resolution satellite-derived numerical weather forecasts: **A Pike**, **E Danner**, **S Lindley**, **F S Melton**, **R R Nemani**, **H Hashimoto**, **B Rajagopalan**, **R J Caldwell**

1730h **H14C-07** Advances in simulating hydrologic processes in the Community Land Model version 4.0 (*Invited*): **D M Lawrence**, **K W Oleson**, **G Niu**, **Z Yang**, **M Flanner**, **X Zeng**, **P E Thornton**, **S C Swenson**, **A G Slater**

1745h **H14C-08** Progress Towards Community Modeling in Hydrologic Science (*Invited*): **J S Famiglietti**, **L C Murdoch**, **V Lakshmi**, **R P Hooper**

H14D Moscone West: 3003 Monday 1600h
Groundwater Sustainability and Global Change II (*joint with GC, PA*)

Presiding: **D A Stonestrom**, US Geological Survey; **B R Scanlon**, University of Texas at Austin

1600h **H14D-01** Patterns of Oversubscribed Water Services: Implications for Groundwater: **E M Douglas**, **C J Vorosmarty**

1615h **H14D-02** Sustainability of Water Resources in Arid Ecosystems: A View from Hei River Basin, China (*Invited*): **C Zheng**, **G Cheng**, **H Xiao**, **R Ma**

1630h **H14D-03** Deteriorating food security in India: **C Milesi**, **A Samanta**, **H Hashimoto**, **K Kumar**, **S Ganguly**, **P S Thenkabail**, **A N Srivastava**, **R R Nemani**, **R B Myneni**

1645h **H14D-04** Coupled Hydro-Economic Dynamics of Groundwater Irrigated Agriculture in a Hard Rock Region of India: **V Modi**, **R Fishman**, **T U Siegfried**, **P Raj**, **V Vasquez**, **K Narula**, **U Lal**

1700h **H14D-05** Recent hydrological behaviour of the East African Great Lakes region from GRACE, satellite altimetry and rainfall observations: **M Becker**, **W LLOVEL**, **A A Cazenave**, **A Güntner**, **J Cretaux**

1715h **H14D-06** Evaluation of recharge in selected aquifer systems of the United States using tracers of groundwater age (*Invited*): **P B McMahon**, **L N Plummer**, **J K Bohlke**, **S D Shapiro**, **S R Hinkle**

1730h **H14D-07** Groundwater Management Innovations in the High Plains Aquifer, USA: A possible path towards sustainability? (*Invited*): **M A Sophocleous**

1745h **H14D-08** Long-term Climatic Change and Sustainable Groundwater Resources Management: **H A Loaigiga**

H14E Moscone West: 3005 Monday 1600h
Impact of Climate Extremes and Change on Hydrologic Responses and Hazards I (*joint with A, GC, NH*)

Presiding: **A P Butler**, Imperial College London; **S Curtis**, East Carolina University

1600h **H14E-01** Recent climatic changes in the Northern Extratropics with foci on extreme events and transitions through environmentally and socio-economically significant thresholds (*Invited*): **P Y Groisman**, **R W Knight**, **T R Karl**

1615h **H14E-02** What is the Meteorology Behind Observed Upward Trends in U.S. Heavy Precipitation? (*Invited*): **K Kunkel**, **D R Easterling**, **D Kristovich**, **B Gleason**, **R Smith**, **L Ensor**

1630h **H14E-03** Precipitation Volatility and the Probability of Daily Extremes (*Invited*): **A Gershunov**, **A Panorska**, **T Kozubowski**

1645h **H14E-04** Spatial Patterns and Temporal Trends of Global Floods during the TRMM Era (1998-2008): **J Wang**, **Y Hong**, **P Adhikari**, **R F Adler**

1700h **H14E-05** Integrated response and feedback of groundwater and the terrestrial hydrologic system under climate change (*Invited*): **R M Maxwell**, **I M Ferguson**

1715h **H14E-06** Managing extremes in groundwater-dominated catchments: the Chalk of SE England (*Invited*): **H S Wheater**

1730h **H14E-07** Controls on Groundwater Flood Generation in Chalk Catchments - Insights from Monitoring and Modelling: **C Jackson**, **B Adams**, **A Gallagher**, **A Hughes**, **D Peach**, **T Vounaki**, **A Williams**

1745h **H14E-08** Groundwater flooding in an urbanised floodplain: **D Macdonald**, **D Peach**, **A Dixon**

Earth and Space Science Informatics

IN14A Moscone South: 102 Monday 1600h
Strategies for Improved Marine and Synergistic Data Access and Interoperability I (*joint with A, B, GC, OS*)

Presiding: **C L Chandler**, Woods Hole Oceanographic Institution; **J Graybeal**, Marine Metadata Interoperability

1605h **IN14A-01** The Social Life of Data: Data Management Challenges and Opportunities (*Invited*): **M J Bietz**

1625h **IN14A-02** Rolling Deck to Repository (R2R): Technical Design - Experiences and Lessons (*Invited*): **R A Arko**, **S M Carbotte**, **S P Miller**, **C L Chandler**, **V Ferrini**, **K Stocks**, **A R Maffei**, **S R Smith**, **M A Bourassa**, **S J McLean**, **J C Alberts**

1640h **IN14A-03** Experiences with an operational, distributed data access infrastructure in The Netherlands (*Invited*): **T De Bruin**

1655h **IN14A-04** Regional Ocean Data Portal: Transforming Information to Knowledge: **M K Howard**, **F C Gayanilo**, **A E Jochens**

1710h **IN14A-05** Moving Beyond the 10,000 Ways That Don't Work: **LE Bermudez**, **D K Arctur**, **C Rueda**

1725h **IN14A-06** Information Infrastructure, Information Environments, and Long-Term Collaboration: **K S Baker**, **D D Pennington**

1740h **IN14A-07** Libraries and Data: Short-Term Developments, Long-Term Prospects: **A Gold**

Natural Hazards

NH14A Moscone West: 3001 Monday 1600h
Severe Storms and Sea Level Rise: A Challenge to Science and Society III (*joint with A, GC, PA, OS, NH*)

Presiding: P Ciavola, University of Ferrara; A H Sallenger, U.S. Geological Survey

1600h **NH14A-01** Coastal Change Forecasting and Verification (*Invited*): N G Plant, H F Stockdon, A H Sallenger

1615h **NH14A-02** Hurricane Ike: Field Investigation Survey (*Invited*): L Ewing

1630h **NH14A-03** A modeling system for predicting the impact of severe storms on the U.S. West Coast: P L Barnard, M V Ormondt, B O'Reilly, D Hoover, C J Hapke, J Eshleman, P Ruggiero, E Elias, L H Erikson, B D Collins, R T Guza, P N Adams, J Thomas

1645h **NH14A-04** Storm-induced hazards and vulnerability along the Catalan coast (NW Mediterranean) (*Invited*): J A Jimenez

1700h **NH14A-05** The MICORE review of historical changes in storminess in Europe: P Ciavola

1715h **NH14A-06** MICORE: DUNE EROSION AND OVERWASH MODEL VALIDATION WITH DATA FROM NINE EUROPEAN FIELD SITES (*Invited*): A Van Dongeren, A Bolle, J Roelvink, M I Voudoukas, T Plomaritis, J Williams, C Armaroli, D Idier, P Van Geer, J Van Thiel de Vries, P Haerens, R Taborda, J Benavente, E Trifonova, P Ciavola, Y Balouin, P Eftimova

1730h **NH14A-07** Morphological thresholds for the definition of the vulnerability of coastal dunes in northern Italy: C Armaroli, P Ciavola, M Masina

1745h **NH14A-08** A Bayesian Approach to Forecasting Storm-induced Coastal Cliff Retreat: C J Hapke, N G Plant

Planetary Sciences

P14A Moscone South: 309 Monday 1600h
Organics in Meteorites and Dust Particles: Composition, Distribution, Formation, and Isotopic Anomalies II (*joint with B*)

Presiding: G D Cody, Geophysical Laboratory; M Nuevo, NASA Ames Research Center

1600h **P14A-01** Organic Coatings on Primitive Grains in IDPs: Implications for the Formation of Solar System Organic Matter: G J Flynn, S Wirick, L P Keller, S Sandford

1620h **P14A-02** Isotopically Anomalous Carbonaceous Nanoglobules in Meteorites and Comets: B T De Gregorio, C Alexander, N D Bassim, G D Cody, D Kilcoyne, L Nittler, R Stroud, T J Zega

1640h **P14A-03** CARBONACEOUS MATTER PRECURSORS AND METAMORPHIC CONDITIONS IN THERMALLY PROCESSED CHONDRITES: E Quirico, G Montagnac, J Rouzaud, L Bonal, M Bourrot-Denise, S Duber, B Reynard

1700h **P14A-04** Elemental and isotopic characterization of organic particles in carbonaceous chondrites by NanoSIMS imaging: assessment on the origin, accretion and preservation of organic matter in chondrites: L Remusat, Y Guan, J M Eiler

1720h **P14A-05** A link between Interstellar Formaldehyde and Chondritic and Cometary Organic Solids: G Cody, E K Heying, C Alexander, L Nittler, D Kilcoyne

1740h **P14A-06** Above detection limits - Prebiotic organics in comets and carbonaceous meteorites: J C Stern, J E Elsila, M P Callahan, D P Glavin, M G Martin, J P Dworkin

P14B Moscone South: 307 Monday 1600h
Planetary Plasma Interactions and Atmospheric Escape III (*joint with A, SM*)

Presiding: L Andersson, LASP/CU; J M Grebowsky, Goddard Space Flight Center

1600h **P14B-01** Space Weather Influence on High Energy Pick-up Ions at Venus: T McEnulty, J G Luhmann, I De Pater, D A Brain, A Fedorov, S Barabash, T Zhang

1615h **P14B-02** On magnetic reconnection in the Venusian wake. The experimental evidences: A Fedorov, M Volwerk, T Zhang, S Barabash, J Sauvaud

1630h **P14B-03** Ion bulk flow in the ionospheres of Mars and Venus: M Fraenz, E Dubinin, E Nielsen, J G Woch, S Barabash, R N Lundin, A Fedorov

1645h **P14B-04** Solar Wind Halo/Strahl Interaction with the Atmospheres/Ionospheres of Mars and Venus: R A Frahm, J D Winningham, J R Sharber, R Lundin, S Barabash, F Duru, D A Gurnett, A J Coates, S M Tsang, M Delva, T Zhang

1700h **P14B-05** A variety of escape channels on Mars and their effectiveness: E Dubinin, M Fraenz, J G Woch, F Duru, D A Gurnett, S Barabash, R Lundin

1715h **P14B-06** Dynamic Martian Magnetosphere: Transient Twist Induced by a Rotation of the IMF: G M Chanteur, R Modolo, E Dubinin

1730h **P14B-07** Escape probability of Martian atmospheric particles: controlling effects of the electromagnetic fields: X Fang, M W Liemohn, A F Nagy, J G Luhmann, Y Ma

1745h **P14B-08** Fluctuation of the Martian ionosphere observed by Mars Express ionospheric sounding: D D Morgan, D A Gurnett, F Duru, F Akalin, D A Brain

P14D Moscone South: 104 Monday 1700h
The July 2009 Impact on Jupiter

Presiding: J T Clarke, Boston University; L N Fletcher, JPL

1705h **P14D-01** HST Observations of the July 2009 Impact on Jupiter: I De Pater, H B Hammel, A A Simon-Miller, J T Clarke, K S Noll, G S Orton, L N Fletcher, P A Yanamandra-Fisher, A Sanchez-Lavega, R Hueso, S Perez-Hoyos, M H Wong

1719h **P14D-02** HST UV Observations of the New Jupiter Impact Site: J T Clarke, H B Hammel, R Hueso, K S Noll, G S Orton, I De Pater, S Perez-Hoyos, A Sanchez-Lavega, A A Simon-Miller, M H Wong

1733h **P14D-03** Thermal Evolution and Composition of the July 2009 Jupiter Impact Site from 7-25 Micron Imaging and Spectroscopy: L N Fletcher, G S Orton, O Mousis, I De Pater, H B Hammel, W Golisch, M Edwards, P A Yanamandra-Fisher, B Fisher, Z Greene, S Lai, E Otto, N Reshetnikov, A Sanchez-Lavega, A A Simon-Miller, R Hueso, S Perez-Hoyos

1747h **P14D-04** Debris Field of the July 19, 2009, Impact in Jupiter and Its Long-term Evolution: G S Orton, A Wesley, O Mousis, L N Fletcher, P A Yanamandra-Fisher, B Fisher, A A Simon-Miller, Z S Greene, I De Pater, H B Hammel, N Reshetnikov, E Otto, S Lai, J Rogers, A Sanchez-Lavega, S Perez-Hoyos, R Hueso, W Golisch, D Griep, P Sears, M B Lystrup, M Shara, L Young, W M Grundy, N A Moskovitz, A S Rivkin, V Reddy, J P Emery, D Trilling, J Ziffer

P14C Moscone South: 104 Monday 1600h
Whipple Lecture

Presiding: B M Jakosky, University of Colorado; W B Banerdt, Jet Propulsion Laboratory

1600h **P14C-01** Mars exploration: bridging our past and future
(Invited): **J Bibring**

Paleoceanography and Paleoclimatology

PP14A Moscone West: 2002 Monday 1600h
Global Lake Drilling in the 21st Century: The Emergence of Long Continental Paleoenvironmental Records III (joint with OS)

Presiding: **D Ariztegui**, University of Geneva; **J Brigham-Grette**, University of Massachusetts; **B Zolitschka**, GEOPOLAR, Institute of Geography

1600h **PP14A-01** Towards high-resolution and accurate calendar chronologies of long-term records of Pleistocene lacustrine formations by integration of U-series and oxygen isotopes data (Invited): **M Stein**, A Torfstein, N Waldmann, Y Kolodny

1615h **PP14A-02** SCOPSCO – Scientific Collaboration On Past Speciation Conditions in Lake Ohrid: **B Wagner**, T Wilke, A Grazhdani, G Kostoski, S Krastel, K R Reicherter, G Zanchetta

1625h **PP14A-03** Potential of Lake Ohrid for long palaeoclimatic and palaeoenvironmental records: The last glacial-interglacial cycle (140 ka): **S Belmecheri**, U von Grafenstein, T Namiotko, C M Robert, N Andersen, D L Danielopol, B Caron, A Bordon, D Regnier, A Mazaud, R Sulpizio, G Zanchetta, C Grenier, J Tiercelin, E Fouache, A Lézine

1635h **PP14A-04** A scanning-XRF record of Lake Bosumtwi sediments: Implications for West African Monsoon variability over the past 500 kyr: **N McKay**, J T Overpeck, E T Brown, T M Shanahan, J A Peck, J W King, C A Scholz, C W Heil

1645h **PP14A-05** A 150,000 -Year Record of Temperature from Lake Malawi, East Africa (Invited): **T C Johnson**, M A Berke, M L Woltering, J P Werne, S Schouten, J Sinninghe-Damste

1700h **PP14A-06** Effect of aridity and rainfall seasonality on vegetation in East Africa during the Late Pleistocene: **S Ivory**, A Lézine, A S Cohen

1710h **PP14A-07** Fluxes and distribution of intact glycerol dialkyl glycerol tetraether membrane lipids in the water column of Lake Challa, East Africa: **J Weijers**, L Buckles, D Verschuren, J S Sinninghe Damsté

1720h **PP14A-08** The Hominin Sites And Paleolakes Drilling Project: Using High Resolution Paleoclimate Records From African Lake Deposits To Interpret Human Evolution: **A S Cohen**, R Arrowsmith, K Behrensmeier, C J Campisano, C S Feibel, S Fisseha, R A Johnson, J Kingston, Z Kubsa, H Lamb, E Mbua, D Olago, R Potts, R Renaut, F Schaebitz, J Tiercelin, M H Trauth, G W WoldeGabriel, M Umer

1730h **PP14A-09** Acid-leachable Li and Mg from Lake Cuitzeo sediments in the central Mexico: Paleoclimate change during the past 45 Ka: **H Li**, I I Alcantara, J L Bischoff, D Wen, V H Garduño-Monroy

1740h **PP14A-10** Deep Drilling at Laguna Potrok Aike, Argentina: Recovery of a Paleoclimate Record for the Last Glacial from the Southern Hemisphere: **B Zolitschka**, F Anselmetti, D Ariztegui, H Corbella, P Francus, C Gebhardt, A Hahn, P Kliem, A Lücke, C Ohlendorf, F Schäbitz

1750h **PP14A-11** Climatically induced depositional dynamics – Results of an areal sediment survey at Laguna Potrok Aike, Argentina: **S Kastner**, C Ohlendorf, T Haberzettl, A Lücke, N I Maidana, C Mayr, F Schäbitz, B Zolitschka

PP14B Moscone West: 2004 Monday 1600h
Paleoceanographic Applications of Biogenic Opal: Proxies in a Silica World II (joint with B, GC, OS)

Presiding: **B C Reynolds**, IGMR; **K R Hendry**, University of Oxford; **L I Bradtmiller**, Macalester College

1600h **PP14B-01** The $\delta^{30}\text{Si}$ Proxy: Utility, Application and Challenges (Invited): **M A Brzezinski**

1615h **PP14B-02** Diatom-bound Trace Metals and Silicon Isotopes in Sediment from the Gulf of California: Implication for the Significance of Sedimentary Opal Records: **L E Pichevin**, R S Ganeshram, B C Reynolds, W Geibert

1630h **PP14B-03** Reorganization of Global Winds with Abrupt Climate Change and its Impact on Atmospheric CO_2 (Invited): **R F Anderson**, M Q Fleisher

1645h **PP14B-04** Deglacial Opal Accumulation in the Equatorial Pacific and Signatures of the Southern Ocean: **C Hayes**, R F Anderson, M Q Fleisher

1700h **PP14B-05** Opal-bound N and Si isotopic compositions: proxies of nutrient dynamics in the Southern Ocean: **C Beucher**, R S Robinson, M A Brzezinski, M G Horn

1715h **PP14B-06** Biogenic silica as an indicator of HNLC status: **E D Galbraith**

1730h **PP14B-07** Glacial-Interglacial changes in silicon cycling in the subarctic North Pacific: Insights from diatom $\delta^{30}\text{Si}$ over Termination 1: A Shevenell, S R Emerson, M A Brzezinski, G Swann, S Jaccard

1745h **PP14B-08** Glacial - interglacial changes of northwest Pacific stratification, inferred from deep and shallow living radiolarians: **J D Hays**

PP14C Moscone West: 2008 Monday 1600h
Reconstruction and Modeling of the Transient Climate Evolution of the Past 21,000 Years III

Presiding: **Z Liu**, University of Wisconsin-Madison; **J M Lynch-Stieglitz**, Georgia Tech

1600h **PP14C-01** Precise chronology of Heinrich-1 meltwater pulses in the Nordic Seas (Invited): **M Sarnthein**, P M Grootes, H Kuehn, A Voelker

1615h **PP14C-02** Transient Climate Simulation of Last Deglaciation in CCSM3 (Invited): **Z Liu**, B L Otto-Bliesner, F He, E C Brady, P U Clark, A E Carlson, J M Lynch-Stieglitz, W B Curry, D J Erickson, R L Jacob, J E Kutzbach, J Cheng

1630h **PP14C-03** Meltwater Input and Abrupt Deglacial Climate Change in the North Atlantic: **D J Thornalley**, I N McCave, H Elderfield

1645h **PP14C-04** The timing of deglacial circulation changes in the Atlantic: **C Waelbroeck**, L Skinner, R Gersonde, A Mackensen, E Michel, L D Labeyrie, J Duplessy

1700h **PP14C-05** Interannual variability in tropical Pacific temperatures during Heinrich stadial 1: **T Felis**, U Merkel, R Asami, P Deschamps, E Hathorne, M Koelling, E G Bard, G Cabioch, N Durand, M Prange, M Schulz, S Cahyarini, M Pfeiffer

1715h **PP14C-06** Evidence for a Southern Pattern of Deglacial Surface Warming in the Eastern Equatorial Pacific: **H J Spero**, M W Schmidt, D W Lea, L Lavagnino

1730h **PP14C-07** Modelling the climate, ice sheet and thermohaline circulation during the ice age termination: **A Abe-Ouchi**, F SAITO, K Kawamura, R Ohgaito, M O Chikamoto, A Oka, M Yoshimori, Y Yokoyama

1745h **PP14C-08** Climate trends and long term variability in a transient simulation of Holocene Climate in a comprehensive Earth System Model: **N Fischer**, J H Jungclauss

SPA - Aeronomy

SA14A Moscone South: 301 Monday 1600h
Unsolved Problems in Ionospheric Electrodynamics II (*joint with SM*)

Presiding: **T J Fuller-Rowell**, CIRES Univ of Colorado;
A J Mannucci, Jet Propulsion Laboratory, California Institute of Technology

1600h **SA14A-01** Disturbed Ionospheric Electrodynamics (*Invited*):
A D Richmond, A I Maute, N Maruyama

1615h **SA14A-02** Unsolved Problems: Effects of E-Region Conductance: **J C Foster**, P J Erickson, A J Coster

1630h **SA14A-03** Storm-time Signatures of High-Latitude Convection on Subauroral and Low-latitude Ionosphere: **S Sazykin**, R W Spiro, R Wolf, Y Song

1645h **SA14A-04** Observations of Penetration Electric Fields and Sub-Auroral Ion Drifts With Mid-Latitude SuperDARN Radars: **J B Baker**, R A Greenwald, Y Yin, J M Ruohoniemi, L Clausen, N A Friswell, A J Ribeiro

1700h **SA14A-05** Storm-Time Response of the Middle and High Latitude Ionosphere (*Invited*): **R A Heelis**, H Rishbeth

1715h **SA14A-06** Equatorial ionospheric electrodynamics observations in the African and American longitudinal sectors: **E Yizengaw**, M Moldwin, A Mebrahtu, B Dantie, R F Pfaff, E Zesta, C E Valladares

1730h **SA14A-07** ENHANCED DUSK-SIDE IONOSPHERIC CONVECTION: MAGNETOSPHERIC RESPONSE TO IONOSPHERIC CONDUCTIVITY DISTRIBUTION: **B J Anderson**, H Korth, L Dyrud

1745h **SA14A-08** Enhanced Thermospheric Density: The Roles of East-West and Northward Interplanetary Magnetic Field: **D J Knipp**, K A Drake, J Lei, G Crowley

SPA - Solar and Heliospheric Physics

SH14A Moscone South: 303 Monday 1600h
The Long and Quiet Solar Minimum at the End of Solar Cycle 23 III (*joint with SM, SA*)

Presiding: **W D Pesnell**, NASA / GSFC; **C J Farrugia**

1600h **SH14A-01** Solar Changes and Climate Changes. (*Invited*):
J Feynman

1624h **SH14A-02** Polar Coronal Holes during the Past Solar Cycle: Ulysses Observations: **R von Steiger**, T Zurbuchen

1636h **SH14A-03** Comparing the character of inertial range magnetohydrodynamic turbulence in the solar polar wind over the last two minima: R M Nicol, **S C Chapman**, K H Kiyani

1648h **SH14A-04** "Extended-Solar-Cycle" Activity During the Current Solar Minimum: **R C Altrock**

1700h **SH14A-05** The Occurrence Rate of ³He-rich Solar Energetic Particle Events at Solar Minimum: **M E Wiedenbeck**, E R Christian, A C Cummings, C M Cohen, R A Leske, G M Mason, R A Mewaldt, E C Stone, T T von Rosenvinge

1712h **SH14A-06** Are Unusual Solar Wind Conditions in SC23-24 Triggering Changes in the Geospace Response to High Speed Streams? (*Invited*): **J U Kozyra**, P C Brandt, N Buzulukova, D De Zeeuw, M H Fok, H U Frey, S E Gibson, R Ilie, M W Liemohn, S B Mende, L J Paxton, L Rastaetter, A J Ridley, M F Thomsen

1736h **SH14A-07** Auroral electrojets during deep solar minimum at the end of solar cycle 23: **T I Pulkkinen**, A Viljanen, E Tanskanen

1748h **SH14A-08** THEMIS Observations of the Occurrence of Magnetic Reconnection at the Dayside Magnetopause during Solar Minimum 23: Implications for low rate of Solar Wind Entry into the Magnetosphere: **T Phan**, C Pasma, G Paschmann, J P Eastwood, V Angelopoulos, J P McFadden, D E Larson, K Glassmeier

SPA - Magnetospheric Physics

SM14A Moscone South: 305 Monday 1600h
Inner Magnetosphere Research: Where Are We and Where Are We Going? III

Presiding: **Y Zheng**, JHU/APL; **M Spasojevic**, Stanford University

1600h **SM14A-01** Interaction Between Plasma and Magnetic Fields in the Earth's Inner Magnetosphere: Progress and Challenges (*Invited*): **S G Zaharia**, V Jordanova, D T Welling, G D Reeves

1620h **SM14A-02** Magnetic field dipolarization in the deep inner magnetosphere and its role in ring current development: **M Nose**, H Koshiishi, H Matsumoto, P C Brandt, K Koga, T Goka, T Obara

1635h **SM14A-03** Comparisons of Simulated and Observed Stormtime Magnetic Intensities and Ion Plasma Parameters in the Ring Current: **M W Chen**, T B Guild, C Lemon, J L Roeder, G Le, M Schulz

1650h **SM14A-04** Stereo Imaging Observations of Precipitating Ring Current Ions: **J Goldstein**, P W Valek, J Redfern, D J McComas

1705h **SM14A-05** TWINS ENA imaging observations of the moderate storm of 22 July 2009: **P W Valek**, P C Brandt, M H Fok, J Goldstein, D J McComas, J D Perez, J Redfern, E C Roelof, R M Skoug

1720h **SM14A-06** Ring current behavior in weak and strong storm: What controls a storm size?: **N Buzulukova**, M H Fok, P W Valek, J Goldstein, D J McComas, P C Brandt

1735h **SM14A-07** Energetic Neutral Atom Imaging of Earth's Ring Current with STEREO/STE from low altitude and latitude: **L Wang**, R P Lin, G K Parks, E C Roelof, P C Brandt, J G Sample, J P Eastwood, D E Larson, D Curtis, J G Luhmann

Study of Earth's Deep Interior (DI)

DII4A Moscone West: 2003 Monday 1600h
Subducting Slabs: Integrating Seismic Properties From Laboratory Data and Field Observations I (*joint with MR, S, T, V*)

Presiding: **B Reynard**, CNRS; **I Daniel**, Universite de Lyon; **J D Bass**; **C Sanchez-Valle**, ETH Zurich

1600h **DII4A-01** The Fate of Water in the Cascadia Forearc Unveiled by Teleseismic Imaging: **M G Bostock**, P Audet, N I Christensen, R D Hyndman, S M Peacock, S Rondenay

1615h **DII4A-02** What is the slab surface? Evidence from seismology (*Invited*): **G A Abers**, S Rondenay, L MacKenzie, P E Van Keken, B R Hacker, K M Fischer

1630h **DII4A-03** Pore fluid pressures, porosity, and permeability of the Cascadia subduction zone plate boundary: **S M Peacock**, N I Christensen, M G Bostock, P Audet

1645h **DI14A-04** Generation of Intermediate-Depth Earthquakes and the Role of Water from the Subducting Plate (*Invited*): **M Ishii**, E Kiser, C H Langmuir, P M Shearer, H Hirose
 1700h **DI14A-05** Subduction Processing of Altered Oceanic Crust and its Consequences for Mantle Composition and Evolution (*Invited*): **K A Kelley**
 1715h **DI14A-06** Subduction of oceanic crust into the deep mantle imaged by a new seismic migration: **T Kito**, J Korenaga
 1730h **DI14A-07** ELASTICITY OF ANTIGORITE, SEISMIC DETECTION OF SERPENTINITES AND ANISOTROPY IN SUBDUCTION ZONES: **L Bezacier**, B Reynard, J D Bass, C Sanchez-Valle, B Van de Moortèle
 1745h **DI14A-08** Velocities of Subducted Sediments and Continents: **B R Hacker**, P E Van Keken, G A Abers, G Seward

Mineral and Rock Physics

MR14A Moscone West: 2006 Monday 1600h
Crystallographic Fabrics: Geodynamic Marker of Earth's History and Today's Internal Structure I (*joint with S, T*)

Presiding: **K Michibayashi**, Shizuoka University; **L M Miyagi**, UC Berkeley

1600h **MR14A-01** Deformation mechanisms and lattice preferred orientations of antigorite serpentine: **B Reynard**, L Bezacier, B Van de Moortèle, N Hilalret
 1612h **MR14A-02** The role of Grain Boundary Sliding in the evolution of Lattice Preferred Orientation (*Invited*): **D J Prior**, G Hirth, E Mariani, J Mecklenburgh, M A Pearce, E H Rutter, D Tatham, J Wheeler
 1627h **MR14A-03** Plastic anisotropy and LPO development in sheared and recrystallized quartz single crystals: **J Muto**, G Hirth, R Heilbronner, J Tullis
 1639h **MR14A-04** Strong trench-parallel anisotropy produced by serpentine preferred orientation in the mantle wedge: **I Katayama**, K Hirauchi, K Michibayashi, J Ando
 1651h **MR14A-05** Microstructural evolution in coarse grained dunite deformed to large strains: **P A Skemer**, M I Sundberg, G Hirth, R F Cooper
 1703h **MR14A-06** Some Remarks on Plastic Anisotropy and Lattice-Preferred Orientation in Minerals (*Invited*): **S Karato**
 1718h **MR14A-07** Differential lattice preferred orientation in MgO at high pressure: **D J Weidner**, L Li
 1730h **MR14A-08** Modeling preferred orientation and seismic anisotropy in the lowermost mantle (*Invited*): **H Wenk**, C N Tomé, A K McNamara, S Cottaar
 1745h **MR14A-09** Effect of texture on rheological properties: the case of ϵ -Fe (*Invited*): S Merkel, M Gruson, C N Tomé, N Nishiyama, Y Wang

Seismology

S14A Moscone West: 2005 Monday 1600h
Seismic Anisotropy, Mantle Flow, and Fault Mechanics: The Silver Lining III (*joint with T, DI, G*)

Presiding: **S C Solomon**, Carnegie Inst of Washington; **D E James**, Carnegie Institution

1600h **S14A-01** Subduction and the mantle flow field (*Invited*): **M D Long**, P G Silver

1615h **S14A-02** Seismic Anisotropy and Upper Mantle Flow Beneath Subducted Oceanic Lithosphere (*Invited*): **R M Russo**
 1630h **S14A-03** Mantle Flow Above and Below the Subducting Lithosphere in Central America: D L Abt, **K M Fischer**, G A Abers
 1645h **S14A-04** Modeling mantle circulation and density distributions in subduction zones: Implications for seismic studies: **C R Kincaid**, K A Druken, R W Griffiths, M D Long, M D Behn, G Hirth
 1700h **S14A-05** Deep Earthquake Mechanics and Slab Deformation in the Tonga, Middle America, and South America Subduction Zones: A N Hughes, M A Langstaff, P G Silver, **L M Warren**
 1715h **S14A-06** Assessing the role of fluids in episodic tremor and slip events using active seismic sources: results from a prototype experiment in Cascadia (*Invited*): **F Niu**, P G Silver, R Nigbor
 1730h **S14A-07** Remote Triggering of Fault-Strength Changes on the San Andreas Fault at Parkfield (*Invited*): **T Taira**, P G Silver, F Niu, R M Nadeau
 1745h **S14A-08** Scientific Advances from Paul Silver's Inspirational Leadership of the EarthScope Plate Boundary Observatory: M M Miller, **E Calais**, M E Jackson, S E Owen, P Segall

Tectonophysics

T14A Moscone West: 2009 Monday 1600h
Earthquakes at the Edge: Observing and Understanding Transitions of Seismogenic Properties and Processes Along Subduction Zones IV (*joint with G, S*)

Presiding: **G F Moore**, University of Hawaii; **A V Newman**, Georgia Institute of Technology

1600h **T14A-01** Effects of frictional melting on seismic slip in subduction-accretion complexes: Insights from high-velocity friction experiments and natural pseudotachylytes: **K Ujiie**, A Tsutsumi, Y A Fialko, H Yamaguchi
 1615h **T14A-02** Friction and Plasticity at Seismic Slip Speeds: Experiments and Theory: **K M Brown**, Y A Fialko
 1630h **T14A-03** The influence of aseismic creep patches on the seismic cycles on Megathrust: J Avouac, **Y Kaneko**, N Lapusta
 1645h **T14A-04** The Creation and Applications of a Three-Dimensional Model of Global Subduction Zone Geometries: **G P Hayes**, D J Wald, R Johnson
 1700h **T14A-05** Probabilistic estimation of slip on historical subduction earthquakes and the longevity of interplate coupling distributions: **J McCloskey**, M Nic Bhloscaidh, D H Natawidjaja, S S Nalbant, A F Bell, I G Main, M Naylor, J Greenhough
 1715h **T14A-06** Bayesian kinematic earthquake source models: **S E Minson**, M Simons, J L Beck, J F Genrich, J E Galetzka, F Chowdhury, S E Owen, F Webb, D Comte, B Glass, C Leiva, F H Ortega
 1730h **T14A-07** Coseismic, Episodic, and Interseismic Slip: Does surface roughness or strain energy control its distribution?: **L Feng**, A V Newman, T Chen
 1745h **T14A-08** Oblique Convergence, Slab Trajectories, and the Thermal-deformational Path of Subducting Lithosphere: Implications for Rupture Segmentation (*Invited*): **K P Furlong**

T14B Moscone West: 2007 Monday 1600h
Fault Processes in Nature and Laboratory: From Microscale to 3-D Regional Observations and Models III (joint with MR, NS, S, NH)

Presiding: D C Tanner, Leibniz Institute for Applied Geophysics; S J Martel, University of Hawaii

1600h **T14B-01** WITHDRAWN

1615h **T14B-02** Characterization of compactant and dilatant deformation in the Nankai accretionary margin from LWD resistivity data and images, and CT-scan data analysis: P Henry, A Boiselet, M Conin, S Bourlange, P Gaillot

1630h **T14B-03** Evaluation of Fault Zone Structure and Properties at Depth, with Insights into Deformation and Alteration of the San Andreas Fault at SAFOD: J P Evans, T N Jeppson, K Keighley Bradbury, A R Lowry

1645h **T14B-04** Effects of Acoustic Waves on Stick-Slip Behavior in Sheared Granular Media With Implications to Dynamic Earthquake Triggering and Slow Slip: P A Johnson, C Marone, M W Knuth, B M Kaproth, B Carpenter, B Behringer, R Guyer, P Le Bas

1700h **T14B-05** Dynamic Stress Stimulates Flow in Fractures: J E Elkhoury, A R Niemeijer, E E Brodsky, C Marone

1715h **T14B-06** Differences in granular materials for analogue modelling: Insights from repeated compression tests analyzed with X-ray Computed Tomography and image analysis software: M Klinkmueller, G Schreurs

1730h **T14B-07** Tectonic impact on the dynamics of CO₂-rich fluid migration in Utah: E Z Nadine, F Jean Luc, D Remy, A Battani, V Olivier

1745h **T14B-08** Probing the Mechanisms of Rock Friction at the Nanometer Scale with Atomic Force Microscopy: Q Li, R Carpick, D Goldsby, T E Tullis

T14C Moscone West: 2011 Monday 1600h
Lithospheric Structure of East Asia III (joint with S, NH)

Presiding: T M Hearn, New Mexico State University; Y J Chen

1600h **T14C-01** Shear velocity structure beneath south-eastern Tibet from Rayleigh wave tomography: Y V Fu, A Li, Y J Chen

1615h **T14C-02** Northward Thinning of Tibetan Crust Revealed by Virtual Seismic Profiles: T Tseng, W Chen, R L Nowack

1630h **T14C-03** Surface wave phase velocities and azimuthal anisotropy in Tibet and surrounding regions from ambient noise tomography: Y Yang, Y Zheng, M H Ritzwoller

1645h **T14C-04** Shear velocity structure of crust and upper mantle in China from ambient noise tomography: An update: X Song, X Sun, Z Xu, S Zheng, Y Yang, M H Ritzwoller

1700h **T14C-05** Gravimetric Investigations in the Tien Shan and in the seismically active region of Almaty (Kazakhstan): R Bratfisch, M Jentzsch

1715h **T14C-06** Upper mantle structure of the Eastern Tibetan Plateau from finite frequency body wave tomography: X Liang, Y J Chen, E A Sandvol, H Yue, T M Hearn, J F Ni

1730h **T14C-07** Phase velocity and azimuthal anisotropy variations beneath the central Tien Shan: A Lisi, A Li

1745h **T14C-08** Lithosphere Detachment beneath North China craton imaged by joint inversion of regional and teleseismic data: J Huang, D Zhao

Volcanology, Geochemistry and Petrology

V14A Moscone West: 2016 Monday 1600h
Layered Intrusions II

Presiding: M B Holness, University of Cambridge; C Tegner, Aarhus University

1600h **V14A-01** Layered intrusion formation by top down thermal migration zone refining (Invited): C Lundstrom

1615h **V14A-02** Development of Megacrysts and Magmatic Fabrics in Plutons via Thermal Cycling and Thermal Gradients: A F Glazner, J Ratner, R D Mills

1630h **V14A-03** New Insights into the Origin of Marginal Reversals from the Koitelainen Layered Intrusion, Fennoscandian Shield, Finland (Invited): R Latypov, E Hanski, A Lavrenchuk, S Chistyakova, T Havela

1645h **V14A-04** Using in situ isotopic analyses of crystals to investigate the origins of layered intrusions: J P Davidson, F J Tepley, L Font

1700h **V14A-05** The Geochemical Relationship between the Bushveld Complex and Rooiberg Felsites and its Petrologic and Dynamic Significance: J A VanTongeren, E A Mathez

1715h **V14A-06** A-type granite of the ferrobaltic Sept Iles layered intrusion: a product of large-scale silicate liquid immiscibility?: B Charlier, O Namur, P Schiano, J Vander Auwera

1730h **V14A-07** Density control on magma reservoir formation in the Earth's crust: C P Jaupart, B Taisne

1745h **V14A-08** Do the Columbia Hills of Gusev Crater Represent a Layered Igneous Intrusion on Mars?: D Francis

V14B Moscone West: 2018 Monday 1600h
Recent Developments in Nontraditional Stable Isotope Geochemistry II

Presiding: C Lundstrom, University of Illinois; F Teng, Univ. of Arkansas

1600h **V14B-01** Equilibrium Iron Isotope Fractionation at Ultra-High Pressures: Focus on Mantle-Core Differentiation. (Invited): V B Polyakov

1615h **V14B-02** A REFINED LOOK AT THE IRON ISOTOPE COMPOSITION OF THE MOON: F Poitrasson, T Zambardi, T Magna, C R Neal

1630h **V14B-03** Magnesium isotopic composition of the mantle: F Teng, W Li, S Ke, B Marty, S Huang, N Dauphas, F Wu, R L Helz

1645h **V14B-04** New insights into magma differentiation from non-traditional stable isotopes (Invited): C Lundstrom

1700h **V14B-05** Magnesium Isotope Fractionation By Chemical Diffusion In Natural Silicate Rocks: R Chopra, F M Richter, E B Watson

1715h **V14B-06** The effect of isotopic substitution on diffusion coefficients in silicate liquids: J M Watkins, D J Depaolo, F J Ryerson

1730h **V14B-07** Li isotopes in archean zircons: A Bouvier, T Ushikubo, N Kita, A J Cavosie, R Kozdon, J W Valley

1745h **V14B-08** Ca isotope fractionation accompanying precipitation of carbonate minerals from alkaline lake water: L C Nielsen, D J Depaolo

V14C Moscone West: 2020 Monday 1600h
Volatiles in the Earth: From Past to Present III (joint with MR, P, DI, T)

Presiding: H M Gonnermann, Rice University; R Dasgupta, Rice University

1600h **V14C-01** Distribution of Hydrogen in the Deep Earth and its Role in Earth's dynamics (*Invited*): **E Ohtani**, Y Shibazaki, H G Terasaki

1615h **V14C-02** Water partitioning and the effect of water on high pressure phase transformation of olivine: **T Inoue**, H Yurimoto

1630h **V14C-03** Metastable olivine provides regional constraints on hydrogen content based on transformation kinetics: **W L Du Frane**, T G Sharp, J L Mosenfelder, K D Leinenweber

1645h **V14C-04** Volatile control of trace element distributions at convergent margin, ocean ridge and intraplate settings (*Invited*): **C H Langmuir**

1700h **V14C-05** Hydrous, low-carbon melting of garnet peridotite: **J B Balta**, P D Asimow, J L Mosenfelder

1715h **V14C-06** SUBSOLIDUS AND NEAR-SOLIDUS PHASE RELATIONS IN COH FLUID-SATURATED PERIDOTITES UP TO 3.2 GPA: **S Tumati**, P Fumagalli, S Poli, C Tiraboschi

1730h **V14C-07** CARBONATE STABILITY IN THE EARTH'S LOWER MANTLE AND REDOX MELTING ACROSS THE 660 KM DISCONTINUITY AND TRANSITION ZONE: **A Rohrbach**, M W Schmidt

1745h **V14C-08** Earth's interior volatiles studied through diamond growth: **H Bureau**, F Langenhorst, A Auzende, D J Frost

Union

U15A Moscone South: 302-310 Monday 1815h
Frontiers of Geophysics

Presiding: C L Johnson, University of British Columbia, Vancouver

Tuesday A.M.

U21A Moscone South: Poster Hall Tuesday 0800h
Climate Services in a Changing Climate: Approaches for User Engagement II Posters

Presiding: M M Timofeyeva, NOAA/NWS

0800h **U21A-0001 POSTER** Assessing customer satisfaction for improving NOAA's climate products and services: **J C Meyers**, M D Hawkins, M M Timofeyeva

0800h **U21A-0002 POSTER** Communicating Climate Change: Outreach Through Emigrant Pass Observatory Data: **M G Davis**, D S Chapman

0800h **U21A-0003 POSTER** Online Mapping Systems for Climate Data Delivery: **S T Gray**, C M Nicholson, A R Bergantino

0800h **U21A-0004 POSTER** Development of an Irrigation Scheduling Tool for the High Plains Region: **M Shulski**, K G Hubbard, J You

0800h **U21A-0005 POSTER** Agricultural Climate Services Planning and Engagement in the Midwest: **D Kluck**

0800h **U21A-0006 POSTER** Using NASA Satellite and Model Analysis for Renewable Energy and Energy Efficiency Applications: **J M Hoell**, P W Stackhouse, W S Chandler, C H Whitlock, D J Westberg, T Zhang

0800h **U21A-0007 POSTER** Value of the GENS Forecast Ensemble as a Tool for Adaptation of Economic Activity to Climate Change: **L O Hancock**, J C Alpert, M Kordzakhia

U21B Moscone South: Poster Hall Tuesday 0800h
The Nature, Frequency, Size, and Consequences of Instabilities of the Continental Lithosphere I Posters

Presiding: C M Cooper, Washington State University

0800h **U21B-0008 POSTER** Instabilities in continental lithosphere: data from the Siberian trap region: A Nikishin, K Sobornov, **N Pravikova**

0800h **U21B-0009 POSTER** New Elemental and Isotopic Data From Mafic Lavas on the Puna Plateau and Re-Examining the Geochemical Signature of Convective Lithospheric Removal in the Central Andes: **K E Murray**, M N Ducea, P W Reiners

0800h **U21B-0010 POSTER** Dripping and Denudation: The Effects of Erosion on Lithospheric Instabilities: **K A Paczkowski**, D Bercovici

0800h **U21B-0011 POSTER** Testing models for lithospheric thinning in the Puna Plateau, NW Argentina using alignment and morphology of young, mafic, monogenetic cinder cones: **J P Calhoun**, L M Schoenbohm

0800h **U21B-0012 POSTER** On topographic subsidence and magma bursts at initiation of magmatic provinces: **I Ukstins Peate**, L T Elkins-Tanton

0800h **U21B-0013 POSTER** Size and Scaling of small-scale instabilities beneath continental lithosphere: **L N Moresi**, C M Cooper, J Mansour

0800h **U21B-0014 POSTER** The Residue of Lithospheric Convergence in the Alpine-Pannonian-Carpathian system: **G A Houseman**, G W Stuart, G Hetenyi, P Lorinczi, B D Dando

U21C Moscone South: 103 Tuesday 0800h
Lunar Reconnaissance Orbiter/LCROSS: New Insights Into the Moon I

Presiding: I G Mitrofanov, Institute for Space Research; **M Wargo**, NASA Headquarters

0800h **U21C-01** Lunar Reconnaissance Orbiter (LRO): Observations for Lunar Exploration and Science: J W Keller, **RR Vondrak**, J Garvin, G Chin

0815h **U21C-02** LROC - Lunar Reconnaissance Orbiter Camera: **M S Robinson**, E Eliason, H Hiesinger, B L Jolliff, A McEwen, M C Malin, M A Ravine, P C Thomas, E P Turtle

0830h **U21C-03** Copernican craters: Early results from the Lunar Reconnaissance Orbiter Camera: **A S McEwen**, H Hiesinger, P C Thomas, M S Robinson, C van der Bogert, L Ostrach, J B Plescia, V J Bray, L L Tornabene

0845h **U21C-04** LROC NAC Digital Elevation Model of Gruithuisen Gamma: **S Braden**, T N Tran, M S Robinson

0900h **U21C-05** Early Results from the Lunar Orbiter Laser Altimeter on LRO (*Invited*): **D E Smith**, M T Zuber, G A Neumann, E Mazarico, M H Torrence, O W Westbrook, J W Head, O Aharonson, M S Robinson, J F Cavanaugh, X Sun, F G Lemoine, O S Barnouin-Jha, T C Duxbury, J Oberst, P G Lucey

0915h **U21C-06** Structure and Morphology of the Moon's South Pole-Aitken Basin from the Lunar Orbiter Laser Altimeter (LOLA): **M T Zuber**, D E Smith, G A Neumann, E Mazarico, M H Torrence, J W Head, O Aharonson, O W Westbrook, M M Sori, M J Talpe, I Garrick-Bethell, O S Barnouin-Jha, T C Duxbury, F G Lemoine, J Oberst, P G Lucey

0930h **U21C-07** Early Results from the LRO Cosmic Ray Telescope for the Effects of Radiation (CRA TER) During this Historic Solar Minimum (*Invited*): **H E Spence**, J C Kasper, M J Golightly, J B Blake, J E Mazur, L W Townsend, A W Case, M D Looper, B A Larsen, T J Stubbs, C J Zeitlin, E Semones, T G Onsager, C Huang, A Jordan
 0945h **U21C-08** Effects of the moon on galactic cosmic rays as seen by the CRA TER instrument on LRO: **J C Kasper**, H E Spence, M J Golightly, A W Case, J B Blake, J E Mazur, M D Looper, L W Townsend

U21D Moscone West: 3020 Tuesday 0800h
The 2009 Samoan and Sumatran Earthquakes: Origins, Impacts and Consequences II

Presiding: **E Okal**, Northwestern Univ.; **J McCloskey**, University of Ulster

0800h **U21D-01** Generation of the September 29, 2009 Samoa Tsunami: Examination of a Possible Non-Double Couple Component (*Invited*): **E L Geist**, S H Kirby, S Ross, P Dartnell
 0830h **U21D-03** Rupture process of 2009 Mw 8.1 Samoa earthquake constrained by joint inverting teleseismic body, surface waves and local strong motion: **X Li**, G Shao, C Ji
 0845h **U21D-04** The 29 September Mw8+ Samoa Earthquake: Tectonic drivers and reactivated detachment faults?: **K P Furlong**, G P Hayes, R M Govers, R Malservisi
 0900h **U21D-05** Great Samoa Earthquake (Mw = 8.2) of 29 September 2009: **T Lay**, C J Ammon, H Kanamori
 0915h **U21D-06** Tectonic Settings of Great Outer-Rise/Outer-Trench-Slope (OR/OTS) Earthquakes in the Instrumental Record: **S H Kirby**, R Hino, E L Geist, D J Wright, E Okal, J M Wartman
 0930h **U21D-07** Regional and Nearshore Bathymetry of American Samoa: Implications for Tsunami Run-Up and Public Awareness: **D J Wright**, K R Hogrefe, D Naar, J Roberts, J E Miller, S Ferguson, A A Koppers, T Battista, E Lim, L A Taylor, P Anderson

U21E Moscone South: Poster Hall Tuesday 0800h
The 29 September 2009 Tsunami and Earthquake I Posters

Presiding: **H M Fritz**, Georgia Institute of Technology; **L A Dengler**, Humboldt State Univ

0800h **U21E-2176 POSTER** 2009 Samoa tsunami: factors that exacerbated or reduced impacts in Samoa and American Samoa: **L A Dengler**, L Ewing, J Brandt, J L Irish, C Jones, K Long, H Lazrus, N McCullough
 0800h **U21E-2177 POSTER** Distribution and Characteristics of the 2009 Samoa Earthquake Tsunami Deposit on Tutuila Island, American Samoa: **Y Nakamura**, Y Nishimura, S Koshimura, Y Namegaya, G J Fryer, A Akapo, L S Kong, D Vargo
 0800h **U21E-2178 POSTER** Field Observations Of The 29 September Tsunami In American Samoa: Spatial Variability And Indications Of Strong Return Flow: **B E Jaffe**, B M Richmond, G R Gelfenbaum, S Watt, A A Apotsos, M L Buckley, W C Dudley, B Peck
 0800h **U21E-2179 POSTER** Coarse clast transport and deposition during the September 29, 2009 tsunami in American Samoa and Samoa: **M L Buckley**, B M Richmond, S Etienne, S Watt, G R Gelfenbaum, B E Jaffe, K Wilson, A A Apotsos, B Peck
 0800h **U21E-2180 POSTER** Damages in American Samoa due to the 29 September 2009 Samoa Islands Region Earthquake Tsunami: **Y Okumura**, T Takahashi, S Suzuki
 0800h **U21E-2181 POSTER** Ofu and Ologesa survey of the 29 September 2009 tsunami: **F Spyridon**, C Synolakis, V V Titov

0800h **U21E-2182 POSTER** LARGE EARTHQUAKES AND TSUNAMIS AT THE SAMOA CORNER IN THE CONTEXT OF THE 2009 SAMOA EVENT: **E Okal**, S H Kirby

0800h **U21E-2183 POSTER** Tsunami warning in French Polynesia during the 2009 Samoa event: **D Raymond**, H Hebert, O Hyvernaud, S Allgeyer

0800h **U21E-2184 POSTER** Role of State Tsunami Geoscientists during Emergency Response Activities: Example from the State of California (USA) during September 29, 2009, Samoa Tsunami Event: **R I Wilson**, L A Dengler, J D Goltz, M Legg, K M Miller, J G Parrish, P Whitmore

0800h **U21E-2185 POSTER** The 29th September Samoa Islands tsunami: preliminary simulations based on the first focal mechanisms hypotheses and implications of uncertainties in tsunami early warning strategies: **R Tonini**, G Pagnoni, A Armigliato, S Tinti

0800h **U21E-2186 POSTER** Near-field Tsunami Inundation Forecast Modeling of the 2009 Samoa Tsunami: **C Chamberlin**, Y Wei, V V Titov, B U Uslu, L Tang, D Arcas, C W Moore

0800h **U21E-2187 POSTER** Rapid Estimation of Tsunami Impact Following the Samoa Earthquake: **H K Thio**, J Polet

0800h **U21E-2188 POSTER** Challenges Integrating Bathymetric and Topographic Datasets of American Samoa: **E Lim**, B Eakins, L A Taylor

0800h **U21E-2189 POSTER** Tsunami inundation mapping: Comparing inundation limits interpreted from satellite imagery to field observations in American Samoa and Sumatra: **S G Watt**, B E Jaffe, G R Gelfenbaum, A A Apotsos, M L Buckley, B M Richmond

0800h **U21E-2190 POSTER** Plate Boundary Observatory Borehole Strainmeter Recordings Of The 29 September 2009 Tsunami: D B Henderson, **K M Hodgkinson**, A A Borsa, D Mencin, E Van Boskirk, M E Jackson

0800h **U21E-2191 POSTER** HF RADAR observations of coastal currents induced by the 29-30 September 2009 tsunami South of O'ahu: P J Flament, **J L Cass**, M A Merrifield, K Gurgel

0800h **U21E-2192 POSTER** The 2009 Samoa Tsunami and Its Formation Mechanism Replicated from Satellite Altimeters and Tide Gauges: **Y Song**, C Shum, Y Yi

0800h **U21E-2193 POSTER** On infragravity motions of the 2009 Samoa tsunami at Penrhyn Island: **L Lin**, C Kuo, C Shum, Y Song, Y Yi, M Liang

Atmospheric Sciences

A21A Moscone South: Poster Hall Tuesday 0800h
Aerosols and Climate in Asia IV Posters (*joint with GC, H*)

Presiding: **Z Li**, Univ of Maryland; **Y Qian**, Pacific Northwest Natl Lab

0800h **A21A-0078 POSTER** Global transport of Asian dust revealed by NASA/CALIPSO and a global aerosol transport model: **K Eguchi**, K Yumimoto, I Uno, T Takemura

0800h **A21A-0079 POSTER** Variations of OC and EC concentrations in PM10, PM2.5 and PM1.0 in Jeju: **S Lim**, M Lee, G Lee, K Kang

0800h **A21A-0080 POSTER** Integrated Analysis of Bottom-up Emissions Information and Airborne Measurements in Support of NASA INTEx and ARCTAS Field Campaigns: **K Choi**, J Woo, S A Vay, Y Choi, H Kim, S Yoo, Y Sunwoo

- 0800h **A21A-0081 POSTER** Particle Formation and Growth in North and East China: a Comparative Analysis of Measurements from Surface and Mountain-top Sites: **J Gao**, T Wang, W X Wang, S Poon, P J Xu, L K Xue, X F Wang, W Nie, Z Wang, W S Wu, F H Chai, X Z Wang, A Ding
- 0800h **A21A-0082 POSTER** Spatial and temporal variations of aerosols around Beijing in summer 2006: Model evaluation and source apportionment: **H Matsui**, M Koike, Y Kondo, N Takegawa, K Kita, Y Miyazaki, M Hu, S Chang, D R Blake, J D Fast, R A Zaveri, D G Streets, Q Zhang, T Zhu
- 0800h **A21A-0083 POSTER** The Effects of Dust Emissions on the Summertime Climate of Southwest Asia: Incorporating Sub-grid Variability in a Regional Climate Model's Dust Scheme: **M P Marcella**, E A Eltahir
- 0800h **A21A-0084 POSTER** Optical Properties of Fine/Coarse Mode Aerosol Mixtures: **T F Eck**, B N Holben, A Siniuk, R T Pinker, P Goloub, H Chen, B Chatenet, Z Li, R Singh, S N Tripathi, O Dubovik, D M Giles, J Martins, J S Reid, N T O'Neill, A Smirnov
- 0800h **A21A-0085 POSTER** Climate response to black carbon aerosols: Dependence on altitude: **G A Ban-Weiss**, K G Caldeira, L Cao, G Bala
- 0800h **A21A-0086 POSTER** Effect of aerosol radiative forcing on the seasonal variation of snow over the northern hemisphere: **M Kim**, W K Lau, W Lee, K Kim
- 0800h **A21A-0087 POSTER** Long-term trends of aerosol carbon and nitrogen, their stable isotopic compositions, and water-soluble organic carbon in the western North Pacific: **K Kawamura**, E Tachibana, N Umomoto
- 0800h **A21A-0088 POSTER** Estimating bulk optical properties of aerosols over the western North Pacific by using MODIS and CERES measurements: **H Oh**, C Ho, Y Choi, R Park, C Song
- 0800h **A21A-0089 POSTER** Spectral aerosol light absorption measurement at urban, suburban, and remote sites in Korea: **Y J Kim**, J Jung, J Kim, K Lee, T Batmunkh, M Gonzaga-Cayetano, S Kim
- 0800h **A21A-0090 POSTER** Evaluation of a newly developed below-cloud scavenging scheme of regional aerosol simulations: its implication for aerosol budget over East Asia: **S Bae**, R Park, Y Kim
- 0800h **A21A-0091 POSTER** Physical and hygroscopic properties and CCN characteristics of the aerosols measured at an island in the northwestern tip of South Korea: **S Shim**, J Kim, W Kim, S S Yum, I Chang
- 0800h **A21A-0092 POSTER** Physicochemical evolution of dust particles observed in March 2007, Seoul, Korea: **I Park**, S Lim, M Lee, Y Lee, G Lee, J Han
- 0800h **A21A-0093 POSTER** Comparison of PM_{2.5} carbonaceous aerosols in the northeast Asian regions: **M Chang**, M Lee, S Lim, J Kim
- 0800h **A21A-0094 POSTER** The relationship between the Asian dust and Arctic Oscillation: An observational investigation: **Y Lee**, J Kim, H Cho
- 0800h **A21A-0095 POSTER** Solar Radiation and Cloud Change in China Calculated in a 20th Century Simulation with a Climate Model: **T Nagashima**, T Nozawa, T Hayasaka, K Kawamoto
- 0800h **A21A-0096 POSTER** High Concentration of Surface Ozone Observed along the Khumbu Valley Nepal April 2007: **J Semple**, K Moore
- 0800h **A21A-0097 POSTER** Effect of the Presence of Crustal Elements (Ca²⁺, K⁺, and Mg²⁺) in Estimating Water Content in PM_{2.5}: **H Lee**, Y Kim
- 0800h **A21A-0098 POSTER** The effects of aerosols on Thunderstorms and Lightning over the Pearl River Delta, China: **Y Wang**, R Zhang, Q Wan, W Meng, F Liao
- 0800h **A21A-0099 POSTER** Insights to the topographic and aerosol roles in the heavy rainfall at the Western Ghats and the scarce rainfall farther east at the rain shadow as observed in CAIPEEX: **R Mahes Kumar**, J R Kulkarni, M Konwar, D Rosenfeld, B Goswami
- 0800h **A21A-0100 POSTER** The interplay between small and large CCN: Impacts on convective cloud microstructure as observed in CAIPEEX: **M Konwar**, J Kulkarni, R Mahes Kumar, B Goswami, D Rosenfeld
- 0800h **A21A-0101 POSTER** Can Aerosol Offset Urban Heat Island Effect?: **M S Jin**, J M Shepherd
- 0800h **A21A-0102 POSTER** Size distributions of secondary and primary aerosols in Asia: A 3-D modeling: **F Yu**, G LUO, Z Wang
- 0800h **A21A-0103 POSTER** Dust Aerosol Optical Properties Retrieval and Radiative Forcing over Northwestern China during 2008 China-US Joint Field Experiment: **J Ge**, J Su, T P Ackerman, Q Fu, J Huang, J Shi
- 0800h **A21A-0104 POSTER** Implementation of different dust emission schemes into WRF/Chem: An evaluation of dust emission parameterizations: **J Kang**, S Yoon, Y Shao, E Jung
- 0800h **A21A-0105 POSTER** Evidence of gravity waves in the PBL above New Delhi, during the total Eclipse of August 2009 : **B Ayara**, Y Ahammed, L sauvage
- 0800h **A21A-0106 POSTER** Unusual PM episode caused by yellow sand over Taiwan on April 25, 2009: **S Chang**, C Young, H Lai
- 0800h **A21A-0107 POSTER** Recent Increase in Black Carbon Concentrations from a Mt. Everest Ice Core Spanning 1860-2000 AD: **S Kaspari**, M Schwikowski, M Gysel, P A Mayewski, S Kang, S Hou
- 0800h **A21A-0108 POSTER** How do the optical properties of Asian aerosols change when they cross the Pacific?: **E V Fischer**, D A Jaffe
- 0800h **A21A-0109 POSTER** New Discoveries and Insights from Comparisons between Sahara and Asian Dust Using Satellites and a Coupled Climate/Microphysical Model: **L Su**, O B Toon
- 0800h **A21A-0110 POSTER** REMOTE SENSING MEASUREMENTS OF AEROSOL OPTICAL THICKNESS AND CORRELATION WITH IN-SITU AIR QUALITY PARAMETERS DURING A SMOKE HAZE EPISODE IN SOUTHEAST ASIA: **B Chew**, S V Salinas Cortijo, S Liew
- 0800h **A21A-0111 POSTER** Emission projection and uncertainty analysis of exhaust emissions from global and Asian on-road vehicles: **F YAN**, E Winijkul, T Bond, D G Streets
- 0800h **A21A-0112 POSTER** Aerosol Direct and Semi-Direct Effects on Climate in Asia in the NASA GEOS-5 Model: **C A Randles**, P R Colarco, A da Silva, A M Colarco, R C Govindaraju
- 0800h **A21A-0113 POSTER** Dust Storm Reduction due to Precipitation and Temperature Enhancement in Northwestern China: A Direct Climatic Impact of Absorbing Aerosols: **Y Gu**, K Liou, W Chen, H Liao
- 0800h **A21A-0114 POSTER** Constraining aerosol histories with modeled and observed clear-sky surface solar radiation fluxes in Asia and Europe: **C Ruckstuhl**, J R Norris
- 0800h **A21A-0115 POSTER** SULFATE PRODUCTION IN CLOUDS IN EASTERN CHINA: OBSERVATIONS FROM MT. TAI: **J L Collett**, X Shen, T Lee, X Wang, W Wang, T Wang
- 0800h **A21A-0116 POSTER** Relating Precipitation Phenomena with MODIS Detected Hot Spots in the Maritime Continent: **E M Ramirez**, J S Reid, P Xian, E Hyer, J Turk, M Flatau, C Zhang

0800h **A21A-0117 POSTER** Surface Measurements of dust/local aerosol properties over Northern China during 2008 China-US joined dust field campaign: **X Wang**, J Huang

0800h **A21A-0118 POSTER** Retrieving optical properties of dusty clouds from MFRSR and Lidar measurements: **T Wang**, J Huang

0800h **A21A-0119 POSTER** Development of an effective lidar retrieval algorithm using lidar measurements during 2008 China-US joined dust field campaign: **Z Huang**, J Huang

0800h **A21A-0120 POSTER** Radiative Effect Difference between Multi-layered and Single-layer Cloud Derived from CERES, CALIPSO and Cloudsat: **J Li**, Y Yi, P Minnis, J Huang

0800h **A21A-0121 POSTER** Field observation analysis of atmosphere-land surface interaction over Loess Plateau of Northwest China: **G Wang**, J Huang, W Guo

0800h **A21A-0122 POSTER** Is Anti-Twomey effect real or an artifact?: **G Pandithurai**, S Dipu, R S Mahes Kumar, J Kulkarni, B Goswami, D Rosenfeld

0800h **A21A-0123 POSTER** Effects of aerosol and greenhouse gasses on the summertime Asian monsoon rainfall trend in the 20th century: **M Arai**, T Miyasaka, T Nozawa, T Nagashima, M Kimoto

0800h **A21A-0124 POSTER** Spatial and Interspecies Patterns of PM_{2.5} at Three Sites in the Pearl River Delta, China: One-Year Observations: J Yu, **A K Lau**, C Wu, W Ng, Z Yuan, D Wu

0800h **A21A-0125 POSTER** Seasonal variation of spherical aerosols distribution in East Asia based on ground and space Lidar observation and a Chemical transport model: **Y Hara**, K Yumimoto, I Uno, A Shimizu, N Sugimoto, T Ohara

0800h **A21A-0126 POSTER** Spectral Discrimination of Fine and Coarse Mode Aerosol Optical Depth from AERONET Direct Sun Data of Singapore and South-East Asia: **S Salinas Cortijo**, B Chew, S Liew

0800h **A21A-0127 POSTER** Carbonaceous and ionic compositions of PM₁₀, PM_{2.5} and PM₁ in Seoul during 2007-2008: **J Han**, M Lee, S Lim, J Kim, I Park, G Lee, J Han

0800h **A21A-0128 POSTER** A quantitative analysis for nitrogen source-receptor relationships in Northeast Asia based on numerical simulation: Y Kim, Y Ma, J Park, K Choi, I Chang, J Kim, **Y Sunwoo**

0800h **A21A-0129 POSTER** Secondary Organic Aerosol Formation in Urban Air: Temporal Variations and Possible Contributions from Unidentified Hydrocarbons: **M Koike**, H Matsui, N Takegawa, Y Kondo, R J Griffin, Y Miyazaki

0800h **A21A-0130 WITHDRAWN**

A21B Moscone South: Poster Hall Tuesday 0800h
Atmospheric Chemistry and Impacts of Halogenated Species in the Troposphere II Posters (*joint with B*)

Presiding: A Saiz-Lopez; J Stutz

0800h **A21B-0131 POSTER** The Reaction of Atomic Chlorine with Dimethyl Sulfide: Kinetics of the H-abstraction, Adduct Formation, and Adduct Dissociation Pathways: **P H Wine**, P L Laine, Z Zhao, J M Nicovich

0800h **A21B-0132 POSTER** Halide Ion Enhancement of Nitrate Ion Photolysis: **N K Richards**, L M Wingen, K M Callahan, D J Tobias, B J Finlayson-Pitts

0800h **A21B-0133 POSTER** BrO in the arctic atmosphere in spring 2007: **C Prados Roman**, A Butz, T Deutschmann, M Dorf, L Kritten, A Minikin, U Platt, H Schlager, K Pfeilsticker

0800h **A21B-0134 POSTER** Oxidation of Unsaturated Phospholipid Coatings on Sea Salt Particles: **C W Dilbeck**, B J Finlayson-Pitts

0800h **A21B-0135 POSTER** A Study of Mid-Continent Halogen Activation: Wintertime Measurements of N₂O₅ and ClNO₂: **N Wagner**, W P Dubé, J P Kercher, T Riedel, J A Thornton, J Cozic, G M Wolfe, P Quinn, A M Middlebrook, O R Cooper, S S Brown

0800h **A21B-0136 POSTER** Possible origin and production pathway for BrO at Summit, Greenland: **C Haman**, B L Lefer, J E Dibb, G Huey, J Stutz, J Liao

0800h **A21B-0137 POSTER** New Developments of a Laser-Induced Fluorescence Ground-Based Instrument for Measurements of Atmospheric Iodine Monoxide (IO): **A O'Brien**, M E Thurlow, D T Co, T F Hanisco, L B Lapson, J Anderson

0800h **A21B-0138 POSTER** Observationally Constrained Estimates of Nitryl Chloride Production on Regional and Global Scales: **T Riedel**, J A Thornton, J P Kercher, N Wagner, W P Dubé, J Cozic, J Holloway, G M Wolfe, P Quinn, A M Middlebrook, S S Brown

0800h **A21B-0139 POSTER** Seasonal Variability of Halocarbon Emissions in California and The United States: **D R Gentner**, A H Goldstein, A M Miller, R A Harley

0800h **A21B-0140 POSTER** Emissions of Bromine and Iodine from the Marine Environment in New Zealand: **M Martinez-Aviles**, K Kreher, P V Johnston, T Hay, A Thomas, R Schofield

0800h **A21B-0141 POSTER** Extensive halogen-induced mercury oxidations in the Dead Sea Basin: **D Obrist**, M Peleg, V Matveev, M Luria

0800h **A21B-0142 POSTER** Gross Fluxes of Methyl Chloride and Methyl Bromide in a California Oak-Savanna Woodland: Seasonality, Soil Moisture and a Smaller Sink: **R C Rhew**, C Chen, Y Teh, D D Baldocchi

0800h **A21B-0143 POSTER** Satellite Observations of Tropospheric BrO: **N Theys**, F Hendrick, M Van Roozendael

0800h **A21B-0144 POSTER** The production of gas-phase molecular iodine by the photoenhanced reaction between chlorophyll and iodide at salt water surfaces: **D I Reeser**, C George, D J Donaldson

0800h **A21B-0145 POSTER** Unexpectedly high Br₂ levels observed in the marine boundary layer: **E S Saltzman**, M J Lawler

0800h **A21B-0146 POSTER** Airborne In Situ Measurements of Ozone in the Tropospheric Plume of Redoubt Volcano, Alaska: **P J Kelly**, D Troop, C A Werner, M P Doukas

0800h **A21B-0147 POSTER** Photochemical production of CH₃Br: Possibly the unknown source: **O W Wingenter**, K A Gorham, N J Blake, S Meinardi, D R Blake, F S Rowland

A21C Moscone South: Poster Hall Tuesday 0800h
Atmospheric Sciences General Contributions: Chemistry and Composition I Posters

Presiding: J G Hudson

0800h **A21C-0148 WITHDRAWN**

0800h **A21C-0149 POSTER** Airborne Observations of Ammonia in Aged Biomass Burning Plumes: **J B Nowak**, J Neuman, J Holloway, D D Parrish, J deGouw, C Warneke, T B Ryerson, C A Brock, A G Wollny, R Weber, R E Peltier, M Trainer, F C Fehsenfeld

0800h **A21C-0150 POSTER** Atmospheric behavior of peroxyacetyl nitrate (PAN) and peroxypropionyl nitrate (PPN) observed in urban and suburban sites in Beijing, China: J Zhang, **Z Xu**, G Yang, B Wang

0800h **A21C-0151 POSTER** Transport Pathways of Fire Generated Tracers to the Upper Troposphere over South America and Africa: Analyses using A-Train satellite measurements: **L Huang**, J H Jiang, R Fu, H Su, N J Livesey

0800h **A21C-0152 POSTER** Iterative Inverse Modeling for Reconciliation of Emission Inventories during the 2006 TexAQS Intensive Field Campaign: **X Xiao**, D S Cohan

- 0800h **A21C-0153** POSTER EMISSION OF OZONE IN THE VALE DO PARAÍBA REGION, IN SOUTHEASTERN BRAZIL, FOR THE YEAR 2007: **A dos Santos Zepka**, A B Sales, P C Alvalá
- 0800h **A21C-0154** POSTER Kinetic and thermochemical studies of the $\text{ClO} + \text{ClO} + \text{M} \leftrightarrow \text{Cl}_2\text{O}_2 + \text{M}$ reaction: V Ferracci, D M Rowley
- 0800h **A21C-0155** POSTER Inter-basin Pollutant Transport in Central California: **L Jin**, N J Brown, R A Harley
- 0800h **A21C-0156** POSTER INVESTIGATION OF SHIP-PLUME CHEMISTRY USING A NEWLY-DEVELOPED PHOTOCHEMICAL/DYNAMIC SHIP-PLUME MODEL: **C H Song**, H Kim
- 0800h **A21C-0157** POSTER Optimization and application of satellite observations for air quality monitoring in Central Europe: **Y Zhou**, D Brunner, F Boersma
- 0800h **A21C-0158** POSTER Advances in SAM II, SAGE, SAGE II and SAGE III Analysis and Products: **L W Thomason**, J M Zawodny, J R Moore, N Iyer
- 0800h **A21C-0159** POSTER Determination of OH reactivity of unidentified VOCs detected by GC-FID analysis: **S Kato**, T Sato, Y Kajii
- 0800h **A21C-0160** POSTER Comparison of satellite-based instantaneous radiative forcing of tropospheric ozone to four global chemistry climate models: **A M Aghedo**, K W Bowman, H M Worden, D T Shindell, G Faluvegi, J Lamarque, S S Kulawik, M Parrington, L W Horowitz, D B Jones, S Rast, M G Schultz, L Pozzoli
- 0800h **A21C-0161** POSTER Ambient Pressure LIF Instrument for Nitrogen Dioxide: **J Parra**, L A George
- 0800h **A21C-0162** POSTER Atmospheric aerosol and gas variations over ocean as seen by MAX-DOAS on a research vessel: **H Takashima**, H Irie, Y Kanaya
- 0800h **A21C-0163** POSTER Characterization of ozone precursors in a regional background site of the Pearl River Delta by time series observation of non-methane hydrocarbons: **C Chang**, J Wang, S C Liu, C Lai, M Shao, L Zeng, Y Zhang
- 0800h **A21C-0164** POSTER Enhanced Ozone Production at Low Temperatures due to Ethanol (E85): **D L Ginnebaugh**, P L Livingstone, M Z Jacobson
- 0800h **A21C-0165** POSTER Observation of greenhouse gases from ground-based telescope "Subaru" and "TAO": **Y Hayashi**, R Imasu, T Miyata
- 0800h **A21C-0166** POSTER Undergraduate Research at a Minority University: Studying the Atmospheric Conditions in Urban vs. Rural Areas: P A Morris, A Green Garcia, **A Hromis**, E Vaquiz, J M Wright, S A Austin, L P Johnson, D Musselwhite, D Walter
- 0800h **A21C-0167** POSTER Field Study of Filter Sampling Artifacts for Inorganic and Organic Aerosol Species: **W Maenhaut**, W Wang, X Chi
- 0800h **A21C-0168** POSTER Observed and Modeled Variations of Tropospheric Carbon Monoxide over Japan: **H Yashiro**, S Sugawara, K Sudo, M Takigawa, S Aoki, T Nakazawa
- 0800h **A21C-0169** POSTER Molar Absorptivity and Concentration-Dependent Quantum Yield of Fe(II) Photo-Formation for the Aqueous Solutions of Fe(III)-Dicarboxylate Complexes: **Y Hitomi**, T Arakaki
- 0800h **A21C-0170** POSTER Seasonal variability of trans-Pacific transport of air pollution in the lower and upper troposphere: **J Jin**, N J Livesey, J H Jiang, A Lupu, Q Li, J W Kaminski, J C McConnell
- 0800h **A21C-0171** POSTER Error analyses of JEM/SMILES standard products on L2 operational system: C Mitsuda, C Takahashi, **M Suzuki**, H Hayashi, K Imai, T Sano, M Takayanagi, Y Iwata, H Taniguchi
- 0800h **A21C-0172** POSTER Organic Aerosols in New York City – Insights from High-Resolution Aerosol Mass Spectrometry: **Y Sun**, Q Zhang, H Hung, J J Schwab, K L Demerjian, W Chen, M Bae, O Hogrefe, B Frank, Y Lin, J T Jayne, N L Ng
- 0800h **A21C-0173** POSTER Quantitative Analysis of Arctic Ozone Loss Using EOS MLS and SD-WACCM: **M Brakebusch**, C E Randall, D E Kinnison, M L Santee, S Tilmes
- 0800h **A21C-0174** POSTER Role of the vertical structure of gas and aerosol pollutants during long range transport: **B J Ford**, C L Heald
- 0800h **A21C-0175** POSTER Observations of Plume Transport and Continental Outflow in the Lower Troposphere during the ICARTT 2004 Campaign: **S R Davis**, R W Talbot, I Science Team
- 0800h **A21C-0176** POSTER The Accuracy of Profiling Ozone via Radio Occultation: **K G Sammler**, E Kursinski, D Ward
- 0800h **A21C-0177** POSTER A Fuel-Based Assessment of On-Road and Off-Road Mobile Source Emission Trends: **T R Dallmann**, R A Harley
- 0800h **A21C-0178** POSTER Measurement of volatile organic compounds in suburban Bangkok, Thailand: characteristics and influence from combustion related activities: **J Suthawaree**, Y Tajima, S Kato, A Khunchornrakong, A Sharp, Y Kajii
- 0800h **A21C-0179** POSTER Investigation of NO_x emissions and NO_x-related chemistry in East Asia using NO₂ columns from CMAQ simulation and GOME observation: **K Han**, C H Song, H Ahn, R Park, J Woo, C Lee, A Richter, J Burrows, J Kim, J Hong
- 0800h **A21C-0180** POSTER Atmospheric implications of particulate nitrite formation in Seoul, Korea: **M Park**, C H Song, E Lee, J Lee, B Lee, D Lee, J Kim, J Han, K Moon, Y Kondo
- 0800h **A21C-0181** POSTER Operational Level 2 Data Processing System for the JEM/SMILES: **C Takahashi**, C Mitsuda, M Suzuki, Y Iwata, M Horikawa, T Matsumoto, H Hayashi, K Imai, T Sano, M Takayanagi
- 0800h **A21C-0182** POSTER Total OH reactivity measurements at Manitou Experimental Forest in summer season during BEACHON-SRM08: **Y Nakashima**, S Kato, Y Kajii, J Greenberg, T Karl, A Turnipseed, E C Apel, A B Guenther, P C Harley, J N Smith
- 0800h **A21C-0183** POSTER Assessment of air quality in the coastal area of South Korea using principal component analysis combined with cluster analysis and enrichment factor: **H Yoo**, W Kwack, H Ha, C Choe, Y Kim, K Zoh, S Yi
- 0800h **A21C-0184** POSTER GROUND-BASED MILLIMETER-WAVE MEASUREMENTS OF ARCTIC STRATOSPHERIC O₃, N₂O, AND HNO₃ DURING WINTER 2008/09: **G Muscarei**, C Bianchi, C Cesaroni, R L De Zafra, I Fiorucci, D Fua
- 0800h **A21C-0185** POSTER Air-pollution transport characteristics at Mount Tai during two atmospheric campaigns in spring and summer 2007: A meteorological overview: **A Ding**, T Wang, W Wang
- 0800h **A21C-0186** POSTER PHOTOCHEMICAL AIR POLLUTION IN THE NORTH OF PORTUGAL: A HIGH TROPOSPHERIC OZONE EPISODE: **A Monteiro**, A Carvalho, O Tchepel, J Ferreira, H Martins, A Miranda, C Borrego, S Saavedra, A Rodríguez, J A Souto
- 0800h **A21C-0187** POSTER Reaction of Hydroxyl Radicals with Fluorinated Ethylenes: **M Baasandorj**, G Knight, V C Papadimitriou, R K Talukdar, A R Ravishankara, J B Burkholder
- 0800h **A21C-0188** POSTER ANALYSIS AND CHARACTERIZATION OF OZONE-RICH EPISODES IN NORTHEAST PORTUGAL: A Carvalho, **A Monteiro**, I Ribeiro, O Tchepel, A Miranda, C Borrego, S Saavedra, J A Souto, J J Casares
- 0800h **A21C-0189** POSTER Retrieval of surface properties from high temporal resolution geostationary infrared radiance measurements: **Z Li**, J Li, X Jin, T J Schmit, M Goldberg

- 0800h **A21C-0190 POSTER** Intercomparison of tropospheric NO₂ concentration by GOME and the air-quality monitoring network in the Tokyo region, Japan: **K Noguchi**, H Itoh, T Shibasaki, S Hayashida, I Uno, T Ohara, Y Morino, A Richter, J P Burrows
- 0800h **A21C-0191 POSTER** Quantifying the impact of model uncertainties on chemical budgets in trans-Atlantic pollution transport: **D A Ridley**, S R Arnold
- 0800h **A21C-0192 POSTER** A 3.5-year Signal in High Latitude Column Ozone: **J Wang**, X Jiang, R Shia, Y L Yung
- 0800h **A21C-0193 POSTER** Is there a quantifiable relationship between lightning and nitrate deposition in the subtropics?: **B Langenbrunner**, M G Hastings, S Spak, W A Petersen
- 0800h **A21C-0194 POSTER** Concept Study for the Solar Occultation for Atmospheric Research (SOAR) Satellite Mission: **K A Walker**, H Buijs, L Moreau, P Harrison, V Pillay, J Thibault, V Wehrle, I A Folkens, C T McElroy, C Sioris, D B Jones, K Strong, P F Bernath, K L Gilbert, M Butler, W F Evans, J W Kaminski, J C McConnell
- 0800h **A21C-0195 POSTER** Global correlation patterns of ozone and CO concentrations from TES observations and model calculations: P Telford, **A Voulgarakis**, D T Shindell, K W Bowman, J A Pyle, P Braesicke, A M Aghedo
- 0800h **A21C-0196 POSTER** The Impact of Southeast Asian Biomass Burning on CO Mixing Ratios in East Asia: **Y Lin**, C Lin, M Liang, W Hsu
- 0800h **A21C-0197 POSTER** The first calibration of a FAGE HO_x instrument over a range of external pressures using HIRAC: **S C Smith**, T L Malkin, F Winiberg, D E Heard, P Seakins
- 0800h **A21C-0198 POSTER** Simulation study of normal and enhancement methyl cyanide (CH₃CN) observed by JEM/SMILES: K Imai, **M Suzuki**, C Takahashi, T Sano, N Manago, C Mitsuda, Y Iwata, M Shiotani, H Hayashi
- 0800h **A21C-0199 POSTER** A modelling methodology to predict the range of organic components expected to condense to atmospheric aerosol: Sensitivities to fundamental properties and routes for reduced complexity parameterisations: **D O Topping**, G B McFiggans, M Barley, M Jenkin
- 0800h **A21C-0200 POSTER** A New Emission Estimation Approach Based on Lagrangian Particle Dispersion Modelling and Kalman-filter Based Inversion: **D Brunner**, S Henne, S Reimann
- 0800h **A21C-0201 POSTER** Efflorescence in supersaturated ammonium sulfate and mixed ammonium sulfate/poly(ethylene) glycol-400 particles: **V Ciobanu**, C Marcolli, U Krieger, A Zuend, T Peter
- 0800h **A21C-0202 POSTER** THE WINTER 2008-2009 MAJOR SUDDEN STRATOSPHERIC WARMING OBSERVED BY LIDAR AT THULE (76.5°N, 68.8°W), GREENLAND: **C Di Biagio**, A G di Sarra, M Cacciani, D Fua, G Muscari, P Eriksen
- 0800h **A21C-0203 POSTER** The Evaluation of the Spanish Air Quality Modelling System: CALIOPE. Dynamics and Chemistry over Europe and Iberian Peninsula for 2004 at high horizontal resolution: **M Piot**, M Pay, O Jorba, E Lopez, C Pirez, S Gasso, J M Baldasano
- 0800h **A21C-0204 POSTER** A new UV-LED photolytic converter for sensitive and fast-response measurements of atmospheric NO₂: **I B Pollack**, T B Ryerson
- 0800h **A21C-0205 POSTER** Determining the absorption spectrum of ClOOCl using combined UV absorption spectroscopy and broadband cavity enhanced absorption spectroscopy (BBCEAS): **I Young**, K Whittaker, R Cox, R Jones, F D Pope
- 0800h **A21C-0206 POSTER** The first results from HIRAC – the Highly Instrumented Reactor for Atmospheric Chemistry: T L Malkin, **S C Smith**, A Goddard, D R Glowacki, K Heemavibool, R Wada, F Winiberg, M J Pilling, D E Heard, P Seakins
- 0800h **A21C-0207 POSTER** A New Low Power, Light Weight, UV Ozone Photometer for use During the Concordiasi Antarctic Long Duration Stratospheric Balloon Campaign: **L Kalnajs**, L M Avallone
- 0800h **A21C-0208 POSTER** Chlorine Catalyzed Ozone Destruction: Cl Atom Production from ClOOCl Photolysis: **D M Wilmouth**, T F Hanisco, R M Stimpfle, J Anderson
- 0800h **A21C-0209 POSTER** Characterization of Industrial Emission Sources and Photochemistry in Houston, Texas: **R A Washenfelder**, E L Atlas, J deGouw, F M Flocke, A Fried, G J Frost, J Holloway, D Richter, T B Ryerson, S Schaubler, M Trainer, J Walega, C Warneke, P Weibring, W Zheng
- 0800h **A21C-0210 POSTER** Aerosol Hygroscopicity Variability: **J G Hudson**, S Noble, V Jha
- 0800h **A21C-0211 POSTER** Chemistry of OH during ARCTAS: **L Mauldin**, E Kosciuch, R S Hornbrook, C A Cantrell, W H Brune, X Ren, J Mao, J R Olson, G Chen, J H Crawford
- 0800h **A21C-0212 POSTER** Field Measurements Of Ammonia Fluxes Above A Douglas-fir Forest In Speuld, Holland Using Chemical Ionization Mass Spectrometry (CIMS): **M R McGillen**, M W Gallagher, M J Flynn, C J Percival
- 0800h **A21C-0213 POSTER** Aerosol and Ocean Science Expedition (AEROSE) Dedicated Marine Radiosondes for CrIMSS and GOES-R Proxy Datasets: **N R Nalli**, C Barnett, E Joseph, V Morris, H Xie, D E Wolfe, P J Minnett, M Goldberg
- 0800h **A21C-0214 POSTER** An atmospheric history of ethane from South Pole firn air: **K R Verhulst**, K M Aydin, P Lang, E S Saltzman
- 0800h **A21C-0215 POSTER** Modeling study on the factors affecting regional air quality during the Beijing 2008 Olympic Games: **C Wei**, G R Carmichael, B Adhikary, A D'Allura, Y Cheng, Y Tang, Q Zhang, D G Streets, R Pierce, J A Al-Saadi, B A Flowers, M K Dubey, N A Krotkov, K E Pickering, V Ramanathan
- 0800h **A21C-0216 POSTER** The Microwave Limb Sounder Website: Improved Design and New Tools: **B Knosp**, D Cuddy, N J Livesey, B Mills, G Baerg
- 0800h **A21C-0217 POSTER** Identifying the Molecular Origin of Global Warming: P P Bera, **T J Lee**, J Francisco
- 0800h **A21C-0218 POSTER** Establishing a long-term, global stratospheric HNO₃ data record combining UARS MLS with Aura MLS data by means of ground-based measurements: **I Fiorucci**, G Muscari, L Froidevaux, M L Santee, R L De Zafra
- 0800h **A21C-0219 POSTER** Understanding the impact of isoprene nitrates on ozone using recent advances in isoprene photooxidation chemistry: **Y Xie**, F Paulot, R Pinder, C G Nolte, D Luecken, W T Hutzell, P O Wennberg, R C Cohen
- 0800h **A21C-0220 POSTER** Ozone production and reactive nitrogen chemistry during the 2008 Beijing Olympic Games: **L Xue**, T Wang, J Gao, X Wang, X Gao, W Nie, A Ding, Q Zhang, W Wang
- 0800h **A21C-0221 POSTER** Comparison of the FY-3/SBUS Ozone Profiles with Coincident NOAA 17 SBUV/2: **S Chen**
- 0800h **A21C-0222 POSTER** Temperature and Slant Path Effects in Dobson and Brewer Total Ozone Measurements: **B Scarnato**, J Staehelin, T Peter, J Groebner, R Stuebi
- 0800h **A21C-0223 POSTER** Sample Artefacts in δ¹⁵N and δ¹⁸O of Nitrate in the atmosphere: A Seguin, A L Norman
- 0800h **A21C-0224 POSTER** Laboratory measurement of H₂O₂ pressure broadening parameter for JEM/SMILES Observation from International Space Station: **T Sato**, A Mizoguchi, Y Kasai, H Kanamori
- 0800h **A21C-0225 POSTER** Stable hydrogen isotopic composition of *n*-alkanes in atmospheric aerosols as a tracer for the source region of terrestrial plant waxes: **S Yamamoto**, K Kawamura

- 0800h **A21C-0226 POSTER** Post-depositional fractionation of nitrate stable isotopes in Antarctic snow: towards constraining past UV radiation and reactive nitrogen cycling: M M Frey, **S Morin**, J P Savarino, J Erbland
- 0800h **A21C-0227 POSTER** Observation of atmospheric composition by Superconducting SubMillimeter-wave Limb Emission Sounder (SMILES) onboard International Space Station: **Y Kasai**, B Philippe, J Mendrok, S Ochiai, J Urban, T Manabe, K Kikuchi, T Nishibori, T Sano, J Moller, D P Murtagh
- 0800h **A21C-0228 POSTER** Development of atmospheric N₂O isotopomers model based on a chemistry-coupled atmospheric general circulation model: **K Ishijima**, S Toyoda, K Sudo, C Yoshikawa, S Nanbu, S Aoki, T Nakazawa, N Yoshida
- 0800h **A21C-0229 POSTER** Multi-year Simulation of Carbon Monoxide and Methane Applying Novel Lagrangian Concept: S Henne, **D Brunner**, J Klausen, B Buchmann
- 0800h **A21C-0230 POSTER** Recirculation of Air Pollutants During Lake Breeze Events in Chicago: **M Schmeling**, A Hodzic, S T Massie
- 0800h **A21C-0231 POSTER** Development of the ACE-FTS Climatological Data Set for the period of 2004-2009: **A K Jones**, J Jin, K A Walker, J R Taylor, C D Boone, P F Bernath, G L Manney, S McLeod, R Hughes
- 0800h **A21C-0232 POSTER** Operational air quality forecasting system for Spain: CALIOPE: **J M Baldasano**, M Piot, O Jorba, M Goncalves, M Pay, C Pirez, E Lopez, S Gasso, F Martin, M Garcia-Vivanco, I Palomino, X Querol, M Pandolfi, J J Dieguez, L Padilla
- 0800h **A21C-0233 POSTER** Minority Institution Collaborative Research and Education Initiatives in the Geosciences: **S A Austin**, P Morris, D Walter, D Musselwhite, L P Johnson
- 0800h **A21C-0234 POSTER** Sources and trends of Tropospheric Formaldehyde (HCHO) derived from GOME-1 and -2: **T Marbach**, S Beirle, M Penning de Vries, C Liu, T Wagner
- 0800h **A21C-0235 POSTER** Ground-Based Microwave ClO Measurements from Mauna Kea and Comparisons with UARS and Aura MLS Measurements: **B J Connor**, G E Nedoluha, T Mooney, J W Barrett, A Parrish, M L Santee, L Froidevaux
- 0800h **A21C-0236 POSTER** Trends and Distributions of Atmospheric Nitrous Oxide: **J W Elkins**, G S Dutton, B D Hall, J D Nance, E J Dlugokencky
- 0800h **A21C-0237 POSTER** Global modeling of nitrate and ammonium aerosols using EQSAM3: **L Xu**, J E Penner
- 0800h **A21C-0238 POSTER** $\delta^{13}\text{C}$ Techniques and Measurements: Analysis of Low-Molecular Weight Oxygenated Volatile Organic Compounds in Source and Ambient Air Samples: B M Giebel, D D Riemer, P K Swart
- 0800h **A21C-0239 POSTER** A laboratory study of the UV Absorption Spectrum of the ClO Dimer (Cl_2O_2) and the Implications for Polar Stratospheric Ozone Depletion: **D K Papanastasiou**, V C Papadimitriou, D W Fahey, J B Burkholder
- 0800h **A21C-0240 POSTER** Effects of future climate and land cover changes on biogenic emissions and air quality in the US: **S H Chung**, R GONZALEZ ABRAHAM, A Arroyo, B K Lamb, T Duhl, C Wiedinmyer, A B Guenther, Y Zhang, E P Salathe
- 0800h **A21C-0241 POSTER** Monitoring vegetation using DOAS satellite observations: **E Eigemeier**, S Beirle, T Marbach, U Platt, T Wagner
- 0800h **A21C-0242 POSTER** Effects of future US and global emissions on air quality in the US: **R Gonzalez Abraham**, S H Chung, B K Lamb, A Arroyo, E Salathe, Y Zhang, D G Streets, D Loughlin, C G Nolte, A B Guenther, C Wiedinmyer, T Duhl
- 0800h **A21C-0243 POSTER** Evaluation of Updated SAPRC Chemical Mechanism in an Air Quality Model: **S M Shearer**, R A Harley, N J Brown, L Jin
- 0800h **A21C-0244 POSTER** Photo-Catalytic Oxidation of Gaseous Mercury over Titanium Dioxide Surface: **G Snider**, P Ariya
- 0800h **A21C-0245 POSTER** Specification of Biogenic VOC Emission Data in the Coupled System of Regional Climate and Atmospheric Chemistry/Aerosols Model: **K Zemankova**, P Huszar
- 0800h **A21C-0246 POSTER** Version 3 Products from EOS MLS: **D Cuddy**
- 0800h **A21C-0247 POSTER** A Multi-billion Parcel Atmospheric Trajectory Model: **C Cruz**, T L Clune, L R Lait, U Ranawake, R W Burns
- 0800h **A21C-0248 POSTER** Recent increases in trifluoromethane (HFC-23) global emissions and early atmospheric changes observed for other hydrofluorocarbons: **S A Montzka**, B R Miller, M O Battle, K M Aydin, D W Fahey, B D Hall, L Miller, K R Verhulst, E Saltzman, M McFarland
- 0800h **A21C-0249 WITHDRAWN**
- 0800h **A21C-0250 POSTER** Source Contribution of Volatile Organic Compounds to Ozone Formation in Southeast Texas: **Q Ying**
- 0800h **A21C-0251 POSTER** Effects of Using a Coupled Operator for Chemical and Vertical Processes on Simulated Summer-time 8-hour Ozone at Ground Level in California: **P L Livingstone**, B Jackson, B Croes
- 0800h **A21C-0252 POSTER** Current Status of Superconducting Submillimeter-Wave Limb-Emission Sounder (SMILES): **M Shiotani**, M Takayanagi
- 0800h **A21C-0253 POSTER** Mechanism and Trend Change of Sudden Increase of Total Ozone in Seoul: H Cho, **S Park**, J Kim, Y Lee, J Mok, Y Lee
- 0800h **A21C-0254 POSTER** Emissions of Biogenic Volatile Organic Compounds and Observations of VOC Oxidation at Harvard Forest: **K A McKinney**, T Pho, A Vasta, B H Lee
- 0800h **A21C-0255 POSTER** Absorption cross section for the 5vOH stretch of acetic acid and peracetic acid: I G Begashaw, M Collingwood, S Bililign
- 0800h **A21C-0256 POSTER** Modeling Biogenic Pollutants Emission from Ecosystems in Asia using MEGAN: **J Woo**, H Kim, Y Eo
- 0800h **A21C-0257 POSTER** Comparison of Oxygenate Mixing Ratios Observed in the San Joaquin Valley, California, as a Consequence of Dairy Farming: **M M Yang**, D R Blake
- 0800h **A21C-0258 POSTER** Long term in-situ Measurements of Non Methane HydroCarbons (NMHCs): Variations and Trends at a Rural site in Ontario, Canada: P C Brickell, **J W Bottenheim**, D K Wang
- 0800h **A21C-0259 POSTER** Carboxylic acids in gas and PM_{2.5} particulate phase at a rural mountain site in northeastern United States: **M M Hussain**, A R Khan, H A Khwaja

A21D Moscone South: Poster Hall Tuesday 0800h
Development and Application of Simulators for Aerosol-Cloud-Precipitation Observation from Space I Posters

Presiding: **T Matsui**, NASA GSFC & GEST UMBC; **G L Stephens**, Colorado State University; **W Tao**, NASA GSFC; **S Tanelli**, Jet Propulsion Laboratory

0800h **A21D-0260 POSTER** Development of retrieval algorithms for the EarthCARE lidar using the EarthCARE simulator: **G van Zadelhoff**, D P Donovan

0800h **A21D-0261 POSTER** An assessment of MODIS marine boundary layer cloud property retrievals based on a Large-Eddy simulation: **Z Zhang**, S E Platnick, B B Stevens

0800h **A21D-0262 POSTER** Evaluating the Potential of Retrieving Vertically-Resolved Cloud Drop Microphysical Properties From APS/RSP Polarization Measurements Combined With Lidar and Radar Using Large-Eddy Simulations: B Cairns, **B van Diedenhoven**, A S Ackerman

0800h **A21D-0263 POSTER** Improvement of Cold Season Land Precipitation Retrievals Through The Use Of WRF Simulations and High Frequency Microwave Radiative Transfer Model: **N Wang**, R R Ferraro, K Gopalan, W Tao, J J Shi

0800h **A21D-0264 POSTER** Vertical profiling of tropical precipitation using passive microwave observations: **K Park**, Z S Haddad

0800h **A21D-0265 POSTER** A Neural Network Approach for Improving QuikSCAT Winds in Rain and Retrieving Liquid Water Estimates from QuikSCAT Data: **B W Stiles**, R S Dunbar, S M Hristova-Veleva, A H Chau, J M Martin

0800h **A21D-0266 POSTER** EarthCARE Simulator: The new Doppler Cloud Profiling Radar module: **P Kollias**, A Battaglia, S Tanelli, A Tatarevic, H Wilker, J R Acarreta

0800h **A21D-0267 POSTER** Development of NASA's integrated Instrument Simulator Suite for Atmospheric Remote Sensing from Spaceborne Platforms (ISSARS): **S Tanelli**, P Li, J C Jacob, W Tao, T Matsui, C A Hostetler, J W Hair, K Kuo, A Battaglia, S L Durden, Z S Haddad, D J Diner, T Y Nakajima, T S L'Ecuier, G L Stephens, A J Heymsfield, D P Donovan, J T Johnson, N Majurec

0800h **A21D-0268 POSTER** Goddard Satellite Data Simulation Unit: Multi-Sensor Satellite Simulators to Support Aerosol-Cloud-Precipitation Satellite Missions: **T Matsui**, W Tao, H Masunaga, C D Kummerow, W S Olson, N Teruyuki, M Sekiguchi, M Chou, T Y Nakajima, X Li, J Chern, J J Shi, X Zeng, D J Posselt, K Suzuki

0800h **A21D-0269 POSTER** Evaluating Goddard Multi-Scale Modeling Framework at Different fv-GCM Grid Spacing: **J Chern**, T Matsui, B Shen, W Tao

0800h **A21D-0270 POSTER** Impact of aerosol on a snowfall event over Japan Sea: Simulations with WRF and a cloud-resolving model: **X Li**, W Tao, J J Shi, T Matsui

0800h **A21D-0271 POSTER** A Goddard Multi-Scale Modeling System with Unified Physics: **W Tao**, J Chern, T Matsui, X Li, C D Peters-Lidard, X Zeng, B Shen, J J Shi, S Lang

0800h **A21D-0272 POSTER** Evaluation of cloud microphysics simulated by a meso-scale model coupled with a bin-based scheme using observation data by W-band radar: **T Iguchi**, N Teruyuki, A Khain, K Saito, T Takemura, H Okamoto, T Nishizawa, W Tao

0800h **A21D-0273 POSTER** Exploring Alternative Parameterizations for Snowfall with Validation from Satellite and Terrestrial Radars: **A Molthan**, W A Petersen, J Case, S Dembek

0800h **A21D-0274 POSTER** An evaluation of cloud top temperature around Japan in a summer season simulated by CRESS by satellite observations: M Hayasaki, S Tsunashima, **M K Yamamoto**, A Higuchi, T Shinoda, K Tsuboki, H Masunaga

0800h **A21D-0275 POSTER** Evaluation of the performance of the WRF model to reproduce the cloud cover and clouds features over the Mediterranean area using the CALIPSO lidar observations: **S Bastin**, H Chepfer, M Chiriaco, G Cesana

0800h **A21D-0276 POSTER** Using the satellite data to evaluate cloud and precipitation statistics in CAM: **Y Zhang**, S Klein, J S Boyle, J E Kay

0800h **A21D-0277 POSTER** Using radar and lidar instrument simulators to evaluate moist processes in the Community Atmosphere Model: **J E Kay**, A Gettelman, Y Zhang, G L Stephens

0800h **A21D-0278 POSTER** Impact of Wildfire Smoke Aerosol on Clouds and Precipitation in High Latitudes: **Z Lu**, I N Sokolik

0800h **A21D-0279 POSTER** Understanding Aerosol Effects on Precipitation using the Precipitation Susceptibility Construct: **A Sorooshian**, G Feingold, M D Lebsock, H Jiang, G L Stephens

A21E Moscone South: Poster Hall Tuesday 0800h
Indian Monsoons II Posters (*joint with NH*)

Presiding: **D S Niyogi**; **B Rajagopalan**, University of Colorado; **R P Singh**

0800h **A21E-0280 POSTER** PREDICTABILITY AND FORECAST SKILL OF THE INDIAN MONSOON IN NCAR CCSM 3.5 RETROSPECTIVE FORECASTS: **D Achuthavarier**, V Krishnamurthy

0800h **A21E-0281 POSTER** The influence of the tropical circulation on Indian summer monsoon during ENSO: **Y Jang**, D M Straus

0800h **A21E-0282 POSTER** Prediction of Indian Summer Monsoon Rainfall: A comparison of SST indices in the Indo-Pacific region: **G A Bosch**, P Terray, S Masson

0800h **A21E-0283 POSTER** Increasing potential predictability of Indian Summer monsoon active and break spells: **N J Mani**, B Goswami

0800h **A21E-0284 POSTER** Submonthly Indian Ocean Cooling Events and their Interaction with Large-Scale Conditions: **I D Lloyd**, G A Vecchi

0800h **A21E-0285 POSTER** Mechanism of upper tropospheric warming over the Tibetan Plateau at the onset phase of the Asian summer monsoon: **T Tamura**, M Yasukawa, K Taniguchi, T Koike

0800h **A21E-0286 POSTER** Observed and Modeled Changes in the South Asian Summer Monsoon over the Historical Period: **F Fan**, M E Mann, S Lee

0800h **A21E-0287 POSTER** Synoptic analysis of heavy rainfall events over the Mumbai Region: G Roth, **M Lomazzi**, D Entekhabi, J Pinto, R Rudari

0800h **A21E-0288 POSTER** Drastic changes of long-term precipitation trends from pre-monsoon to monsoon season in Asia during the past 45 years (1961-2005): **T Yasunari**, S Yoshida, H Fujinami

0800h **A21E-0289 POSTER** Changes in the characteristics of monsoon precipitation in India: **S K Dash**

0800h **A21E-0290 POSTER** The Effect of Tibetan Plateau Uplift on the Early Monsoon onset over the Indochina Peninsula: **M E Hori**, M Abe, T Yasunari

0800h **A21E-0291 WITHDRAWN**

0800h **A21E-0292 POSTER** Simulations of Cyclone Sidr in the Bay of Bengal with a high-resolution model: Impact of domain sizes: **A Kumar**, J Done, J Dudhia, D S Niyogi

0800h **A21E-0293 POSTER** The Association of Pre-storm Ground Wetness with Inland Penetration of Monsoon Depressions : A Study Using Self Organizing Maps (SOM) C.M. Kishtawal Meteorology and Oceanography Group, Space Applications Center, Ahmedabad, INDIA Dev Niyogi2 Department of Agronomy, and Department of Earth and Atmospheric Sciences, Purdue University, West Lafayette, Indiana: **C M Kishtawal**, D S Niyogi

0800h **A21E-0294 POSTER** Rainfall phenomena during the period from January to July, 2009 over Bangladesh and the northeastern part of Indian subcontinent: **M Kiguchi**, Y Yamane, F Murata, T Terao, T Hayashi, T Oki

A21F Moscone West: 3004 Tuesday 0800h
High-Latitude Climate Feedbacks I (*joint with C, GC, OS*)

Presiding: **I L Eisenman**, Caltech & UW; **J E Kay**, NCAR; **M Flanner**, University of Michigan

0800h **A21F-01** Notes on a catastrophe – surface albedo feedbacks and the descent into a Snowball Earth (*Invited*): **G Roe**, M Baker

0825h **A21F-02** The effect of polar processes on Arctic climate sensitivity: **R Bintanja**, R G Graversen, W Hazeleger

0840h **A21F-03** A Didactic Model of the Seasonal Cycle in Energy Fluxes and Climate: **A Donohoe**, D Battisti

0855h **A21F-04** What if the Sun enters a Maunder Minimum tomorrow?: **X Song**, G J Zhang, D Lubin

0910h **A21F-05** Arctic Marine Methane Cycle Simulations for the Period of Global Warming: **S M Elliott**, M E Maltrud, M T Reagan, G J Moridis, P J Cameron-Smith

0925h **A21F-06** Changes in Arctic Vegetation Amplify High-Latitude Warming Through Greenhouse Effect: **A Swann**, I Fung, S Levis, G B Bonan, S C Doney

0940h **A21F-07** Modelling the impact of vegetation feedbacks on the minimum extent of the Greenland Ice Sheet during the Last Interglacial: **E J Stone**, D J Lunt, P J Valdes

A21G Moscone West: 3008 Tuesday 0800h
Multisensor and Model Aerosol Data Intercomparison and Integration II (*joint with IN*)

Presiding: **J Wang**, University of Nebraska - Lincoln; **G G Leptoukh**, NASA

0800h **A21G-01** A Geostatistical Data Fusion Technique for Merging Remote Sensing and Ground-based Observations of Aerosol Optical Thickness (*Invited*): **A M Michalak**, A Chatterjee, S R Paradise, A J Braverman, C E Miller

0820h **A21G-02** Assimilating CALIPSO Aerosol Profiles for Global Transport Modeling: **J R Campbell**, J Zhang, J S Reid, D L Westphal

0835h **A21G-03** A Regional Characterization of Global Brightening Using Multiple Aerosol Data Sets: **J Cermak**, M Wild

0850h **A21G-04** Zonal Aerosol Direct and Indirect Radiative Forcing using Combined CALIOP, CERES, CloudSat, and CERES Data: **W F Miller**, S Kato, F G Rose, S Sun-Mack

0905h **A21G-05** Global aerosol retrieval by synergistic use of ESA ENVISAT instruments and potential for long-term aerosol records from Sentinel-3: **P R North**, S L Bevan, C Brockmann, J Fischer, L Gomez-Chova, W Grey, A Heckel, J F Moreno, J Munoz Mari, R Preusker, P Regner

0920h **A21G-06** Investigation of Aerosol Effect on Cloud Optical Depth using a Chemical Transport Model Constrained by Satellite Observations: **Y Feng**, V Ramanathan

0935h **A21G-07** Global Climatology of Fine Particulate Matter Concentrations Estimated from Remote-Sensed Aerosol Optical Depth: **A van Donkelaar**, R Martin, R A Kahn, R C Levy

0945h **A21G-08** Closing the Confidence Gap in Aerosol Contributions to Direct Radiative Forcing Using Space-based and Suborbital Resources: **R A Kahn**

A21H Moscone West: 3006 Tuesday 0800h
Organics in the Atmosphere: Chemical and Physical Transformations IV

Presiding: **S S Brown**, NOAA Earth System Research Laboratory; **K R Wilson**, Lawrence Berkeley National Laboratory

0800h **A21H-01** Sources, Sinks and Chemistry of Volatile Organic Compounds: A Summary of Results from Multiple Airborne, Ship-Based and Surface Measurements: **J A De Gouw**, J B Gilman, P D Goldan, W C Kuster, J M Roberts, P R Veres, C Warneke, D Welsh-Bon

0822h **A21H-02** Kinetics of Reactions of HO₂ with HO₂ and with organics: **G S Tyndall**, J J Orlando, Y Tang, A S Hasson, M C Scialdiferri, A S Pimentel, T J Wallington

0836h **A21H-03** Quantification of Unidentified BVOC and their Oxidation Products in a forest canopy Using PTR-MS: **S Kim**, T Karl, A B Guenther, J Greenberg, P C Harley, J J Orlando, G S Tyndall, E C Apel, R Rasmussen

0850h **A21H-04** Nocturnal Oxidation of Urban and Industrial VOCs aloft during TexAQS 2006: **S S Brown**, W P Dubé, E L Atlas, C Warneke, J deGouw, J W Peischl, T B Ryerson, W Zheng, F M Flocke, R Bahreini, A M Middlebrook, A R Ravishankara

0904h **A21H-05** Old OA Never Die, They Just Fade Away: **N M Donahue**, K Henry, A L Robinson

0918h **A21H-06** Understanding the role of secondary chemistry, functionalization and chemical erosion in the heterogeneous oxidation of organic aerosols: **K Wilson**, J D Smith, J H Kroll, S Leone, C D Cappa, D Che, D R Worsnop, S H Kessler, H Bluhm, E Mysak, C Liu

0932h **A21H-07** Changes to carbon oxidation state during the photochemical aging of organic aerosol: **J H Kroll**, S H Kessler, J D Smith, D Che, D R Worsnop, K R Wilson

0946h **A21H-08** How will Primary and Secondary Organic Mixtures Impact CCN?: **A A Asa-Awuku**, N M Donahue, A L Robinson

A21I Moscone West: 3002 Tuesday 0800h
Physics and Chemistry of the Upper Troposphere and Lower Stratosphere I

Presiding: **L Pfister**, NASA Ames Research Center; **E J Jensen**, NASA Ames Research Center

0800h **A21I-01** Aerosol composition and thin cirrus formation in the tropical tropopause layer (TTL) (*Invited*): **K D Froyd**, D M Murphy, J C Wilson, L Pfister

0815h **A21I-02** The influence of convection on the water isotopic composition of the TTL and tropical stratosphere: **D S Sayres**, L Pfister, T F Hanisco, E J Moyer, J B Smith, J St. Clair, A O'Brien, M F Witinski, M Legg, J Anderson

0830h **A21I-03** Upper-tropospheric water contents as observed by the A-Train MLS, CALIPSO and CloudSat: **D L Wu**, J Chae, A Lambert, W G Read

0845h **A21I-04** A Combined A-Train Perspective on Upper-Tropospheric Humidity and Radiative Heating: **C Liang**, A Eldering, F W Irion, E Fetzer, W G Read, K Liou

0900h **A21I-05** TTL cirrus formation by convective detrainment and in situ nucleation: Seasonal and regional climatology from CALIPSO observations: **L D Rihihimaki**, S A McFarlane

0915h **A21I-06** The maintenance of tropical-tropopause-layer cirrus: **T P Dinh**, D Durran, T P Ackerman

0930h **A21I-07** Impact of the vertical velocity scenario on modeling water vapor transport in the TTL: **F Ploeger**, P Konopka, G Guenther, J Grooss, R Mueller, C Schiller

0945h **A21I-08** Processes regulating short-lived species in the tropical tropopause layer: **A Gettelman**, J E Kay, P Lauritzen, M Park

Atmospheric and Space Electricity

AE21A Moscone South: Poster Hall Tuesday 0800h
From Cloud Electrification to Lightning: Initiation, Development, and Effects I Posters (*joint with A, SA*)

Presiding: K L Cummins, University of Arizona

0800h **AE21A-0295 POSTER** Infrasonic Observations from Triggered Lightning: **R O Arechiga**, J B Johnson, H E Edens, W Rison, R J Thomas, K Eack, E M Eastvedt

0800h **AE21A-0296 POSTER** A comparison between initial continuous currents of different types of upward lightning: **D Wang**, N Sawada, N Takagi

0800h **AE21A-0297 POSTER** Optical Spectra of Triggered Lightning: **T D Walker**, C J Biagi, J D Hill, D M Jordan, M A Uman, H J Christian Jr.

0800h **AE21A-0298 POSTER** Rocket-triggered lightning observed by VHF broadband digital interferometers: S Yoshida, **C J Biagi**, V A Rakov, M A Uman, D M Jordan, J D Hill, T Morimoto, T Ushio, Z Kawasaki

0800h **AE21A-0299 POSTER** Time-Correlated High-Speed Video and Lightning Mapping Array Results For Triggered Lightning Flashes: **E M Eastvedt**, K Eack, H E Edens, G D Aulich, S Hunyady, W P Winn, C Murray

0800h **AE21A-0300 POSTER** Lightning interaction with launch facilities: **C T Mata**, V A Rakov

0800h **AE21A-0301 POSTER** High-speed Camera Observations of a Negative Ground Flash with 15-microsecond Resolution: M L Gauthier, **M G McHarg**

0800h **AE21A-0302 POSTER** High-Speed Video And VHF LMA Observations Of M-Components In A Single-Stroke Negative CG Flash With Very Long Continuing Current: **W H Beasley**, D M Jordan, S A Weiss

0800h **AE21A-0303 POSTER** The bi-directional leader observation in positive cloud-to-ground lightning flashes during summer thunderstorm season: **Y Nakamura**, A Manabu, T Morimoto, T Ushio, Z Kawasaki, M Miki, M Shimizu

0800h **AE21A-0304 POSTER** On FDTD Modeling of Polarization of Conductors in a Uniform Electric Field: **Y Baba**, V A Rakov

0800h **AE21A-0305 POSTER** Analysis of interesting flashes during a thunderstorm near Langmuir Laboratory on 24 August 2007: **B C Aslan**, W W Hager

0800h **AE21A-0306 POSTER** On the mechanism of Narrow Bipolar Pulses or Compact Cloud Discharges: G V Cooray, **A Ahmad**, M Fernando

0800h **AE21A-0307 POSTER** Further Narrow Bipolar Event VLF/LF and VHF Characteristics: charge and current moments: **T E Light**, T Hamlin, D R MacGorman

0800h **AE21A-0308 POSTER** An Analysis of Ball Lightning-Aircraft Incidents: **R K Doe**, A G Keul, V Bychkov

0800h **AE21A-0309 POSTER** An Algorithm for Obtaining the Distribution of 1-meter Lightning Channel Segment Altitudes for Application in Lightning NOx Production Estimation: **H S Peterson**, W J Koshak

0800h **AE21A-0310 POSTER** Propagation model of electromagnetic waves generated by lightning: study of conductivity effects: **G garcia**, T Farges, C Millet

0800h **AE21A-0311 POSTER** A Method for Retrieving Ground Flash Fraction from Satellite Lightning Imager Data: **W J Koshak**

0800h **AE21A-0312 POSTER** Artificial lightning data as proxy data for the algorithm development for the geostationary lightning imager: **U Finke**

Biogeosciences

B21A Moscone South: Poster Hall Tuesday 0800h
Lacustrine Microbialites Posters (*joint with H, OS*)

Presiding: D S Lim, NASA ARC; G F Slater, McMaster University; S L Cady, A Airo

0800h **B21A-0313 POSTER** Interactions in the Geo-Biosphere: Processes of Carbonate Precipitation in Microbial Mats: **C Dupraz**, P T Visscher

0800h **B21A-0314 POSTER** Current Perspectives and Research on Lacustrine Whiting Events and Microbialites (*Invited*): **J B Thompson**

0800h **B21A-0315 POSTER** Biosignatures of photosynthetic influences on carbonate precipitation in surface nodules associated with modern, freshwater microbialites in Pavilion Lake, B.C. (*Invited*): **A L Brady**, G F Slater, C Omelon, G Southam, G Druschel, D Andersen, I Hawes, D Y Sumner, B Laval, D S Lim

0800h **B21A-0316 POSTER** Comparative Study of Modern Stromatolites in Coastal Lagoa Salgada and Lagoa Vermehla, Brazil: Analogues for Precambrian Environmental Evolution: **C Vasconcelos**, R Lundberg, A Bahniuk, L Och, J A McKenzie

0800h **B21A-0317 POSTER** Pavilion Lake Research Project - using multi-scaled approaches to understanding the provenance, maintenance and morphological characteristics of microbialites: **D S Lim**, A L Brady, Z Cardman, B R Cowie, A Forrest, M Marinova, R Shepard, B Laval, G F Slater, M Gernhardt, D T Andersen, I Hawes, D Y Sumner, A C Trembanis, C P McKay

0800h **B21A-0318 POSTER** Identifying Key Structural Features and Spatial Relationships in Archean Microbialites Using 2D and 3D Visualization Methods: **E W Stevens**, D Y Sumner

0800h **B21A-0319 POSTER** Formation of Amorphous Mg-Si Precipitates Mediated by Microbial Activity: A Recent Analogue For Understanding their Role in Microbialite Formation: **M Pacton**, D Ariztegui, C Vasconcelos, J Barbarand, G E GORIN, J A McKenzie

0800h **B21A-0320 POSTER** Physical influences on microbialite morphological variation and distribution in Pavilion Lake, British Columbia, Canada: **M Marinova**, B Laval, C P McKay, R Shepard, D S Lim, A Forrest, D Andersen, R Arnold, A L Brady, Z Cardman, M Gernhardt, G F Slater, M Wilhelms

0800h **B21A-0321 POSTER** Synergistic effects of disturbance and control in the decline of Eichhornia crassipes in the Sacramento-San Joaquin Delta: **S Khanna**, M J Santos, S Ustin

0800h **B21A-0322 POSTER** Response of Benthic Macroinvertebrate Communities to Increases in Sediment Supply from Dam Removal: **J Roark**, C Podolak

0800h **B21A-0323 POSTER** Effects of a Large Freshwater Diversion on Water Quality of an Estuarine Lake: **J R White**, R W Fulweiler, S Bargu, C Li, N Walker, R Twilley, S Green

B21B Moscone South: Poster Hall Tuesday 0800h
Role of Climate, Carbon and Limiting Nutrient Cycles, and Human Activities in the Terrestrial Ecosystems I Posters (*joint with GC, PA*)

Presiding: A K Jain, University of Illinois; R R Nemani, NASA; X Yang, University of Illinois; W M Post, Oak Ridge National Laboratory

0800h **B21B-0324 POSTER** Effects of Land Use Change From Grassland Pasture and Wheat to Switchgrass in the Southern Great Plains: **D P Billesbach**, M S Torn, J A Bradford, S A Gunter, C Zou, M L Fischer

0800h **B21B-0325 POSTER** Importance of nitrogen cycling hot spots in an alpine-subalpine ecosystem: **A Darrouzet-Nardi**, W D Bowman

0800h **B21B-0326 POSTER** Changes of Carbon and Nitrogen Storages across a Fire Induced Forest/Grassland Boundary: **C Cheng**, Y Chen, C Lin, Z Chen, C Chiou

0800h **B21B-0327 POSTER** Variation in forest canopy nitrogen and albedo in response to N fertilization and elevated CO₂: **H F Wicklein**, S V Ollinger, M Martin, D Y Hollinger, G J Collatz

0800h **B21B-0328 POSTER** Carbon dynamics in north temperate drained peatlands: **C Chiu**, L C Bowling, T J Bohn, R H Grant, C T Johnston

0800h **B21B-0329 POSTER** Greenhouse-gas exchange of croplands worldwide: a process-based model simulation: **M Inatomi**, A Ito

0800h **B21B-0330 POSTER** Influence of wash disturbance and summer rainfall on dispersion and productivity of bajada vegetation in the Mojave Desert: **A Newlander**, D Bedford, J Blackburn, J Carroll, D M Miller, D R Sandquist

0800h **B21B-0331 POSTER** Plant Species Richness and Nitrogen Deposition can Alter Microbial Assimilation of New Photosynthate: **H Chung**, D Zak, P Reich

0800h **B21B-0332 POSTER** Carbon, Nitrogen, and Phosphorus Increase in Soil Physical Fractions Following Vegetation Change from Grassland to Woodland: **I B Kantola**, T W Boutton, T R Filley, C T Hallmark

0800h **B21B-0333 POSTER** The Effects of Land-Use Change on Ecosystem Oxidative Ratio: **W C Hockaday**, C A Masiello, M E Gallagher, L Calligan

0800h **B21B-0334 POSTER** Molecular and Isotopic Analysis of Earthworm Fecal Matter as a Tool for Determining Carbon Cycling Dynamics in two Great Lakes Region Forests: **S M Top**, T R Filley, S Zurn-Birkhimer

0800h **B21B-0335 POSTER** Simulation of the human land use influence on the historic terrestrial CO₂ fluxes: **S Malyshev**, E Shevliakova, R J Stouffer, L T Sentman, G C Hurr, S W Pacala

0800h **B21B-0336 POSTER** Ammonium nitrate, soil moisture, temperature and oxygen level effects on soil methane flux across two growing seasons in a temperate forest: **E L Aronson**, B R Helliker

0800h **B21B-0337 POSTER** Temperature-dependant shifts in a wet tropical Hawaiian forest ecosystem: impact on belowground carbon stocks, dynamics, and processes: **S E Crow**, C M Litton, C P Giardina

0800h **B21B-0338 POSTER** Soil Phosphatase Activity and Plant-available Phosphorus Increase Following Grassland Invasion by N-fixing Tree Legumes: **T W Boutton**, I B Kantola, D E Stott, S L Balthrop, J E Tribble, T R Filley

0800h **B21B-0339 POSTER** The Potential Impacts of Nutrient and CO₂ Variations on Ecosystem Oxidative Ratio: **M E Gallagher**, W C Hockaday, C A Masiello, S Snapp, W Polley, C P McSwiney, J Baldock

0800h **B21B-0340 WITHDRAWN**

0800h **B21B-0341 POSTER** Carbon Input and Partitioning Along a 5°C Mean Annual Temperature Gradient in Hawaiian Wet Tropical Forests: **C M Litton**, C P Giardina

0800h **B21B-0342 POSTER** Multi model and data analysis of terrestrial carbon cycle in Asia: From 2001 to 2006: **K Ichii**, K Takahashi, T Suzuki, M Ueyama, T Sasai, R Hirata, N Saigusa

0800h **B21B-0343 POSTER** Nitrogen regulation of climate-carbon cycle feedback: evidence from a long-term global change experiment: **S Niu**, Y Luo

0800h **B21B-0344 POSTER** Interannual Variations in Ecosystem Oxidative Ratio in Croplands, Deciduous Forest, Coniferous Forest, and Early Successional Forest Ecosystems: **C A Masiello**, W C Hockaday, M E Gallagher, L Calligan

0800h **B21B-0345 POSTER** Regional contributions to global climate change in present and future from anthropogenic land cover change: **J Pongratz**, C Reick, T Raddatz, K Caldeira, M Claussen

B21C Moscone South: 104 Tuesday 0800h
Adaptation of Vegetation to Changes in Environmental Forcing II (*joint with A, GC, H*)

Presiding: **S J Schymanski**, Max Planck Institute for Biogeochemistry; **S Zaehle**, Max Planck Institute for Biogeochemistry; **K P Tu**, UC Berkeley; **T N Buckley**, Sonoma State University

0800h **B21C-01** New scaling rules emerge from linked optimisation of crown nitrogen and water use: **T N Buckley**, G D Farquhar, A Cescatti

0815h **B21C-02** Optimality Based Dynamic Plant Allocation Model: Predicting Acclimation Response to Climate Change: **V Srinivasan**, D Drewry, P Kumar, M Sivapalan

0830h **B21C-03** Physiological idiosyncrasies and extreme events - two gaps in models of vegetation change: **V P Gutschick**, H BassiriRad

0845h **B21C-04** The Jena Diversity (JeDi) Model: A New Functional Diversity Approach To Modelling The Terrestrial Biosphere: **R Pavlick**, A Kleidon, B Reu, K Bohn

0900h **B21C-05** Range and Richness of Vascular Land-Plants: The role of variable light (*Invited*): **P S Eagleson**

B21D Moscone West: 3016 Tuesday 0800h
Buried Alive: The Dark, Deep Biosphere of Intraterrestrial Life I (*joint with G*)

Presiding: **A Schippers**, Federal Institute for Geosciences and Natural Resources (BGR); **K J Edwards**

0800h **B21D-01** Subsurface microbial observatories deployed in young ocean crust: **B Orcutt**, C G Wheat, A T Fisher, W Bach, K J Edwards

0815h **B21D-02** DUSEL and the future of deep terrestrial microbiology (*Invited*): **T C Onstott**, C A Peters, L C Murdoch, D Elsworth, E L Sonnenthal, T Kieft, D F Boutt, L Germanovich, S D Glaser, H F Wang, B Roggenthen, K Lesko, P Cushman, L D Stetler, S Bang, C Anderson

0830h **B21D-03** Titanite mineralization of bioalteration textures - the possible Ti precursor: **D Fliegel**, R Wirth, A Simonetti, N McLoughlin, H Furnes

0845h **B21D-04** Investigating the effects of high pressure upon the selective enrichment of bacteria from deep-sea sediments: Results from Loihi Seamount: **M O Schrenk**, C R Sisley, K J Edwards

0900h **B21D-05** Archaea, Bacteria, and Sulfur-Cycling in a Shallow-Sea Hydrothermal Ecosystem: **J P Amend**, C Huang, R Amann, W Bach, A Meyerdierks, R E Price, F Schubotz, R E Summons, F Wenzhoefer

0915h **B21D-06** Dissolved Organic Carbon Distribution in Two Hydrothermal Systems - West Mata, NE Lau Basin during an eruption event and basement fluids from sediment-buried Juan de Fuca Ridge flanks: **H Lin**, J P Cowen, D A Butterfield, R W Embley, J Resing

0930h **B21D-07** The Deep Subsurface Microbiology Research in China: Results from Chinese Continental Scientific Drilling Project: **H Dong**, G Zhang, L Huang, X Dai, Y Wang, G Lu, Z Dong, X Dong

0945h **B21D-08** Noble gas-derived insights into carbon cycling into the deep biosphere: **B Sherwood Lollar**, C J Ballentine, J Lippmann-Pipke, G F Slater, T C Onstott, L Lin, J Moran, S Tille, D P Moser, G Lacrampe-Couloume

Cryosphere

C21A Moscone South: Poster Hall Tuesday 0800h **Glacier and Ice Sheet Hydrology: Processes in Subglacial Environments I Posters** (*joint with H*)

Presiding: **S W Vogel**, Northern Illinois University; **M Tranter**, University of Bristol; **M Studinger**, Lamont-Doherty Earth Observatory

0800h **C21A-0427 POSTER** Subglacial carbonate precipitates on central Baffin Island, Arctic Canada may constrain basal conditions for the Foxe sector of the Laurentide Ice Sheet: **G H Miller**, K A Refsnider

0800h **C21A-0428 POSTER** Effects of abrupt changes in basal conditions on ice-streams: Application to sub-ice-stream lakes: **O V Sergienko**, S nowicki, D R MacAyeal

0800h **C21A-0429 POSTER** Relationship between Fracture Mechanics and Heat Transfer in Moulin Formation: **N W Chaney**, T K Dupont

0800h **C21A-0430 POSTER** THE 1890 SURGE END MORaine AT EYJABAKKAJÖKULL, ICELAND: A RE-ASSESSMENT OF A CLASSIC GLACIOTECTONIC LOCALITY: I Benediktsson, A Schomacker, H Lokrantz, **O Ingolfsson**

0800h **C21A-0431 POSTER** Exploring the links between transient water inputs and glacier velocity in a small temperate glacier in southeastern Alaska: **M Heavner**, M Habermann, E W Hood, D R Fatland

0800h **C21A-0432 POSTER** Influence of glacial meltwater on equilibrium process of two Tibetan lakes indicated by $\delta^{18}O$: **J Gao**

0800h **C21A-0433 POSTER** Observations of the sub-glacial hydrology of the Malaspina Glacier, using spaceborne InSAR: **A L Ford**, R Forster, R L Bruhn

0800h **C21A-0434 POSTER** Possible Effects on the Stability of the West Antarctic Ice Sheet (WAIS) and Associated Sea-level Rise From Active-Recent Subglacial Volcanism Interpreted from Aeromagnetic and Radar Ice-sounding Observations: **J C Behrendt**

C21B Moscone South: Poster Hall Tuesday 0800h **Hydrology and Ice Sheet Dynamics I Posters** (*joint with H*)

Presiding: **R V Wal**, IMAU; **A Vieli**, Durham University; **A Shepherd**, University of Leeds

0800h **C21B-0435 POSTER** Estuary sediment plume response to surface melting and supraglacial lake drainages on the Greenland Ice Sheet: **V W Chu**, L C Smith, A K Rennermalm, R R Forster, J E Box, N Reeh

0800h **C21B-0436 POSTER** Models of feedback between solar energy absorption and sculpted ice-sheet surface topography: a possible control of the geometry of surface meltwater conduits and reservoirs: **L M Cathles**, D R MacAyeal

0800h **C21B-0437 POSTER** Characterizing Greenland supraglacial lake drainage events using GPS and seismic data: **R Justin**, P G Burkett, D Voigt, K A Christianson, S Anandakrishnan

0800h **C21B-0438 POSTER** Comparison of modeled and observed supraglacial lakes at the western margin of the Greenland ice sheet: **S J Palmer**, A V Sundal, A Shepherd, P Nienow

0800h **C21B-0439 POSTER** Examining Spatio-Temporal Relationships between Supra-Glacial Lake Distribution and Surface Velocity Fields in Western Greenland: **N S Amador**, D J Lampkin, K F Farness, K C Jezek

0800h **C21B-0440 POSTER** Seasonal and spatial variations in ice velocity, South-West Greenland: **A V Sundal**, A Shepherd, P Nienow, S J Palmer, E Hanna

0800h **C21B-0441 POSTER** Simulating outlet glacier response to drainage events with a hydrologically coupled higher-order flowband model: S Pimentel, **G E Flowers**

0800h **C21B-0442 POSTER** Implementation of dynamic subglacial processes in a high-order ice sheet model: M H Bougamont, **S F Price**, P Christoffersen, A J Payne, A M Le Brocq, A Vieli

0800h **C21B-0443 POSTER** Pore-pressure and deformational response of subglacial till to seismicity: **T T Creyts**, C Huber, M Manga

C21C Moscone South: Poster Hall Tuesday 0800h **Ice Shelves, Ice Tongues, and Coupling With Ocean and Ice Sheets I Posters** (*joint with OS*)

Presiding: **L Padman**, Earth & Space Research; **A Shepherd**, University of Leeds; **K M Brunt**, Scripps Institution of Oceanography

0800h **C21C-0444 POSTER** Accurate Time Integration of 3D Grounding Line Dynamics: **J Brown**

0800h **C21C-0445 POSTER** Pine Island Glacier Ice Shelf: Draft, Outflow Channels, and Polynyas as Observed via Fieldwork, Modeling, and Spacecraft: **K D Mankoff**, S S Jacobs, K C Leonard, C M Little, K A Gavahan, F O Nitsche

0800h **C21C-0446 POSTER** The coupled response to slope-dependent basal melting: **C M Little**, D N Goldberg, O V Sergienko, A Gnanadesikan

0800h **C21C-0447 POSTER** Ice and ocean processes in the Bellingshausen Sea, Antarctica: **P Holland**, A Jenkins, D M Holland

0800h **C21C-0448 POSTER** Analytic Criteria For Ice Shelf Fracture: **M O'Leary**, P Christoffersen

0800h **C21C-0449 POSTER** Exploration of ocean waves created by iceberg calving and capsize using SPH (smoothed particle hydrodynamics): **D R MacAyeal**

0800h **C21C-0450 POSTER** Implementation of large-scale ice shelf dynamics in the ice sheet model SICOPOLIS: **T Sato**, R Greve

0800h **C21C-0451 POSTER** Using differential interferometric synthetic aperture radar to assess the ability of tide models to simulate the tidal motion of an ice shelf: **M McMillan**, A Shepherd

0800h **C21C-0452 WITHDRAWN**

0800h **C21C-0453 POSTER** Experiments With Two Adaptive-Mesh Finite Element Ice-Shelf/Ice-Stream Models: **T K Dupont**, L Chen, D S Lindsey

0800h **C21C-0454 POSTER** Using the level set method to track ice sheet boundaries: **D S Lindsey**, T K Dupont

0800h **C21C-0455 POSTER** Variations in Southeast Greenland fjord and coastal waters and their impact on glacier dynamics: K Scharrer, M Duijkers, T Murray, A Booth, N Selmes, **T D James**, S L Bevan, A J Luckman

0800h **C21C-0456 POSTER** Warm Oceans, Fast Glaciers: the connections: M Truffer, **M A Fahnestock**, J M Amundson

0800h **C21C-0457 POSTER** Oceanic Controls on Ice Shelf Basal Melt Rate Following a Large Calving Event: **L Padman**, H A Fricker, S Erofeeva

0800h **C21C-0458** *POSTER* Outlet Glacier-Ice Shelf-Ocean Interactions: Is the Tail Wagging the Dog?: **B R Parizek**, R T Walker, S K Rinehart
 0800h **C21C-0459** *POSTER* On the effect of ice-shelves melting on the grounding line dynamics in presence of buttressing backforces: **O Gagliardini**, G Durand, F Pattyn, T Zwinger
 0800h **C21C-0460** *POSTER* ICESat Observations of Ocean Swells and Possible Long-Period Ocean Waves Propagating Through Antarctic Sea Ice: **J F Heinrichs**, B Holt

C21D Moscone South: Poster Hall Tuesday 0800h
Outlet Glacier and Ice Shelf Changes: Observations and Modeling II Posters (*joint with G, NG*)

Presiding: **E Y Larour**, Jet Propulsion Laboratory; **E J Rignot**, University California Irvine; **T K Dupont**, University of California

0800h **C21D-0461** *POSTER* Recent mass changes of Peyto Glacier, Alberta, from remote sensing and field measurements: **R L Hawley**, D Winski, E C Osterberg
 0800h **C21D-0462** *POSTER* Environmental controls on calving events in Greenland: **K M Schild**, G S Hamilton, L A Stearns
 0800h **C21D-0463** *POSTER* Investigating the response of Crane Glacier, Antarctic Peninsula to the disintegration of the Larsen B ice shelf using a 2-D flowline model: **A J Campbell**, C L Hulbe, O Sergienko
 0800h **C21D-0464** *POSTER* Full-Stokes modeling of grounding line dynamics: some first interplay with measurements: **G Durand**, O Gagliardini, T Zwinger, C Ritz, E Le Meur, F Rémy
 0800h **C21D-0465** *POSTER* Surface Melt and its Effect on Helheim Glacier Dynamics: **M L Andersen**, M Nettles, T Larsen, P Elosegui, G S Hamilton, L A Stearns, D van As, J de Juan, J L Davis
 0800h **C21D-0466** *POSTER* Variability of A MODIS-Derived Clear-Sky Surface Temperature over the Lambert Glacier-Amery Ice Shelf System (LGAISS): **Z Chi**, A G Klein
 0800h **C21D-0467** *POSTER* Crack tip behavior and arrest in the Ronne Ice Shelf investigated using a numerical model of fracture propagation: **C M LeDoux**, C L Hulbe, K M Cruikshank
 0800h **C21D-0468** *POSTER* Existence of exact solutions to the time-dependent Shelfy-Stream equations with moving grounding line and convergence of numerical scheme to solutions (*Invited*): **D N Goldberg**, C Schoof, D M Holland
 0800h **C21D-0469** *POSTER* Variations in grounding line position on the Gould and Siple Coasts, West Antarctica, over the last 1000 years: **C L Hulbe**, G A Catania, O V Sergienko, M A Fahnestock
 0800h **C21D-0470** *POSTER* Ice Mechanics, Outlet Morphology, and Change Over Time on Kamb Ice Stream, West Antarctica: **M A Fahnestock**, C L Hulbe
 0800h **C21D-0471** *POSTER* Petermann Glacier, North Greenland: Large Ice-Discharge Episodes from 20 Years of Satellite Observations: **M Babiker**, O M Johannessen, M W Miles, V V Miles
 0800h **C21D-0472** *POSTER* Spatial patterns of basal drag inferred using control methods from three ice flow models for Pine Island Glacier, West Antarctica: **M Morlighem**, E Rignot, H L Seroussi, E Y Larour
 0800h **C21D-0473** *POSTER* Basal melt rate at the Larsen-C Ice Shelf: **N Gourmelen**, A Shepherd, A Jenkins, N Houlié

C21E Moscone West: 301A Tuesday 0800h
Spatial Variability in Snow: Measuring, Modeling, and Remote Sensing I (*joint with H, G*)

Presiding: **H Marshall**, Boise State University; **J S Deems**, National Snow and Ice Data Center

0800h **C21E-01** Connecting airborne Ku-band radar measurements to surface-based measurements: Integrating data from ASIRAS, VHB, and physical property measurements from Greenland and Svalbard. (*Invited*): **R L Hawley**, E M Morris, O Brant
 0815h **C21E-02** Dependence of Snowmelt Simulations on Scaling of the Forcing Processes (*Invited*): **A H Winstal**, D G Marks, R J Gurney
 0830h **C21E-03** High resolution Arctic snow observations: SnowNet (*Invited*): **C A Hiemstra**, M Sturm, A B Gelvin, S Berezovskaya, S P Saari, D C Finnegan, G E Liston
 0845h **C21E-04** Using Repeated Spatial Patterns of Tundra Snow to Improve Snow Distribution Modeling: M Sturm, **A M Wagner**
 0900h **C21E-05** Snow Depth Measurement Variability Across Two Study Domains: **S R Fassnacht**, A Kashipazha
 0915h **C21E-06** A comparison of methods for estimation and prediction of snow depth and its spatial non-stationarity at the first-order basin scale: **J L McCreight**, B Rajagopalan, A G Slater, H Marshall
 0930h **C21E-07** Evolution of snow distribution on first-year sea ice: **M Peters**, J Yackel
 0945h **C21E-08** Spatial and temporal analysis of snowpack strength and stability and associations with micro-climate on an inclined forest opening (*Invited*): **E Lutz**, K Birkeland, H Marshall, K Hansen

Earth and Planetary Surface Processes

EP21A Moscone South: Poster Hall Tuesday 0800h
Aeolian Dust: Transport Processes, Anthropogenic Forces, and Biogeochemical Cycling Posters (*joint with B, A, GC*)

Presiding: **N M Mahowald**, Cornell; **C R Lawrence**, US Geological Survey

0800h **EP21A-0559** *POSTER* Evaluating global atmospheric transport of plutonium with dust aerosols: **R Velarde**, R Arimoto, T E Gill, C Kang, P Goodell
 0800h **EP21A-0560** *POSTER* Global variability in nutrient deposition (*Invited*): **N M Mahowald**
 0800h **EP21A-0561** *POSTER* Influence of Complex Terrain on Wind Fields in the Mojave Desert, Southwestern US: **G D Clow**, R L Reynolds, F E Urban, R Bogle, J M Vogel
 0800h **EP21A-0562** *POSTER* Assessing the dust generation potential of soils/sediments in Southern Kalahari: **A Bhattachan**, P D'Odorico, T M Zobeck, G S Okin
 0800h **EP21A-0563** *POSTER* Dusty Gust Fronts at Synoptic Scale, Initiated and Maintained by Moist Convection over the Sahara Desert: **D Bou Karam**, E Williams, M McGraw-Herdeg, M Janiga, J Cuesta, C Flamant, J Pelon, C Thorncroft
 0800h **EP21A-0564** *POSTER* The Behavior of Gust Fronts in West Africa Based on Radar and Satellite Observations: **M McGraw-Herdeg**, E Williams
 0800h **EP21A-0565** *POSTER* Transport of dust across the Sahara from satellite image sequence analysis: **C S Garbe**, F Flatow, M Klinger, K Schepanski, I Tegen, R Rannacher
 0800h **EP21A-0566** *POSTER* Relationships of aeolian surface change with Lidar-derived landscape surface roughness: **J B Sankey**, **N F Glenn**, M J Germino, A Hoover, A Gironella
 0800h **EP21A-0567** *POSTER* Mapping composition in dust-producing regions: Extending geochemical measurements over large scales with remote sensing: **H J Tollerud**, A J Elmore, M S Fantle

0800h **EP21A-0568 POSTER** Remotely sensed dune sand flux measurements in the dustiest place on Earth (Bodélé, Chad): **P Vermeesch**

0800h **EP21A-0569 POSTER** Geomorphology of MODIS-Visible Dust Plumes in the Chihuahuan Desert – Preliminary Results: **T E Gill**, M J Mbuh, M A Dominguez, J A Lee, M C Baddock, C E Lee, S C Whitehead, N I Rivera Rivera, P Peinado

0800h **EP21A-0570 POSTER** Size-Time-Composition Resolved Study of Aerosols Across El Paso, Texas in Fall 2008: **T A Cahill**, **T E Gill**, N E Pingitore, H A Olvera, J W Clague, D E Barnes, K D Perry, W Li, M A Amaya

0800h **EP21A-0571 POSTER** Postdam evolution of aeolian landscapes in the Colorado River corridor through Grand Canyon National Park, Arizona, USA: **A E Draut**, B D Collins, H C Fairley, D M Rubin

0800h **EP21A-0572 POSTER** Aerosol Particle Monitoring and Dry Deposition Modeling at a Dry Plateau Site at Colorado: **H Luo**, H W Loescher, J Neff, D Fernandez

0800h **EP21A-0573 POSTER** X-ray Absorption Spectroscopy of Zinc in Airborne Particulate Matter Shows Tire Debris Concentrated in > 0.5 μm Fraction: **N E Pingitore**, J W Clague, T E Gill, M A Amaya, T A Cahill

0800h **EP21A-0574 POSTER** The Influence of Precipitation-Driven Annual Plant Growth on Dust Emission in the Mojave Desert, USA: **F E Urban**, R L Reynolds, R E Fulton

0800h **EP21A-0575 POSTER** Particle size distributions of aeolian sediments from five ecosystem types at the Jornada Basin, New Mexico, USA: **K W Floyd**, T E Gill, D A Gillette

0800h **EP21A-0576 POSTER** Impacts of Land Use Change on Atmospheric P Inputs to a Tropical Dry Forest: **R Das**, D Lawrence, P D'Ondorico

0800h **EP21A-0577 POSTER** Dust Emission Variability at the Salton Sea, California, USA: **J King**, V Etyemezian, M Sweeney, B Buck

0800h **EP21A-0578 POSTER** The role of large particles in aerosol concentration and flux estimates; a comparison of Total Suspended Particulate, PM₁₀ and PM_{2.5} measurements for use in biogeochemical studies: **D P Fernandez**, J Neff, H Luo, H W Loescher, T Hehn

0800h **EP21A-0579 POSTER** Dust loading in Gusev crater, Mars: Results from two active dust devil seasons: **D A Waller**, R Greeley, L D Neakrase, G A Landis, P Whelley, S D Thompson

0800h **EP21A-0580 POSTER** Near-bed, aeolian sediment transport under non-uniform flows: **W B Dade**, R Haehnel, B Cushman-Roisin, N T Hamm

0800h **EP21A-0581 POSTER** Concentrations of Trace Elements in Settling Particulate Matter and Particulate Element Fluxes in the Concepción Bay, the Gulf of California during the years 1996-1998: **M L Leal Acosta**, E Choumiline, N Silverberg

0800h **EP21A-0582 POSTER** Toward understanding the effects of mineral dust aerosol heterogeneous chemistry: Impacts on ocean bioproductivity: **C D Hatch**, J S Wiese, C C Crane, M K Keenan

0800h **EP21A-0583 POSTER** Interactions Between Wind Erosion, Vegetation Structure, and Soil Stability in Groundwater Dependent Plant Communities: **K R Vest**, A J Elmore, G S Okin

0800h **EP21A-0584 POSTER** Using Fallout Radionuclides to Quantify Timescales of Soil Deflation due to Ecological Change in Owens Valley, California: **J M Kaste**, A J Elmore, K R Vest, G S Okin

EP21B Moscone South: Poster Hall Tuesday 0800h
Earth and Planetary Surface Processes and Landscapes
General Contributions: Fluvial I Posters (*joint with C, GC, H*)

Presiding: L S Sklar, San Francisco State University

0800h **EP21B-0585 POSTER** Modeling step-pool sequences in alluvial mountain streams: **P Gao**, C Chen, A Chin

0800h **EP21B-0586 POSTER** Supply-Limited Bedforms in a Gravel-Sand Transition: **J G Venditti**, J A Nitttrouer, R P Humphries, M A Allison

0800h **EP21B-0587 POSTER** Hydraulic controls on bed material grain size: **M B Singer**

0800h **EP21B-0588 POSTER** Empirical Model of Bedform Migration – Preliminary Results: **M Lin**, J G Venditti

0800h **EP21B-0589 POSTER** Patterns of grain-size dependent sediment transport in low-ordered, ephemeral channels: **B Yuill**

0800h **EP21B-0590 POSTER** INTERACTIONS BETWEEN TOPOGRAPHY AND ROUGHNESS IN A 2D RASTER-BASED HYDRAULIC MODEL: **M Casas**, D Yu, S N Lane, G Benito-Ferrandez

0800h **EP21B-0591 POSTER** Braid-plain dynamics and bank erosion along the Matanuska River, Alaska: **J H Curran**

0800h **EP21B-0592 WITHDRAWN**

0800h **EP21B-0593 POSTER** Historical perspectives on channel pattern in the Clark Fork River, Montana and implications for post-dam removal restoration: **C A Woelfle-Erskine**, A C Wilcox

0800h **EP21B-0594 POSTER** Comparison of Automated Image-Based Grain Sizing to Standard Pebble Count Methods: **K B Strom**

0800h **EP21B-0595 POSTER** Tributary junctions on the River Mekong: **C R Hackney**, P A Carling

0800h **EP21B-0596 POSTER** Grain-scale investigation of bedload transport in an experimental turbulent river: **E Lajeunesse**, L Malverti, F Charru

0800h **EP21B-0597 POSTER** Longevity of Wood-Forced Pools in an Old-Growth Forest: **J M Buffington**, R D Woodsmith, A C Johnson

0800h **EP21B-0598 POSTER** Sediment flux in the gravel-sand transition of the Fraser River: **J A Nitttrouer**, J G Venditti, M A Allison, D C Mohrig

0800h **EP21B-0599 POSTER** River response to dam removal: the Souhegan River and the Merrimack Village Dam, Merrimack, New Hampshire: **A J Pearson**, N P Snyder, M J Collins, D J Santaniello

0800h **EP21B-0600 POSTER** Transport of logs coupled to channel morphodynamics in a laboratory experiment: **M Tal**, F Metivier, H Piégay, A Limare

0800h **EP21B-0601 POSTER** HYDRODYNAMICS AND SEDIMENT TRANSPORT IN LOWER MISSISSIPPI RIVER MEANDER BENDS (LOUISIANA): IMPLICATIONS FOR LARGE SEDIMENT DIVERSIONS: **M A Allison**, A McCorquodale, E A Meselhe

0800h **EP21B-0602 POSTER** Historical Channel Changes in Cache Creek, Capay Valley, California: **S A Higgins**, G R Kamman

0800h **EP21B-0603 POSTER** Mapping the river landscape “before and after”: the utility of pre-existing digital data for floodplain definition and the documentation and analysis of human impacts along river corridors: **P M Blanton**

0800h **EP21B-0604 POSTER** Channel Networks on Large Fans: Refining Analogs for the Ridge-forming Unit, Sinus Meridiani: **M J Wilkinson**

0800h **EP21B-0605 POSTER** Estimates of fine sediment residence time and depth of exchange in a mixed bedrock-alluvial channel: **J Gartner**, C E Renshaw, F J Magilligan, W B Dade

0800h **EP21B-0606** *POSTER* Cross-Validation of Suspended Sediment Concentrations Derived from Satellite Imagery and Numerical Modeling of the 1997 New Year's Flood on the Feather River, CA: **N E Kilham**

EP21C Moscone South: Poster Hall Tuesday 0800h
Earth and Planetary Surface Processes and Landscapes
General Contributions: Fluvial II Posters (*joint with C, GC, H*)

Presiding: **M P Lamb**, Caltech

0800h **EP21C-0607** *POSTER* Reduction of Long-Term Bedrock Incision Efficiency by Short-Term Alluvial Cover Intermittency: **D Lague**

0800h **EP21C-0608** *POSTER* Hydraulic formation of knickzones in Japanese mountain rivers: **Y Hayakawa**, T Oguchi

0800h **EP21C-0609** *POSTER* Catastrophic flood of the Mediterranean after the Messinian Salinity Crisis? Insights from river incision models and geophysical evidence: **D Garcia-Castellanos**, F Estrada, I Jimenez-Munt, C Gorini, M Fernández, J Verges, R De Vicente

0800h **EP21C-0610** *POSTER* The 'Grand Canyon' of the Da'an River, Taiwan - Influences on Ultra-Rapid Incision and Knickpoint Propagation: **K L Cook**, J Suppe

0800h **EP21C-0611** *POSTER* Incisional bedrock channels cutting into tablelands: **P Chatanantavet**, G Parker, K X Whipple

0800h **EP21C-0612** *POSTER* Geomorphological implications of systematic age overestimations in the OSL dating of post-LGM fluvial terraces (Rangitikei river, New Zealand): U Rieser, **S Bonnet**, L Moulin, A Lacoste, D Lague, P Davy

0800h **EP21C-0613** *POSTER* Evolution of block stream with subsurface erosion - A Case of Unbong mountain, Gangwon, Korea: **J Kim**

0800h **EP21C-0614** *POSTER* The influence of weathering on erosion and cross-channel geometry in bedrock channels: **G S Hancock**, E E Small, C W Wobus, B Murphy

0800h **EP21C-0615** *POSTER* Spatially variable erodability in bedrock channels produced by weathering: **B Murphy**, G S Hancock, E E Small

0800h **EP21C-0616** *POSTER* The dependence of bedrock erodibility on rock material properties: is tensile strength enough?: **J D Beyeler**, L S Sklar, K Litwin, J P Johnson, G C Collins, K X Whipple

0800h **EP21C-0617** *POSTER* Colorado Plateau rock strength, exhumation, and river knickzones - spatial datasets relating erodability to topographic metrics: **C Tressler**, J L Pederson

0800h **EP21C-0618** *POSTER* Weathering in Southern Patagonian rivers: Perspectives from the U-series and ¹⁰Be isotopes: **B Lee**, Y Huh, C Lundstrom, L Siame

0800h **EP21C-0619** *POSTER* Local growth laws for channels cut by springs: **A P Petroff**, O Devauchelle, D M Abrams, D Rothman

EP21D Moscone West: 2008 Tuesday 0800h
Vegetation and Fluvial Processes: Research and Application in Fluvial Geomorphology I (*joint with H*)

Presiding: **N M Czarnomski**, Oregon State University;
N L Bankhead, USDA-ARS National Sedimentation Laboratory

0800h **EP21D-01** Reach-Scale Influence of Riparian Vegetation on Fluvial Erosion (*Invited*): **T Wynn**, L C Hopkinson

0815h **EP21D-02** Vegetation Effects on Turbulent Boundary Layer Flows and their Role in Lotic Ecosystems: **V S Neary**

0830h **EP21D-03** Single-thread channels resulting from a localization process driven by vegetation: C Narteau, **M Tal**

0845h **EP21D-04** The geomorphic signature of life: effects of riparian vegetation on bedload transport and sediment accretion: **E M Yager**, A Lightbody, A K Premier

0900h **EP21D-05** Vegetation, bank strength and channel migration: the effects of channel scale and ecosystem disturbance: **B C Eaton**, R D Moore

0915h **EP21D-06** Application of a boundary shear stress model along vegetated streambanks: **L C Hopkinson**, T Wynn

0930h **EP21D-07** Modeling the Effects of Strain During Progressive Failure of Root-Reinforced Soils: **R E Thomas**, N L Bankhead

0945h **EP21D-08** The Morphology of Shoreline Trees as an Indicator of Bank Stability on the South River, Virginia: **S N Stotts**, J E Pizzuto

Geodesy

G21A Moscone West: 3022 Tuesday 0800h
Real-Time GPS: Current Progress in Network Implementation and Data Analysis Strategies I (*joint with NH, S, A, IN*)

Presiding: **F Webb**, J R Murray-Moraleda, U.S. Geological Survey;
T I Melbourne, Central Washington University

0800h **G21A-01** Geologic hazard monitoring with real-time GPS (*Invited*): **M Lisowski**, J O Langbein, J R Murray-Moraleda, M P Poland, K W Hudnut, P F Cervelli, N E King

0815h **G21A-02** A GPS Real Time Earthquake and Tsunami (GREAT) Alert System (*Invited*): **Y Bar-Sever**, G Blewitt, R S Gross, W C Hammond, V Hsu, K W Hudnut, R Khachikyan, C W Kreemer, R Meyer, H Plag, M Simons, J Sundstrom, Y Song, F Webb

0830h **G21A-03** Using real-time GPS data for monitoring natural hazards in New Zealand: S Edwards, N Fournier, R J Beavan, N Welch, **G Team**

0845h **G21A-04** Real-time GPS positioning of the Pacific Northwest Geodetic Array: **I Rabak**, V M Santillan, C W Scrivner, T I Melbourne

0900h **G21A-05** The EarthScope Plate Boundary Observatory (PBO) High-rate Real-time Cascadia network: **M E Jackson**, K E Austin, A A Borsa, S C Eriksson, K Feaux, T B Williams

0915h **G21A-06** Nowcasting Severe Weather Using GNSS Estimates of Water Vapor (*Invited*): **J J Braun**, T M Van Hove, M Sleziale-Sallee, K Hudnut

0930h **G21A-07** An optimized filtering strategy for High Rate GPS time series: **F Cannavo**, M Mattia

0945h **G21A-08** Combination of kinematic processing and sliding window technique for near real time monitoring of the site displacements by using GPS data: **J Baek**, P Park, J Cho

Global Environmental Change

GC21A Moscone South: Poster Hall Tuesday 0800h
Water Supply Management and Security I Posters (*joint with A, C, H, NH, PA*)

Presiding: **J M Byrne**, University of Lethbridge; **J Tindall**, USGS;
D Sauchyn, University of Regina

0800h **GC21A-0711** *POSTER* Simulating hydrometeorological processes in large diverse watersheds: **J M Byrne**, R J MacDonald, S W Kienzie

0800h **GC21A-0712** *POSTER* Evaluation of surface water budget and assessment the global water cycle for the IPCC AR4 A1B scenario simulations: **H Baek**, E Park, W Kwon

0800h **GC21A-0713 POSTER** Global Climate Change Adaptation Costs in the Industrial and Municipal Water Supply Sector: **P J Ward**, K M Strzepek, G A Hughes, J C Aerts, P Pauw, L M Brander

0800h **GC21A-0714 POSTER** Climatic changes, bioclimatic stages and flooding durations in relation with public health: **A Sandoz**, C Roumieux, A Trouillet

0800h **GC21A-0715 WITHDRAWN**

0800h **GC21A-0716 POSTER** Study on Challenges to Reservoir Operations Under Changing Climate: **C Tai**, W Lien, C Tung

0800h **GC21A-0717 POSTER** Implications of the New UKCP09 Probabilistic Climate Change Scenarios for Water Resource Planning: **M G New**, A Serrano, S Wade, B Christerson

0800h **GC21A-0718 POSTER** Studying strategic interaction under environmental and economic uncertainties among water users in the Zambezi River Basin – From descriptive analysis to institutional design for better transboundary management: **L Beck**, T U Siegfried, T Bernauer

0800h **GC21A-0719 POSTER** Development of Policies, Institutions and Procedures for Water Reuse: **L DeMouche**, J Pfiefer, A Hanson, R Skaggs

0800h **GC21A-0720 POSTER** Water from Air: High Quality Water to Mitigate the Global Water Supply Crisis: **M D Max**, K Sheps

0800h **GC21A-0721 POSTER** Community Climate Change Adaptation based on Past Trends and Future Projections: D R Rodenhuis, **A T Werner**, I M Picketts, T Q Murdock

0800h **GC21A-0722 POSTER** The efficiency of grassed waterways in reducing sediment yield within an agricultural watershed: O Abaci, **D C Dermis**, T Papanicolaou, C G Wilson

0800h **GC21A-0723 POSTER** An Integrated Framework for Analysis of Water Supply Strategies in a Developing City: Chennai, India: **V Srinivasan**, S Gorelick, L Goulder

0800h **GC21A-0724 POSTER** Assessing the robustness of adaptation decisions in river flood defences to uncertainty in climate impact analysis: A case study on the River Suir, Ireland: **N Murphy**, C Murphy

0800h **GC21A-0725 POSTER** A drought prediction and monitoring system to reduce drought vulnerability and improve water management in Washington State: **S Shukla**, A Steinemann, D P Lettenmaier

0800h **GC21A-0726 POSTER** Climate Change, Forests, and Water Supply: Managing to Reduce Vulnerability in Central Nova Scotia: **J Steenberg**, P Duinker

0800h **GC21A-0727 POSTER** Analysis of Historical Changes in Extreme Temperature and Precipitation on the Great Plains of North America: **E Booth**, J M Byrne, R J MacDonald, S W Kienzle

0800h **GC21A-0728 POSTER** Application of DAYCENT to Access Long-Term Effect of a Water Resource Policy and Increasing Temperature on a Semi-Arid Pasture in South Central Oregon: **Y Hagimoto**, D M Bachelet, R H Cuenca

0800h **GC21A-0729 POSTER** Connecting past and present climate variability to the water levels of Lakes Michigan and Huron: **J Hanrahan**, S Kravtsov, P Roebber

0800h **GC21A-0730 POSTER** Watershed Restoration and Protection under Changing Climate Conditions in Kansas: **A Y Sheshukov**, K R Douglas-Mankin, B N Wilson

0800h **GC21A-0731 POSTER** Remotely sensed spatio-temporal trends of irrigation agriculture in northwestern India: **F Cela Diaz**, T U Siegfried, V Vasquez, B S Pollard, M Temimi, K K Narula, U Lall

0800h **GC21A-0732 POSTER** Linking Paleoclimate, historical and GCM based future scenarios to a fine scale hydrometeorology model: **S L Lapp**, J M Byrne, R J MacDonald, D Sauchyn

0800h **GC21A-0733 POSTER** Testing the sensitivity of snowpack to climatic change in a large physiographically diverse watershed: **R J MacDonald**, J M Byrne, S W Kienzle, D Sauchyn

0800h **GC21A-0734 POSTER** How Will the Hydrograph Change in Predicted Future Climates? A Detailed Hydrological Analysis of Macro-Hydrology and Climate Model Outputs: **A K Fremier**, G F Boisrime, E H Girvetz

0800h **GC21A-0735 POSTER** Evaluating the Terrestrial Hydrology Component of the LPX Dynamic Global Vegetation Model: **S J Murray**, P N Foster, I Prentice

0800h **GC21A-0736 POSTER** Wildland Soil Carbon Management: **R L Davis**, C Swanston

0800h **GC21A-0737 POSTER** Carbonate dissolution in mixed waters due to ocean acidification: **K Koski**, J L Wilson

0800h **GC21A-0738 POSTER** Long Term Deep Mixing Changes in Lakes to Climate Change. The Question of When and How?: **G B Sahoo**, S G Schladow, J Reuter

0800h **GC21A-0739 POSTER** Verification of hydrological processes using the ACUR agro-hydrological modelling system for simulating potential climate change impacts in an alpine watershed in Alberta, Canada: **M W Nemeth**, S W Kienzle, J M Byrne

0800h **GC21A-0740 POSTER** Water storage under changing climates: A case study of small farm dams in New Zealand: **J Thompson**, N Preston, B M Jackson

GC21B Moscone West: 300I Tuesday 0800h
Desertification I: Understanding Coupled Human-Ecological Systems in Global Drylands: Their Key Role in Desertification Research, Dryland Development, and Achieving Sustainable Management Policies (*joint with PA, H*)

Presiding: **J F Reynolds**, Duke University; **C Hutchinson**, University of Arizona

0805h **GC21B-01** Monitoring and Assessment Science to Support Decision-Making by the United Nations Convention to Combat Desertification (UNCCD): **M Winslow**, M Akhtar-Schuster, M Cherlet, C Martius, S Sommer, R Thomas, J Vogt

0820h **GC21B-02** Determining Land System Sustainability through a Land Architecture Approach: Example of Southern Yucatán (*Invited*): **B L Turner II**

0835h **GC21B-03** Implications of a New Global Picture of Land Degradation (*Invited*): **L Olsson**, D Dent

0850h **GC21B-04** Coupled Human-Ecological Dynamics and Land Degradation in Global Drylands-A modelling approach (*Invited*): **U Helldén**

GC21C Moscone West: 300I Tuesday 0910h
Desertification II: Linking Regional Satellite Observations With Coupled Human-Ecological Systems in Global Drylands: Their Potential Role in Guiding Global Efforts in Poverty Alleviation and Environmental Restoration (*joint with PA, H*)

Presiding: **J F Reynolds**, Duke University; **C Hutchinson**, University of Arizona

0915h **GC21C-01** Potential and challenges of NDVI-based studies for detecting and monitoring land degradation and rehabilitation (*Invited*): **S M Herrmann**

0930h **GC21C-02** Regional Satellite Observations for Dryland Degradation Studies (*Invited*): **S D Prince**

0945h **GC21C-03** Monitoring desertification from space: From measuring photons to advising policy makers (*Invited*): **M M Verstraete**, R J Scholes, J F Reynolds, M Stafford Smith, L A Hunt

Geomagnetism and Paleomagnetism

GP21A Moscone South: Poster Hall Tuesday 0800h **Frontiers of Tectonics in China I Posters** (*joint with G, T*)

Presiding: **W Xiao**, Institute of Geology and Geophysics, Chinese Academy of Sciences; **R Zhu**, Chinese Academy of Sciences

0800h **GP21A-0753 POSTER** Late Paleozoic geodynamic evolution of the Junggar Basin (Northwestern China): insights from new paleomagnetic results: **F Choulet**, Y Chen, B Wang, M Faure, D Cluzel, W Lin, B Xu

0800h **GP21A-0754 POSTER** Intracontinental subduction: a possible mechanism for the Early Palaeozoic Orogen of SE China: **M Faure**, B Wang, L Shu, J Charvet, F Choulet, P Monié

0800h **GP21A-0755 POSTER** Three-stage intraplate deformation and lithospheric dynamics in South China: **Q Wang**

0800h **GP21A-0756 POSTER** Proterozoic paleogeographic positions of the North China Craton: new geochronological and paleomagnetic constraints: **S Zhang**, Y Han, J Dong, H Wu, Z Li, H Li, Z Bai

0800h **GP21A-0757 POSTER** The pattern of curved mafic dike swarm in a Hercynian(?) granitic body, eastern Tianshan orogen (Northern mountain, Gangsu province, northwestern China): genesis and implications: **Y Shan**, B Suen, Y Qiao

0800h **GP21A-0758 POSTER** Pre-Devonian deformation and metamorphism of the Precambrian basement rocks in northwestern Chinese Tianshan: tectonic significance for the evolution of the Central Asian Orogenic Belt: **B Wang**, B Jahn, L Shu, F Wang

0800h **GP21A-0759 POSTER** Mesozoic continental extension in eastern China: Metamorphic Core Complexes and granitic plutons as time and strain markers: **N CHARLES**, C GUMIAUX, R AUGIER, Y Chen, W Lin, M Faure, R Zhu

0800h **GP21A-0760 POSTER** New Late Jurassic and Middle Carboniferous Paleomagnetic Results from the Junggar Basin, NW China: **D R Finn**, X Zhao, J Li

0800h **GP21A-0761 POSTER** Structural analysis of the South Tianshan Suture and the Nikolaev Line: New constraints for the tectonic evolution of Chinese southwestern Tianshan: **M Scheltens**, L Zhang, W Xiao

0800h **GP21A-0762 POSTER** Late Carboniferous Accretionary Complexes, West Junggar: Implications for the Tectonics of the Altaids: **W Xiao**, J Zhang, C Han, Q Mao, S Ao, Q Guo

0800h **GP21A-0763 POSTER** Mid-Mesoproterozoic diabase dyke swarms from the northern North China Craton: implications for breakup of the Columbia supercontinent: **S Zhang**, Y Zhao, Z Yang, Z He, H Wu

0800h **GP21A-0764 POSTER** Early Cretaceous extensional structures in the Liaodong Peninsula, Northeast China: A link of crustal processes to the loss of the Archean lithosphere keel: **J Liu**, M Ji, H Xia, L Shen, G A Davis, Z Liu, X Yu, H Zhang, Z Xu, C Wang

0800h **GP21A-0765 POSTER** New paleomagnetic results of paleocene volcanic rocks from Lhasa block: Tectonic implications: **Z Sun**, W Jiang, H Li, J Pei, Z Zhu

0800h **GP21A-0766 POSTER** Magnetostratigraphy and Paleomagnetism in the Northern Junggar Basin, Northwest China: **R zhang**, V A Kravchinsky, L Yue

0800h **GP21A-0767 POSTER** The Neogene Xiyu Formation, a diachronous prograding gravel wedge at front of the Tianshan: climatic and tectonic implications: **J Charreau**, C GUMIAUX, Y Chen, J Avouac, R AUGIER, L Barrier, S Gilder, S Dominguez, N CHARLES, Q Wang

0800h **GP21A-0768 POSTER** Paleomagnetism and Magnetic Anisotropy of Neogene Red Beds from Tarim Basin, NW China: **X Tan**, K P Kodama, H Chen, D Fang, D Sun, Y Li

0800h **GP21A-0769 POSTER** Squeezing-out of thrust sheets in intensely deformational events afterwards and its tectonic implications: **Y Zhao**, J An, J Liu, S Zhang, G Xu

0800h **GP21A-0770 POSTER** Field study of the 20/03/2008, Mw 7.2 Ashikule earthquake rupture (Xinjiang, China): **L Haibing**, P Tapponnier, Y Klinger, R Lacassin, J Pei, Z Qiu, J Pan, J Si

0800h **GP21A-0771 POSTER** Deformation and propagation of the Western Kunlun foreland into the Tarim Basin (Xinjiang, China): **T Coudroy**, H Li, J van der Woerd, L Barrier, M Simoes, P Tapponnier, G Mainsant, J Pan, R Thuiatz

0800h **GP21A-0772 POSTER** Persistently Shallow Paleomagnetic Inclinations from Central Tibet: Implications for Cenozoic Tectonics and Climate: **P C Lippert**, R S Coe, S Woirol, P Lee, K E Snell, X Zhao, C Lo

0800h **GP21A-0773 POSTER** Detrital zircon provenance and paleontological constraints on the Cambrian paleogeography of the North China (Sino-Korean) block and its association with the north Indian margin: **R McKenzie**, N Hughes, P Myrow, D K Choi

0800h **GP21A-0774 WITHDRAWN**

GP21B Moscone West: 2002 Tuesday 0800h **Geomagnetism and Paleomagnetism General Contributions II**

Presiding: **H F Evans**, LDEO; **M Tominaga**, Woods Hole Oceanographic Institution

0800h **GP21B-01** Global and local MHD turbulence in the Earth's core: **M Matsushima**

0815h **GP21B-02** Development of precise measurement systems for deep-sea electrical and magnetic explorations by ROV and AUV: **K Sayanagi**, T Goto, M Harada, T Kasaya, T Sawa, T Nakajima, N Isezaki, A Takeuchi, T Nagao, J Matsuo

0830h **GP21B-03** Using spectral approaches to magnetic field survey analyses to characterize marine sedimentary environments: **A K Shah**, R W Saltus, P R Vogt, W L Newell

0845h **GP21B-04** Rock magnetism and paleomagnetism of the Montalbano Jonico section (Italy): evidences for a late diagenetic growth of greigite and implications for magnetostratigraphy: **L Sagnotti**, A Cascella, N Ciaranfi, P Macri, P Maiorano, M Marino, J Taddeucci

0900h **GP21B-05** New Redeposition Experiments of Marine Sediments: **J M Valet**, S Spassov

0915h **GP21B-06** A directional Secular Variation Curve for Greece for the last 4500 years: Comparison with regional and global geomagnetic field models: **E De Marco**, **E Tema**, P Lanos, D Kondopoulou

0930h **GP21B-07** The Paleomagnetism and Age of the Modipe Gabbro, South Africa: **J M Feinberg**, S W Denyszyn, P R Renne, G R Scott

0945h **GP21B-08 PALEOMAGNETIC, GEOCHRONOLOGIC, AND GEOCHRONOLOGIC DATA SUGGEST SIMULTANEOUS EMPLACEMENT OF THE EARLY EOCENE SHONKIN SAG AND SQUARE BUTTE LACCOLITHS, NORTH-CENTRAL MONTANA:** **N K George**, J W Geissman, D Holm, M T Heizler, V Polyak, Y Asmerom, T J Naibert

Hydrology

H21A Moscone South: Poster Hall Tuesday 0800h **Applications of Hydrologic Remote Sensing Data IV Posters**

Presiding: **J D Bolten**, NASA GSFC; **H Xie**, Univ Texas San Antonio; **T R Holmes**, USDA ARS

0800h **H21A-0797 POSTER** Soil moisture retrieval using an index based approach and passive microwave data from AMSR-E: **P Sukumal**, M Temimi, R Khanbilvardi

0800h **H21A-0798 POSTER** Uncertainty in SMAP Soil Moisture Measurements Caused by Dew: **B K Hornbuckle**, A Kruger, T L Rowlandson, S D Logsdon, A Kaleita, S H Yueh

0800h **H21A-0799 POSTER** Relating Backscatter from TRMM Precipitation Radar to Surface Soil Moisture over a Semi-Arid Region: T C Piechota, **H Stephen**, S Ahmad

0800h **H21A-0800 POSTER** Improving World Agricultural Supply and Demand Estimates by Integrating NASA Remote Sensing Soil Moisture Data into USDA World Agricultural Outlook Board Decision Making Environment: **W L Teng**, R A De Jeu, P C Doraiswamy, S J Kempler, H D Shannon

0800h **H21A-0801 POSTER** Sequential assimilation of radar data into a coupled hydrologic-hydraulic model for operational water management: D A Plaza Guingla, G J De Lannoy, M Montanari, P Matgen, L Hoffmann, L Pfister, R De Keyser, **V R Pauwels**

0800h **H21A-0802 WITHDRAWN**

0800h **H21A-0803 POSTER** Sensitivity Analysis of Soil Moisture Retrieval Model for Active Microwave Remote Sensing Data: **T Lakhankar**, A S Jones, D Seo, R Khanbilvardi

0800h **H21A-0804 POSTER** PRELIMINARY VALIDATION OF RADARSAT-2 FOR ESTIMATING SURFACE SOIL MOISTURE: **D C Romero-Suarez**, J M Hendrickx, B Harrison, B Borchers, B Rabus

0800h **H21A-0805 POSTER** Derivation of High-resolution Soil Moisture Through Integration of MODIS and AMSR-E Products: **J Kim**, T S Hogue

0800h **H21A-0806 POSTER** Evaluation of WindSat Land Surface Data over West Africa: **S C Steele-Dunne**, L Li, P Gaiser, N Van De Giesen

0800h **H21A-0807 POSTER** Case study for obtaining hydrological parameters from Space borne Lidar and High resolution Remote Sensing imagery: **Y LI**, K L Prestegard, C M Birkett, D M Bjerklie, R Dubayah

0800h **H21A-0808 POSTER** On the potential of a multi-temporal AMSR-E data analysis for soil wetness monitoring: **T Lacava**, I Coviello, G Calice, G Mazzeo, N Pergola, V Tramutoli

0800h **H21A-0809 POSTER** Assimilation of Remotely-Sensed Snow information to improve streamflow predictions in the Southwestern US: **V López-Burgos**, S Rajagopal, G F Martinez Baquero, H V Gupta

0800h **H21A-0810 POSTER** Improving Snow Water Equivalent (SWE) Estimates in a Land Surface Model by Effective Data Assimilation of Remote Sensing Information: **R Sultana**, K Hsu, J Li, S Sorooshian

0800h **H21A-0811 POSTER** Estimating river discharge from the Surface Water and Ocean Topography mission: Estimated accuracy of approaches based on Manning's equation: **E Clark**, M T Durand, D Moller, S Biancamaria, K Andreadis, D P Lettenmaier, D Alsdorf, N M Mognard

0800h **H21A-0812 POSTER** A Novel Hydro-information System for Improving National Weather Service River Forecast System: **Z Nan**, S Wang, X Liang, T E Adams, W L Teng, Y Liang

0800h **H21A-0813 POSTER** PERTURBATION OF PRECIPITATION FORCING WITHIN AN ENSEMBLE KALMAN FILTER FOR LAND-SURFACE DATA ASSIMILATION: **M L Carrera**, S Belair, V Fortin, B Bilodeau, S J Solomon

0800h **H21A-0814 POSTER** Satellite Rainfall for Hydrological Applications in the Blue Nile River Basin: **M M Bitew**, M Gebremichael, Y A Bayissa

0800h **H21A-0815 POSTER** How Good Are Satellite Rainfall Products For Hydrologic Simulations Of A Small Watershed?: **D A Zeweldi**, M Gebremichael, C W Downer

0800h **H21A-0816 POSTER** Seasonal and Interannual Lake Dynamics and Shoreline Development on the Arctic Coastal Plain of Alaska: **E A Lyons**, Y Sheng, C A Shah, K M Hinkel, B S Winston

0800h **H21A-0817 POSTER** Comparison of Continental Fresh Water Amounts Estimated from Satellite and Models: **T Fan**, B Lin

0800h **H21A-0818 POSTER** Evaluation of Noah-LSM and METRIC-based Evapotranspiration Predictions with Bowen Ratio Measurements over Irrigated Corn Field: **B Kamble**, A Irmak, P H Gowda

0800h **H21A-0819 POSTER** A Simple Method for Estimation of Thermal Inertia Using Remote Sensing Observations: **J Wang**, R L Bras, G Sivandran, R G Knox

0800h **H21A-0820 POSTER** Satellite-based Global Long-Term Terrestrial Evapotranspiration Estimates and Trend Analysis: **K Zhang**, J S Kimball

0800h **H21A-0821 POSTER** Anisotropic reflectance is a major correction to energy-balance estimates of evapotranspiration in a semi-arid landscape: **I Mariotto**, V P Gutschick, D L Clason

0800h **H21A-0822 POSTER** Estimation of Evapotranspiration of Almond orchards using Remote Sensing based SEBAL model in Central Valley, California: **S Roy**, S Ustin, S C Kefauver

0800h **H21A-0823 POSTER** Integration of Remote Sensing Derived Actual Evapotranspiration with Nodal Network Water Balance Model in a Demand Driven Irrigation System: **M K Ullah**, M M Hafeez, J Sixsmith, R Faux

0800h **H21A-0824 POSTER** Colorado River Basin Terrestrial Water Storage Dynamics and Vegetation Response: **M Durcik**, P A Troch, H V Gupta

0800h **H21A-0825 POSTER** Aqua/AMSR-E Data and Services at the NSIDC DAAC: **A Leon**, L Booker

0800h **H21A-0826 POSTER** NASA's AMSR-E Validation Data at NSIDC DAAC: **L Booker**, A Leon

0800h **H21A-0827 POSTER** Comparing Stream Discharge, Dissolved Organic Carbon, and Selected MODIS Indices in Freshwater Basins: **W T Shaver**, W M Wollheim

0800h **H21A-0828 POSTER** Decision Support System for an efficient irrigation water management in semi arid environment: **M A Khan**, M Islam, M M Hafeez, W A Flugel

0800h **H21A-0829 POSTER** Accuracy Assessment of the Moderate Resolution Imaging Spectroradiometer (MODIS) Irrigated Agriculture Dataset for the Conterminous United States (MIRAD-US): **M Pervez**, J F Brown

0800h **H54D-02 POSTER** Remote sensing of an agricultural soil moisture network in Walnut Creek, Iowa: **M H Cosh**, J H Prueger, F Goodman, T J Jackson

H21B Moscone South: Poster Hall Tuesday 0800h
Everything, Everywhere, Every Time: Advances in High-Resolution Data Acquisition and Their Integration Into High-Fidelity Hydrologic Models II Posters (joint with A, B)

Presiding: **M B Cardenas**, The University of Texas at Austin; **S J Kollet**, University of Bonn; **P Grathwohl**, Eberhard-Karls-Universität Tübingen; **Z Yang**, University of Texas at Austin

0800h **H21B-0830 POSTER** The use of Micro-CT for the Determination of Diffusion Parameters: Strengths and Limitations: **H M AGBOGUN**, T A Al, E Hussein

0800h **H21B-0831 POSTER** Investigation of subsurface tracer transport using a high-resolution model of fluvial aquifer heterogeneity: **M J Ronayne**, S Gorelick, C Zheng

0800h **H21B-0832 POSTER** Representations of aquifer analog heterogeneity for groundwater modeling from lidar imaging of outcrops: **E M Nichols**, G S Weissmann, T F Wawrzyniec

0800h **H21B-0833 POSTER** Net Fluid and Heat Fluxes for the Hyporheic Zone of a Gravel Bar on the Willamette River, Oregon: **G M Squeochs**, R Haggerty, S T Lancaster

0800h **H21B-0834 POSTER** Measuring the Temperature Profile in a Salt-Gradient Solar Pond Using a Fiber-Optic Distributed Temperature Sensing System: **F I Suarez**, A E Childress, S W Tyler

0800h **H21B-0835 POSTER** Understanding the Hydrology of Soil-Crop Interactions via a Wireless Sensor Network: **K M Dunne**

0800h **H21B-0836 POSTER** Multi-scale field characterization, data assimilation, and 2-D model development for a complex river confluence: **H Pai**, J C Fisher, S R Villamizar, C A Butler, W Kaiser, T C Harmon

0800h **H21B-0837 POSTER** Solute contributions from precipitation to the compositions of soil waters in a marine terrace chronosequence: **D V Vivit**, A F White, T D Bullen, J Fitzpatrick

0800h **H21B-0838 POSTER** Data Acquisition for Land Subsidence Control: **Y Zhu**, K Balke

0800h **H21B-0839 POSTER** Diffusive modeling of global river and floodplain dynamics based on 1km-resolution DEM: **D Yamazaki**, S Kanae, T Oki

0800h **H21B-0840 POSTER** Global Inland Water Monitoring in Near Real Time: Current Capability and Future Prospects: **J J Benveniste**, P A Berry, R G Smith, J Wheeler

0800h **H21B-0841 POSTER** A global land data assimilation system: preliminary evaluations: X Tian, **Z Xie**

0800h **H21B-0842 POSTER** High Resolution River Routing in the Community Climate System Model: **M L Branstetter**, D J Erickson, J Drake, M Allen

0800h **H21B-0843 POSTER** The Integration of Modelling Simulations, Remote Sensing and Field Validation Studies for Dry Agricultural Regions within Canada: **B M Toth**, A A Berg, A Pietroniro, B Davison, R Magigi

0800h **H21B-0844 POSTER** A New Method for Rapid, High-Resolution Characterization of Hydraulic Conductivity: Application to Solute Transport at the MADE Site: **G Liu**, J J Butler, G Bohling, E C Reboulet, S Knobbe, D W Hyndman, C Zheng

H21C Moscone South: Poster Hall Tuesday 0800h
Groundwater Hydrology Posters

Presiding: **B A Bekins**, U.S. Geological Survey; **S Ge**, University of Colorado

0800h **H21C-0845 POSTER** Stress- and Chemistry-Mediated Changes in the Hydraulic Property of Rock Fractures in Granite under Pressure- and Temperature-Prescribed Conditions:

H Yasuhara, N Kinoshita, S Nakashima, K Kishida

0800h **H21C-0846 POSTER** A Geohydrologic Modeling Study of Faults and Large-Scale Multiphase Flow and Heat Transport in the Los Angeles Basin, California: **B Jung**, G Garven, J R Boles

0800h **H21C-0847 POSTER** Hydraulic and transport behavior of a variable aperture fracture by a transmitted-light optical measurement system: **A Sawada**, H Sato

0800h **H21C-0848 POSTER** A Multi-Faceted Approach for Characterizing Fractures in Crystalline Rocks: **T J Burbey**, D B Hisz, L C Murdoch

0800h **H21C-0849 POSTER** Evaluation of the hydraulic behavior of a single fracture using LCL and Reynolds number under the available cubic law conditions: **K Kishida**, A Sawada, H Sato, S Onda, T Hosoda

0800h **H21C-0850 POSTER** Development of Hydrologic Characterization Methodology of Faults: (2) Field investigations in Berkeley, California: **C T Onishi**, K Karasaki, K Ueta, J Goto

0800h **H21C-0851 POSTER** Multi-Component Deformation of a Dipping Fracture Zone during a Well Test: **D B Hisz**, J Ebenhack, T J Burbey, L N Germanovich, L C Murdoch

0800h **H21C-0852 POSTER** The Effects of Increased Irrigation on Streamflow, Lake Levels, and Groundwater Levels in the Central Wisconsin Sand Plains: **J Haucke**

0800h **H21C-0853 POSTER** Dynamics of Groundwater Flow at an Alluvial Fan/Playa Margin Interface Based on Inorganic and Isotope Hydrochemistry: **L M Vargas**, B J Hibbs

0800h **H21C-0854 POSTER** Simulation of Groundwater Conditions in The Alluvial Plains of The Taihang Mountains of The North China Plain: **Y Shu**, S Stisen, K H Jensen, K G Villholth, I Sandholt, Y Lei

0800h **H21C-0855 POSTER** Irrigated Area Mapping in The Northern High Plains of Texas Using Landsat Thematic Mapper Data: **C M Biradar**, P H Gowda, J E Hernandez, T A Howell, T H Marek, X Xiao

0800h **H21C-0856 POSTER** A 3D visualization of spatial relationship between geological structure and groundwater chemical profile around Iwate volcano, Japan: based on the ARCGIS 3D Analyst: **A Shibahara**, M Ohwada, J Itoh, K Kazahaya, H Tsukamoto, M Takahashi, N Morikawa, H Takahashi, M Yasuhara, A Inamura, Y Oyama

0800h **H21C-0857 POSTER** Evaluation of groundwater resources in the Fraser River watershed, Grand County, CO: **B V Aigler**, S Ge, C A McCaffree

0800h **H21C-0858 POSTER** Validating Northern Texas High Plains Groundwater Model with Data from Observation Wells: **J E Hernandez**, P H Gowda, D Misra, T H Marek, T A Howell

0800h **H21C-0859 POSTER** Modeling Groundwater Flow System in Iwate Volcano, Japan, using Stable Isotope and Tritium Tracers: **Y Oyama**, K Kazahaya, M Yasuhara, M Ohwada, H Tsukamoto, M Takahashi, H Takahashi, N Morikawa, A Shibahara, A Inamura

0800h **H21C-0860 POSTER** Numerical Examinations of Transient Chemical Osmosis Effects on Groundwater Flow System: **M Takeda**, T Hiratsuka, K Ito

0800h **H21C-0861 POSTER** Simulation of Net Changes of Hydraulic Head Caused by Project-Specific Hydrologic Features Using a Superposition Model: **L Elliott**, Z Jim, G Muehleck

0800h **H21C-0862 POSTER** An analytical solution to transient groundwater flow and its application to recharge estimation: **Y Zhang**

0800h **H21C-0863 POSTER** Characterization of a two-layer aquifer using well drawdown data: **M Vanclooster, C C Frippiat, A Holeyman, G Peeters**

0800h **H21C-0864 POSTER** Time Series Separation of Non-Stationary Hydrologic Data with Empirical Mode Decomposition: **T Kim, B Lee**

0800h **H21C-0865 POSTER** Transient Hydraulic Tomography at the North Campus Research Site, University of Waterloo: **S J Berg, W A Illman**

0800h **H21C-0866 POSTER** Hydromechanical Pumping Test for the Joint Estimation of Hydraulic and Poroelastic Parameters in a Strongly Heterogeneous Glaciofluvial Aquifer: **W A Illman, S J Berg**

0800h **H21C-0867 POSTER** Experimental Investigation of impact of variability in macropore structure in soils on saturated flow and solute transport: **Y Jin, N C Twarakavi**

0800h **H21C-0868 WITHDRAWN**

0800h **H21C-0869 POSTER** Analytical Models of the Transport of Deep-Well Injectate at the North District Wastewater Treatment Plant, Miami-Dade County, Florida, U.S.A: **J N King, V Walsh, K J Cunningham, F S Evans, C D Langevin, A Dausman**

0800h **H21C-0870 POSTER** Identification of Groundwater Contamination Causes Around Subway Tunnels at a Coastal Area in Korea, Using Hydrogeological and Geostatistical Analyses: **D Kim, T KIM, S Chung, S Yang**

0800h **H21C-0871 POSTER** The influence of heterogeneity and spill conditions on NAPL dissolution fingering: **M A Tsang, S E Gasda, M W Farthing, C E Kees, P T Imhoff, C T Miller**

0800h **H21C-0872 POSTER** Analysis of Groundwater level Changes in Wells Sensitive to Earthquakes: **C Liu, C Lee, Y Chia, C Hsiao, K Kuo**

0800h **H21C-0873 POSTER** Water-Level Responses to Barometric-Pressure Fluctuations in Wells in Semi-Confined Aquifers: **W Jin, J J Butler**

0800h **H21C-0874 POSTER** EVALUATION OF LODGE POLE PINE TREE REMOVAL ON THE STORAGE POTENTIAL OF A SHALLOW AQUIFER IN A MOUNTAIN MEADOW: **M Lesh, K Cornwell, T Koler**

0800h **H21C-0875 POSTER** Assessment of Drawdown Surrounding a Newly Constructed Plaza in Hummels Wharf, PA by means of Groundwater Monitoring and Modeling: **A Lachhab, M J Stoker**

0800h **H21C-0876 POSTER** Variability of the Degassing Flux of ⁴He as an impact of ⁴He -Dating of Groundwaters: **T Torgersen**

0800h **H43C-1053 POSTER** ISOTOPIC AND PHYSICOCHEMICAL BEHAVIOR OF GROUNDWATER DURING PUMP TEST, IN LEÓN GUANAJUATO, CENTRAL MEXICO: **A S Cortes, J Q Perez, N L Hernandez, L H Gonzalez**

H21D Moscone South: Poster Hall Tuesday 0800h
Impact of Climate Extremes and Change on Hydrologic Responses and Hazards II Posters (*joint with A, GC, NH*)

Presiding: Y Hong, University of Oklahoma

0800h **H21D-0877 POSTER** Weighted Standardized Precipitation Index for Crop Monitoring in the Greater Horn of Africa: **G J Husak**

0800h **H21D-0878 POSTER** Evaluating Changes And Estimating Seasonal Precipitation For Colorado River Basins Using Nonparametric Density Estimation: **A Kalra, S Ahmad, H Stephen**

0800h **H21D-0879 POSTER** Atmospheric Rivers and Snow Accumulation in the Sierra Nevada Connected by Surface Air Temperature: **B Guan, N P Molotch, D E Waliser, E Fetzer, B Lambrigtsen, P Neiman**

0800h **H21D-0880 POSTER** Improving Flash Flood Prediction in Multiple Environments: **P D Broxton, P A Troch, M Schaffner, C Unkrich, D Goodrich, T Wagener, S Yatheendradas**

0800h **H21D-0881 WITHDRAWN**

0800h **H21D-0882 POSTER** Hazards of Extreme Weather: Flood Fatalities in Texas: **H O Sharif, T Jackson, S Bin-Shafique**

0800h **H21D-0883 POSTER** Rainfall-induced landslide cataloging for hazard assessment: **Y Hong, D B Kirschbaum, R F Adler**

0800h **H21D-0884 POSTER** North American Drought Dynamics in the 1930s and 1950s: **B I Cook, R Seager, R L Miller**

0800h **H21D-0885 POSTER** Ensemble flood and drought simulations for Europe: **L Feyen, R Dankers**

0800h **H21D-0886 POSTER** Understanding Groundwater Flooding in the Low Burren, Ireland: **D Peach, H S Wheeler**

0800h **H21D-0887 POSTER** Groundwater Flooding in the Chalk of England: **T Vounaki, A Hughes, D Peach, C Jackson**

0800h **H21D-0888 POSTER** Extreme Rainfall Impacts in Fractured Permeable Catchments: **A M Ireson, A P Butler**

0800h **H21D-0889 POSTER** Prediction of the Spatio-Temporal Extent of Groundwater Flooding in Chalk Catchments using Lumped Parameter Models: **K Fulton, A Hughes, C R Jackson, D Peach, T Vounaki**

0800h **H21D-0890 POSTER** Identifying evidence of climate change impact on extreme events in permeable chalk catchments: **A P Butler, S Nubert**

H21E Moscone South: Poster Hall Tuesday 0800h
Near-Surface Monitoring of Natural and Anthropogenic CO₂ From Subsurface Formations: Analogues for Geologic Carbon Sequestration II Posters (*joint with B*)

Presiding: R W Smith, University of Idaho; **C Yang**, the University of Texas at Austin

0800h **H21E-0891 POSTER** Seepage CO₂ Detection using ZERT Controlled Release site in Bozeman, MT: **J E Fessenden, S M Clegg, S Humphries, L Dobeck, L Spangler**

0800h **H21E-0892 POSTER** Eddy Covariance Detection, Mapping, and Quantification of Surface CO₂ Leakage Fluxes: Examples from Mammoth Mountain, CA and the ZERT CO₂ Release Facility, MT: **J L Lewicki, G E Hilley, M L Fischer, L Dobeck, L Spangler**

0800h **H21E-0893 POSTER** Designing Eddy Covariance Networks to Characterize and Quantify Surface CO₂ Leakage: **G E Hilley, J L Lewicki**

0800h **H21E-0894 POSTER** Remote Detection of Carbon Stable Isotope of CO₂ for Carbon Sequestration: **S D Humphries, S M Clegg, J E Fessenden, L Dobeck, L Spangler**

0800h **H21E-0895 POSTER** CO₂ release experiment in the shallow subsurface at the Brackenridge Field Laboratory and numerical modeling: **C Yang, K Romanak, S Hovorka**

0800h **H21E-0896 POSTER** Algorithms for near real-time detection of gas leaks from buried pipelines using hyperspectral imagery: **G D Hoffmann, E A Silver, W Pickles, E Male**

0800h **H21E-0897 POSTER** Combination of different methods for the detection and monitoring of CO₂ degassing at the near surface: **P Dietrich, C Schuetze, H Lamert, U Schneidewind, U Werban**

0800h **H21E-0898 POSTER** An *In-Situ* Root-Imaging System in the Context of Surface Detection of CO₂: **M E Apple, J B Prince, A R Bradley, X Zhou, V R Lakkaraju, E J Male, W Pickles, J J Thordsen, L Dobeck, A Cunningham, L Spangler**

0800h **H21E-0899** *POSTER* Monitoring Surface CO₂ Leaks Using Hyperspectral Plant Signatures During the 2008 and 2009 ZERT Shallow Subsurface CO₂ Release Experiment in Bozeman, MT: **E J Male**, W Pickles, E A Silver, G D Hoffmann, J L Lewicki, M E Apple, K S Repasky, L Dobeck, E A Burton
 0800h **H21E-0900** *POSTER* LASER ABSORPTION SPECTROSCOPY METHODS FOR SUBSURFACE MONITORING OF CO₂ IN WATER AND AIR PHASES AT SEQUESTRATION SITES: **S Wu**, K Romanak, C Yang

0800h **H21E-0901** *POSTER* Detecting Near-Surface Leaks from Geological Sequestration of CO₂: **A S Haidari**, C J Seto, G J McRae
 0800h **U41B-0033** *POSTER* Multi-spectral Imaging of Vegetation for CO₂ Leak Detection: **J A Hogan**, J A Shaw, L Dobeck, L Spangler, R L Lawrence

H21F Moscone South: Poster Hall Tuesday 0800h
Process Understanding and Hydrological Modeling in Ungauged Catchments I Posters

Presiding: **A Castellarin**, Università di Bologna

0800h **H21F-0902** WITHDRAWN
 0800h **H21F-0903** *POSTER* Modelling runoff dynamics from information on river network and shape of catchment area: **T Skaugen**
 0800h **H21F-0904** *POSTER* Hydrologic modeling across climates, and space scales: Y B Vinogradov, **O M Semenova**, P J Restrepo
 0800h **H21F-0905** *POSTER* Satellite Remote Sensing and Hydrological Modeling for Flood Inundation Mapping in Lake Victoria Basin: Implications for Hydrologic Prediction in Ungauged Basins: **S I Khan**, Y Hong, J Wang, K K Yilmaz, J J Gourley, R F Adler, G R Brakenridge, F Policelli, S Habib, D Irwin
 0800h **H21F-0906** *POSTER* Step wise calibration of hydrological model using unusual events: **S Singh**, A Bárdossy
 0800h **H21F-0907** *POSTER* Understanding Hydrologic Catchment Similarities Through Detailed Modeling: G A Carrillo, **P A Troch**, M Sivapalan, T Wagener, K A Sawicz
 0800h **H21F-0908** *POSTER* Potentialities of coarse resolution SAR imagery to support flood modelling in data-scarce regions: **G Di Baldassarre**
 0800h **H21F-0909** *POSTER* On the effects of hillslope-borne kinematic dispersion on the scaling of peak floods: **M DI LAZZARO**
 0800h **H21F-0910** *POSTER* Predicting Low-Flows in Ungauged Basins: TOPKIRGING vs. Physiographic Space-Based Interpolation: **S Castiglioni**, A Castellarin, G Laaha, J O Skoien, G Bloeschl
 0800h **H21F-0911** *POSTER* Calibration of rainfall-runoff models in ungauged basins: a regional approach: **A Montanari**, S Castiglioni, A Castellarin
 0800h **H21F-0912** *POSTER* The Influence of Soil Moisture on Subsurface Storm Flow Dynamics in a Small Catchment: **M Cislerova**, M Hrnčir, M Sanda
 0800h **H21F-0913** *POSTER* A calibration framework for data scarce basins: sequential use of information from conventional and remote sensing data: H Winsemius, **B Schaeffli**, A Montanari, H Savenije
 0800h **H21F-0914** *POSTER* Uses and limitations of the soil survey in hydrologic modeling: **E Brooks**, J Boll
 0800h **H21F-0915** *POSTER* Two Approaches for Estimating Discharge on Ungauged Basins in Oregon, USA: P J Wigington, **S G Leibowitz**, R L Comeleo, J L Ebersole, E A Copeland
 0800h **H21F-0916** *POSTER* Application of Global-Scale Precipitation and Hydrologic Datasets for the Development of Small-Scale Hydropower Resource Information: **A W Wood**, J Fung, M Wiley, K J Westrick

0800h **H21F-0917** *POSTER* Predictions in ungauged basins: Potential challenges and development of a one parameter model: J M Hendrickx, F L Ogden, **N R Pradhan**, A Byrd
 0800h **H21F-0918** *POSTER* Rainfall-runoff response from urban catchments in humid tropical regions: A case study of Kayu Ara catchment in Peninsular Malaysia: **A Jamil**, R Venneker, S Uhlenbrook, C Wong

H21G Moscone West: 3011 Tuesday 0800h
Advances in the Determination of Water Age and Application to the Hydrological Sciences I

Presiding: **C Daughney**, GNS Science; **U Morgenstern**, GNS Science

0800h **H21G-01** Tritium dating in a post bomb world (*Invited*): **U Morgenstern**
 0815h **H21G-02** Recent IAEA Initiatives in Groundwater Dating And Their Role in Improving Water Resources Assessment and Availability: **P K Aggarwal**, A Sukow, L Araguas, C I Voss, T Vitvar, K Froehlich, B D Newman, T Kurtas
 0830h **H21G-03** Discriminant analysis for estimation of groundwater age from hydrochemistry and well construction: Application to New Zealand aquifers: **C Daughney**, U Morgenstern, R van der Raaij, R Reeves
 0845h **H21G-04** Calibration of Models Using Groundwater Age (*Invited*): **W E Sanford**
 0900h **H21G-05** Catchment Transit Times - Does Scale Matter?: **M hrachowitz**, C Soulsby, D Tetzlaff, M Speed
 0915h **H21G-06** Distribution of Groundwater Ages at Public-Supply Wells: Comparison of Results from Lumped Parameter and Numerical Inverse Models with Multiple Environmental Tracers: **S Eberts**, J K Bohlke
 0930h **H21G-07** Residence Times of Streamflow Components: **M K Stewart**
 0945h **H21G-08** Mixed Groundwater Ages in a Small Alpine Catchment: **M J Singleton**, J E Moran, B Esser, C E Hatch, S W Tyler, C Cox

H21H Moscone West: 3009 Tuesday 0800h
Environmental Remediation and Confirmatory Monitoring II
(joint with PA)

Presiding: **V Adams**, U.S. Department of Energy; **T Hazen**, Lawrence Berkeley National Laboratory

0800h **H21H-01** Characterization of a Contaminant Inventory at DOE Sites, as a Tool for Selecting Monitoring and Remediation Technologies (*Invited*): **T C Hazen**, B Faybishenko, P Jordan
 0820h **H21H-02** Characterization of Uranium Contamination, Transport, and Remediation at Rocky Flats - Across Remediation into Post-Closure: **D R Janecky**, J Boylan, M T Murrell
 0835h **H21H-03** Natural and Accelerated *in situ* Bioremediation of Metals and Radionuclides: Progress in Mechanistic Understanding and Monitoring Methods (*Invited*): **P E Long**, K H Williams, S Yabusaki, A L N'Guessan, A Peacock, A Flores-Orozco, A Kemna, D R Lovley
 0855h **H21H-04** Role of Groundwater Monitoring for Closure of Underground Nuclear Tests on the Nevada Test Site: **J B Chapman**, K Pohlmann, G Pohl, C Russell
 0910h **H21H-05** Steady-State and Transient Groundwater Flow and Advective Transport, Eastern Snake River Plain Aquifer, Idaho National Laboratory and Vicinity, Idaho: **J C Fisher**, D J Ackerman, J P Rousseau, G W Rattray

0925h **H21H-06** An Enhanced Monitoring Network at the Central Nevada Test Area (CNTA) Work performed under U.S. Department of Energy Office of Legacy Management contract #DE-AM01-07LM00060: **R Hodges**, R Findlay, M Kautsky
 0940h **H21H-07** Potential for Ureolytically Driven Calcite Precipitation to Remediate Strontium-90 at the Hanford 100-N Area: **Y Fujita**, J L Taylor, L Wendt, D Reed, R W Smith

H21I Moscone West: 3007 Tuesday 0800h
Hydrology in Changing Climates: Matching Scales and Understanding Secondary Effects I (*joint with A*)

Presiding: C Luce, USDA Forest Service; M D Dettinger, US Geological Survey

0800h **H21I-01** Evaluation of current statistical downscaling approaches for water planning studies and development of a new hybrid delta approach. (*Invited*): **A F Hamlet**, E Salathe, P Carrasco
 0818h **H21I-02** Translation of Large Scale Climate Information to Regional Hydrologic and Ecologic Decision Making (*Invited*): **B Rajagopalan**, U Lall
 0836h **H21I-03** A study of GCM skill in modeling precipitation interannual variability using wavelets: F Johnson, S Westra, **A Sharma**, A J Pitman
 0850h **H21I-04** Statistical Downscaling of Seasonal Forecasts and Climate Change Scenarios using Generalized Linear Modeling Approach for Stochastic Weather Generators: **Y Kim**, R W Katz, B Rajagopalan, G P Podesta
 0904h **H21I-05** Evaluating Bias Corrected Precipitation of a Regional Climate Model over Japan: **Y Shibuo**, S Kanae
 0918h **H21I-06** Climate impacts on flood inundation: probabilistic projections using ENSEMBLES and UKCP09: H L Cloke, **Y He**, F Wetterhall, J E Freer, F Pappenberger, M D Wilson, G McGregor
 0932h **H21I-07** Incorporating sub-grid heterogeneity into a coarse resolution land surface model: **R K Shrestha**, P Houser, L Gates
 0946h **H21I-08** Modeling Ecologically Relevant Flow Metrics for Small Streams: **S Wenger**, C Luce, A F Hamlet, D Isaak, H Neville

H21J Moscone West: 3005 Tuesday 0800h
Rocks, Fractures, Fluids, and Life: Insights From Subsurface Observatories I (*joint with NS, T, B*)

Presiding: L C Murdoch, Clemson University; D Elsworth, Pennsylvania State University; T C Onstott, Princeton Univ.; W M Roggenthen, SD School of Mines-Tech

0800h **H21J-01** On the development of an underground geoscience laboratory at Boulby in NE England (*Invited*): **D N Petley**, N Rosser, J Barlow, M J Brain, M Lim, M Sapsford, D Pybus
 0815h **H21J-02** Developing Underground Research at DUSEL: Lessons from Other Laboratories (*Invited*): **T W Doe**
 0830h **H21J-03** Near Source Observations of Earthquake Processes- Seismic Results from the NELSAM Project, South Africa (*Invited*): **M S Boettcher**, A McGarr, M J Johnston
 0845h **H21J-04** Long-term, on-site borehole monitoring of gases released from an "active" fault system at 3.6km depth, TauTona Gold Mine, South Africa: **J Lippmann-Pipke**, J Erzinger, M Zimmer, C Kujawa, M S Boettcher, H Moller, E van Heerden, A Bester, Z Rechies
 0900h **H21J-05** Studies on deformation/pore pressure coupling processes at Japanese URLs and the development of ultra-high resolution FBG strain sensors for rock mechanics (*Invited*): **T Tokunaga**, H Matsui, H Zuyuan, Y Kashiwai

0930h **H21J-07** An innovative approach to recognizing and parameterizing sparse channel networks in fractured rocks based on field measurements: **J H Black**
 0945h **H21J-08** Environmental radioactivity monitoring at the deep underground Gran Sasso National Laboratory, Italy: **W Plastino**, P P Povinec

Earth and Space Science Informatics

IN21A Moscone South: Poster Hall Tuesday 0800h
Error, Uncertainty, and Data Quality in Earth and Space Observations I Posters (*joint with A, C, G, P, OS, H, GC, SA, EP, V, SM, SH*)

Presiding: R G Raskin, Jet Propulsion Laboratory

0800h **IN21A-1039 POSTER** Data Properties Categorization to Improve Scientific Sensor Data Error Detection: **I Gallegos**, A Gates, C E Tweedie
 0800h **IN21A-1040 POSTER** Ground-based vicarious radiometric calibration of Terra MODIS: **J Czaplá-Myers**, K Thome
 0800h **IN21A-1041 POSTER** Comparison between LAI estimation based vegetation index and MODIS LAI for gross primary productivity estimation, deciduous broadleaf forest in Japan: **S Potitthep**, K Nishida, R Suzuki, S Nagai, Y Yasuoka
 0800h **IN21A-1042 POSTER** Role of DEM resolution and source on topographic seismic response: **M Shafique**, M van der Meijde
 0800h **IN21A-1043 POSTER** SYNOPTIC GLOBAL REMOTE SENSING OF LAND SURFACE VEGETATION: OVERVIEW OF DAILY DATA QUALITY, CHALLENGES, AND OPPORTUNITIES: **A Barreto-Munoz**, K Didan

IN21B Moscone South: Poster Hall Tuesday 0800h
Strategies for Improved Marine and Synergistic Data Access and Interoperability II Posters (*joint with A, B, GC, OS*)

Presiding: C L Chandler, Woods Hole Oceanographic Institution

0800h **IN21B-1044 POSTER** Toward an improved distribution approach for real-time data sharing: **D N Chayes**, R A Arko, S D Roberts
 0800h **IN21B-1045 POSTER** Rolling Deck to Repository (R2R): Transforming the Academic Fleet Into an Integrated Global Observing System: S M Carbotte, **V Ferrini**, R A Arko, C L Chandler, A R Maffei, S P Miller, K Stocks, S R Smith, M A Bourassa
 0800h **IN21B-1046 POSTER** Rolling Deck to Repository (R2R): Building the Data Pipeline – Initial Results: **R A Arko**, P D Clark, M A Rioux, T M McGovern, T W Deering, R K Hagg, A A Payne, D E Fischman, V Ferrini
 0800h **IN21B-1047 POSTER** Rolling Deck to Repository (R2R): Fleetwide Standard Underway Data Products: **A D Sweeney**, P D Clark, S P Miller, K Stocks, R A Arko, V Ferrini
 0800h **IN21B-1048 POSTER** Rolling Deck to Repository (R2R): How to Systematically Document Quality for the New Era of Data Re-Usability?: **S P Miller**, V Ferrini, A Sweeney, P D Clark, K Stocks, R A Arko
 0800h **IN21B-1049 POSTER** The Data Management System for the Shipboard Automated Meteorological and Oceanographic System (SAMOS) Initiative: **S R Smith**, R A Arko, M A Bourassa, J Hu, M McDonald, J Rettig, J Rolph
 0800h **IN21B-1050 POSTER** Rolling Deck to Repository (R2R): A Research Cruise Prototype Event Logging System: **C L Chandler**, A Dorsk

0800h **IN21B-1051 POSTER** Legacy2Drupal - Conversion of an existing oceanographic relational database to a semantically enabled Drupal content management system: **A R Maffei**, C L Chandler, T Work, J Allen, R C Groman, P A Fox

0800h **IN21B-1052 POSTER** Developing an Ontology for Ocean Biogeochemical Data: M D Allison, **C L Chandler**, R C Groman

0800h **IN21B-1053 POSTER** Further Enhancements of the Geospatial Interface to the Biological and Chemical Oceanography Data Management System: R C Groman, **M D Allison**, C L Chandler, D M Glover, P H Wiebe, S R Gegg

0800h **IN21B-1054 POSTER** Interoperability Between Coastal Web Atlases Using Semantic Mediation: A Case Study of the International Coastal Atlas Network (ICAN): **D J Wright**, Y Lassoued, N Dwyer, T Haddad, L E Bermudez, D Dunne

0800h **IN21B-1055 POSTER** JAMSTEC Data Search Portal - A Data Search Service using Web GIS for the Marine-Earth Observation Data: **Y Hanafusa**, Y Abe

0800h **IN21B-1056 POSTER** LTER Community Resources: Unit Dictionary and Unit Registry: **M Kortz**, J Connors, L Yarmey, K S Baker

0800h **IN21B-1057 POSTER** The MMI Semantic Framework: Rosetta Stones for Earth Sciences: **C Rueda**, L E Bermudez, J Graybeal, P Alexander

IN21C Moscone South: I02 Tuesday 0800h
Geovisualization With Virtual Globes I (*joint with A, B, C, ED, OS, H, GC, G, P, NH, EP, V, S, PA*)

Presiding: **J E Bailey**, University of Alaska Fairbanks; **R Treves**, University of Southampton

0800h **IN21C-01** Visualizing Moon Data and Imagery with Google Earth: M Weiss-Malik, T Scharff, A Nefian, Z Moratto, E Kolb, M Lundy, M Hancher, N Gorelick, M Broxton, **R A Beyer**

0815h **IN21C-02** Near Real-time Visualization of the Coastal Ocean: A Google Maps Approach: **E Terrill**, P Reuter, L Hazard, M Otero, T Cook, J Bowen

0830h **IN21C-03** Aerial photo mosaicking in Virtual Globes to track changes at active volcanoes: B Kerin, **J Dehn**

0845h **IN21C-04** Spatial Information Processing: Standards-Based Open Source Visualization Technology: **P Hogan**

0900h **IN21C-05** Visualizing and communicating climate change using the ClimateWizard: decision support and education through web-based analysis and mapping: **E H Girvetz**, C Zganjar, G T Raber, E P Maurer, P Duffy

0915h **IN21C-06** KML Tours: A New Platform for Exploring and Sharing Geospatial Data: **D P Barcay**, M Weiss-Malik

0930h **IN21C-07** Launch your Audience into Lunar Orbit - A case study of the Apollo 11 Google Earth Tour (*Invited*): **S Askay**

Nonlinear Geophysics

NG21A Moscone South: 309 Tuesday 0800h
The Many Facets of Solar Wind MHD Turbulence I (*joint with SH, SM*)

Presiding: **G Li**, Univ Alabama Huntsville; **R Bruno**, INAF-IFSI

0800h **NG21A-01** Kinetic signatures of turbulence dissipation in solar wind proton velocity distributions (*Invited*): **E Marsch**

0815h **NG21A-02** Features of Solar Wind Fluctuations Along the Spectrum (*Invited*): **R Bruno**

0830h **NG21A-03** Effects of current sheet structures on the solar wind MHD turbulence: **G Qin**, Q Hu, G Li

0842h **NG21A-04** Behavior of 2D Turbulence Spectra at Long Wavelengths in Relation to Perpendicular Particle Transport:

J W Bieber, W H Matthaeus

0854h **NG21A-05** Prospects for universality in MHD turbulence with cross helicity, anisotropy and shear (*Invited*): **W H Matthaeus**

0909h **NG21A-06** Turbulence in the solar wind: Nearly Incompressible MHD (*Invited*): **G P Zank**, D Shaikh, P Hunana, W H Matthaeus

0924h **NG21A-07** Turbulent Alfvén Waves as a Solar Wind Driver: Results from a new 4D model for the Solar Corona and Solar Wind: **R Oran**, I Sokolov, I I Roussev, R A Frazin, T I Gombosi

0936h **NG21A-08** Spectral slopes of Magnetohydrodynamic and Hydrodynamic turbulence: **A Beresnyak**, A Lazarian

0948h **NG21A-09** How large a dataset should be in order to estimate scaling exponents and other statistics correctly in studies of solar wind turbulence: G Rowlands, **K H Kiyani**, S C Chapman, N W Watkins

Ocean Sciences

OS21A Moscone South: Poster Hall Tuesday 0800h
Ocean Sciences General Contributions: Geological Oceanography Posters

Presiding: **G G Buffett**, Institute of Earth Sciences - Jaume Almera

0800h **OS21A-1138 POSTER** Laboratory Formation Of Non-Cementing, Methane Hydrate-Bearing Sand Samples: **W F Waite**, P M Bratton, D H Mason

0800h **OS21A-1139 POSTER** Geochemical, Mineralogical, and Sedimentological Investigation of Phosphorite and its Clay-Rich Mine Tailings from a Phosphate Mine, Togo, West Africa: **M Rezaie Boroon**, P C Ramirez, K Gnanadi

0800h **OS21A-1140 POSTER** HYDRODYNAMIC AND MORPHOLOGIC MODELING AT CAPE FEAR INLET, NC: **L R Kashlan**, W A Dennis, M J Wutkowski

0800h **OS21A-1141 POSTER** Seafloor Character and Processes in the Vicinity of Woods Hole, Massachusetts: **L J Poppe**, K Y McMullen, S Williams, S R Barnum, R T Brennan

0800h **OS21A-1142 POSTER** Bedform morphology under combined flows with a 6-second oscillation period: **M Yokokawa**, T Sekiguchi, T Takagawa, M M Perillo, Y Hasegawa, F Pedocchi, M H Garcia, J Best

0800h **OS21A-1143 POSTER** Study of southern CHAONAN sag lower continental slope basin deposition character in Northern South China Sea: **Y Tang**

0800h **OS21A-1144 POSTER** Seismic Interpretation and Quantification of Abyssal-Hill-Scale Pelagic Sedimentation Regimes in the 0-53 Ma Eastern Equatorial Pacific: **M Tominaga**, M W Lyle, N Mitchell

0800h **OS21A-1145 POSTER** Seismic Structures of the Kuroshio Current off eastern Taiwan: C Tsai, **Y Yeh**, S Hsu, C Ku

0800h **OS21A-1146 POSTER** High-resolution 3D seismic imaging of a pull-apart basin in the Gulf of Cadiz: **G Crutchley**, C Berndt, D Klaeschen, M Gutscher

0800h **OS21A-1147 POSTER** Physiography of eastern Mendocino Ridge, NE Pacific: **J V Gardner**, M A Malik, N S VerPlank

0800h **OS21A-1148 POSTER** Development of a High-Resolution Shallow Seismic Refraction Tomography System at the Monterey Bay Aquarium Research Institute: R Henthorn, **D W Caress**, M R Chaffey, P R McGill, W J Kirkwood, W C Burgess

0800h **OS21A-1149 POSTER** Relationship of gas hydrate features and thrust faults system: insights from high-resolution sidescan sonar and sub-bottom profilers offshore SW Taiwan: **T Shih**, S Hsu, C Tsai, S Chen

0800h **OS21A-1150 POSTER** New hydrothermal fields found along the SWIR during the Legs 5-7 of the Chinese DY115-20 Expedition: **C Tao**, G Wu, J Ni, H Zhao, X Su, N Zhou, J Li, Y J Chen, R Cui, X Deng, I Egorov, I G Dobretsova, G Sun, Z Qiu, X Deng, J Zhou, C Gu, J Li, J Yang, K Zhang, X Wu, Z Chen, J Lei, W Huang, P Zhou, T Ding, W Jin, H Li, J Lin

0800h **OS21A-1151 POSTER** Interaction of along-slope and down-slope sedimentation processes on the Argentina/Uruguayan slope – First seismo-acoustic results from the Meteor cruise M78/3: **T Schwenk**, B Preu, S Krastel, N Fekete, M Meyer, K Lindhorst, A Anasetti, Y Domnina

0800h **OS21A-1152 POSTER** Multibeam Bathymetry Surveys in Fjords and Coastal Areas of West-Greenland: **W Weinrebe**, A Kuijpers, I Klaucke, M Fink

0800h **OS21A-1153 POSTER** Seismic Reflection Along the Path of the Mediterranean Undercurrent: **G G Buffett**, B Biescas, J L Pelegri, F Machín, V Sallares, R Carbonell, D Klaeschen, R W Hobbs

0800h **OS21A-1154 POSTER** Extracting long-term trends and high frequency pressure fluctuations from seafloor pressure records using Empirical Mode Decomposition (EMD): **H W Villinger**, H Gennerich

0800h **OS21A-1155 POSTER** 3-D Seismic Images of Mud Volcano North Alex, West-Nile Delta, Egypt: **J Bialas**, D Klaeschen, C A Papenberg, R Gehrman, M Sommer

0800h **OS21A-1156 POSTER** Monitoring the Dynamic Properties of an active Mud Volcano in the West Nile Delta: **W Brueckmann**, M D Tryon, J Bialas, T Feseker, M R Lefeldt

0800h **OS21A-1157 WITHDRAWN**

0800h **OS21A-1158 POSTER** Geophysical Profiling of the New England Continental Shelf: Insights to Depositional History, Glaciations, and Subseafloor Freshwater: **J Siegel**, B Dugan, D Lizarralde, N C Miller, M A Person, R L Evans, W DeFoor

0800h **OS21A-1159 POSTER** Glacial Retreat as Witnessed by the Distribution of Iceberg Ploughmarks on Haltenbanken, Norwegian Shelf: **C F Forsberg**, D Ottesen

0800h **OS21A-1160 POSTER** Sedimentary Environment and Acoustic Characteristic of the Holocene deposits in the southeastern Yellow Sea: **G Lee**, D C Kim, Y Seo, H Yi, S Yoo

0800h **OS21A-1161 POSTER** Cenozoic evolution of Xisha carbonate platforms, Northern South China Sea: **S Wu**, Y Ma, D Dong

OS21B Moscone West: 3003 Tuesday 0800h
New Insights From Integrated Multidisciplinary Studies of Oceanic Spreading Center Processes: Ridge 2000 Research IV
(joint with T, B, V)

Presiding: K H Rubin, Univ Hawaii; **D J Fornari**

0800h **OS21B-01** Toward a Comprehensive View of Seafloor Spreading: What's Happening Under the R2K Study Areas?: **J A Karson**, D L Siler, A J Horst, R J Varga, D Curewitz

0815h **OS21B-02** Anatomy of an Axial Volcanic Ridge: The Mid-Atlantic Ridge at 45°N: K L Achenbach, **R C Searle**

0830h **OS21B-03** Crustal structure and melt supply variability in the presence of oceanic core complex formation: The Mid-Atlantic Ridge at 13°N: **C Mallows**, R C Searle

0845h **OS21B-04** Expanded Coverage of Shallow and Deep Seismic Velocity Structure at Atlantis Massif Oceanic Core Complex: **A S Henig**, D K Blackman, J A Collins, A J Harding, G Kent, J Canales

0900h **OS21B-05** Rift pattern and dynamics of an ultra-slow spreading ridge: Southwest Indian Ridge at 9°-25°E: **Z Sun**, J Lin

0915h **OS21B-06** Travel time tomography along the EPR axis using arrivals picked from downward continued MCS shot gathers: **K R Newman**, M Nedimovic, M Delescluse, J Canales, S M Carbotte, H D Carton, J C Mutter

0930h **OS21B-07** Tracking the evolution of shallow crustal permeability using repeated surveys of hydrothermally active rift zones: Insights into the R2K focus sites via analysis of Iceland rift zones: **D Curewitz**, J A Karson

0945h **OS21B-08** Hydrothermal Exploration of the Mid-Cayman Spreading Center: Isolated Evolution on Earth's Deepest Mid-Ocean Ridge?: **C R German**, A Bowen, M L Coleman, J A Huber, J Seewald, C Van Dover, L L Whitcomb, D Yoerger, D Connelly, D L Honig, M Jakuba, J C Kinsey, J McDermott, K Nakamura, C Sands, J Smith, S Sylva

Planetary Sciences

P21A Moscone South: Poster Hall Tuesday 0800h
MESSENGER's Third Flyby of Mercury I Posters (joint with GP, SM)

Presiding: J J Gillis-Davis, University of Hawaii; **D L Domingue**

0800h **P21A-1189 POSTER** Near Global Mosaic of Mercury: **K J Becker**, M S Robinson, T L Becker, L A Weller, S Turner, L Nguyen, C Selby, B W Denevi, S L Murchie, R L McNutt, S C Solomon

0800h **P21A-1190 POSTER** Spectrophotometric properties of Mercury: **D Domingue**, F Vilas, G M Holsclaw, J Warell, N R Izenberg, S L Murchie, B W Denevi, D T Blewett, W E McClintock

0800h **P21A-1191 POSTER** Space-Weathering on Mercury: Inferences Based on Comparison of MESSENGER Spectral Data and Experimental Space Weathering Data: **J J Gillis-Davis**, D T Blewett, D J Lawrence, N R Izenberg, W E McClintock, G M Holsclaw, D L Domingue

0800h **P21A-1192 POSTER** Mercury's Bright Crater-Floor Deposits: Morphology, Distribution, and Spectral Properties: **D T Blewett**, E I Coman, B W Denevi, M S Robinson, J J Gillis-Davis, C M Ernst, N R Izenberg, G M Holsclaw, W E McClintock, J W Head, S C Solomon

0800h **P21A-1193 POSTER** Compositional units on Mercury from principal component and clustering analyses of MESSENGER spectrometer observations: **M D'Amore**, J Helbert, A Maturilli, N R Izenberg, A L Sprague, G M Holsclaw, J W Head, W E McClintock, S C Solomon

0800h **P21A-1194 POSTER** Gamma-Ray Spectrometer Measurements at Mercury During the MESSENGER Flybys: **E A Rhodes**, L G Evans, J O Goldsten, L Nittler, R D Starr, W V Boynton, A L Sprague, D J Lawrence, S C Solomon

0800h **P21A-1195 POSTER** MESSENGER X-Ray Spectrometer and Energetic Particle Spectrometer Observations of Energetic Electrons during the Mercury Flybys: **R D Starr**, G C Ho, B J Anderson, G B Andrews, D Baker, R E Gold, S M Krimigis, R L McNutt, L Nittler, E A Rhodes, C E Schlemm, J A Slavin, S C Solomon

0800h **P21A-1196 POSTER** Characterization of Contractual Deformation Features on Mercury from Finite Element Modeling and Altimetric Profiles from MESSENGER's Flybys: **G T Farmer**, M T Zuber, L G Montesi, M J Talpe, R J Phillips, S C Solomon

0800h **P21A-1197 POSTER** A Two-Dimensional, Linear-Elastic Model to Explain Radial Extensional Fractures, Pantheon Fossae, Caloris Basin, Mercury: **R D Cicerone**, B M McDonough

0800h **P21A-1198 POSTER** The effect of large impacts on the mantle dynamics and volcanism of Mercury: **J H Roberts**, O S Barnouin-Jha

0800h **P21A-1199 POSTER** Magnetospheric feedback effects on Mercury's internal dynamo: **N Gomez Perez**, S C Solomon

0800h **P21A-1200 POSTER** Magnetospheric Feedback on the Dynamo of Mercury: **D Heyner**, N Gomez, J Mueller, J Wicht, D Schmitt, K Glassmeier

0800h **P21A-1201 POSTER** Mercury's inner core: A strategy for estimating its size from MESSENGER and future BepiColombo geodesy data: **A Rivoldini**, T Van Hoolst, O Verhoeven

0800h **P21A-1202 POSTER** Modeling the Solar Probe Plus Dust Environment: Comparison with MESSENGER Observations: **S B Strong**, T Strikwerda

0800h **P21A-1203 POSTER** The Influence of Space Environment on the Evolution of Mercury: **S Orsini**, A Mura, A Milillo, V Mangano, C Plainaki, E De Angelis, S Massetti, G Rinaldi, R Rispoli

0800h **P21A-1204 POSTER** Mercury's magnetosphere-solar wind interaction under northward and southward interplanetary magnetic field during the MESSENGER flybys: **P M Travnicek**, D Schriver, P Hellinger, D Hercik, J A Slavin, M Sarantos, B J Anderson, H Korth, T Zurbuchen, D Baker, M Benna, A L Sprague, R M Killen, W E McClintock, G C Ho, S M Krimigis, R L McNutt, S C Solomon

0800h **P21A-1205 POSTER** Ultra-Low-Frequency Wave Observations at Mercury during the 29 September 2009 MESSENGER Flyby: **S A Boardsen**, J A Slavin, B J Anderson, H Korth, S C Solomon

0800h **P21A-1206 POSTER** Mercury's sodium exosphere and interplanetary dust distribution: **S Kameda**, H Watanabe, G Ogawa, I Yoshikawa

0800h **P21A-1207 POSTER** Eigenmodes of field line resonance at Mercury: **E Kim**, J Johnson

0800h **P21A-1208 POSTER** Sodium exosphere of Mercury during MESSENGER flybys: **J Paral**, P M Travnicek, R Rankin, D Schriver

0800h **P21A-1209 POSTER** Sodium and magnesium neutral and ion species at Mercury: Simulations and comparison to MESSENGER observations: **M Sarantos**, J A Slavin, M Benna, R M Killen, W E McClintock, J M Raines, S C Solomon, D Schriver, P M Travnicek

0800h **P21A-1210 POSTER** Measurements of Calcium in Mercury's Exosphere During MESSENGER's Three Flybys: **E T Bradley**, W E McClintock, M H Burger, R M Killen, N Mouawad, S C Solomon, A L Sprague, R J Vervack

0800h **P21A-1211 POSTER** The contribution to Mercury's exosphere by sputtering, micrometeorite impact and photon-stimulated desorption: **P Wurz**, J Whitby, J Martin-Fernandez, U Rohner, H Lammer, C Kolb

P21B Moscone South: Poster Hall Tuesday 0800h
Physics and Chemistry of Ices: From the Laboratory to the Planetary Scale I Posters (joint with MR, EP)

Presiding: R P Hodyss, Jet Propulsion Laboratory

0800h **P21B-1212 POSTER** Evolution of Icy Dust Grains in the Vicinity of a Cometary Nucleus: **M Hilchenbach**

0800h **P21B-1213 POSTER** Ices on Centaurs: **E L Schaller**, M E Brown, N Haghighipour

0800h **P21B-1214 POSTER** TNO colors: a modeling approach to the properties of ices: **C M Dalle Ore**, N Pinilla-Alonso, G Marzo, D P Cruikshank

0800h **P21B-1215 POSTER** Anhydrous Ammonia Frost on Titan: **W D Smythe**, R Nelson, M D Boryta

0800h **P21B-1216 POSTER** Physical State of the ``Bright'' South Seasonal Polar Cap From OMEGA Observations: **S Doute**, F Schmidt, B Schmitt, M Vincendon, Y Langevin, B Gondet, J Bibring

0800h **P21B-1217 POSTER** CH₄/H₂O ices: infrared spectra and thermodynamic properties: **R M Escribano**, O Gálvez, B Maté, V J Herrero

0800h **P21B-1218 POSTER** Stability domains of water ices in the NH₃ - H₂O system: experimental results and thermodynamic modelling: **O GRASSET**, M Choukroun

0800h **P21B-1219 POSTER** Simultaneous high-pressure and -temperature volume measurements of H₂O ice and the phase transition of ice VII: **E Sugimura**, T Komabayashi, K Hirose, N Sata, Y Ohishi, L S Dubrovinsky

0800h **P21B-1220 POSTER** Laboratory Study of Water Ice Growth Rates at Martian Atmosphere Conditions: **B D Mar**, B D Phebus, A Colaprete, B M Stone, L T Iraci

0800h **P21B-1221 POSTER** Effects of insoluble particles on grain growth in polycrystalline ice: Implications for rheology of ice shells of icy satellites: **T Kubo**, H Nakata, T Kato

0800h **P21B-1222 POSTER** Geometry and Composition of Interstitial Fluids in Frozen Electrolyte Solutions: **J Cheng**, A J Colussi, M R Hoffmann

0800h **P21B-1223 POSTER** Laboratory measurements of ice tensile strength dependence on density and concentration of silicate and polymer impurities at low temperatures: **K L Litwin**, J D Beyeler, P J Polito, B R Zygielbaum, L S Sklar, G C Collins

0800h **P21B-1224 POSTER** Yield stress and effusion rates in model cryovolcanic slurries: R English, **N Petford**, D G Heyes

0800h **P21B-1225 POSTER** Electronic desorption from low temperature ices and analogs of outer solar system surfaces: **G A Grieves**, T M Orlando

0800h **P21B-1226 POSTER** Photosynthesis of H₂O₂ and O₃ in ASW with ambient O₂: **J Shi**, U Raut, M Loeffler, J Kim, R A Baragiola

P21C Moscone South: 307 Tuesday 0800h
Mars Geology and Remote Sensing

Presiding: D Buczkowski, JHU Applied Physics Lab;
K E Herkenhoff, U. S. Geological Survey

0800h **P21C-01** Ancient volcanism and aqueous erosion on Mars: **L Xiao**, J Huang, P R Christensen, D A Williams, R Greeley, C WANG

0815h **P21C-02** Mineralogy and Morphology of Light-toned Layered Deposits in Pits of Noctis Labyrinthus: **C M Weitz**, J L Bishop, L Roach, J P Rodriguez

0830h **P21C-03** Extensive phyllosilicate-bearing layer identified in northwestern Noachis Terra, Mars: **D Buczkowski**, K D Seelos, S L Murchie, F P Seelos, E Malaret, C Hash

0845h **P21C-04** Gypsum and Associated Sulfates in Iani Chaos, Mars: **M S Gilmore**, J P Greenwood

0900h **P21C-05** Evolution of the floor of Hellas Basin, Mars: Implications for regional glacial processes: **A M Rutledge**, P R Christensen

0915h **P21C-06** Recent results from the Microscopic Imagers on the Mars Exploration Rovers: **K E Herkenhoff**, J W Ashley, N A Cabrol

0930h **P21C-07** Seasonal CO₂ Ice at Mid-Latitudes on Mars: Implications for Subsurface Water Ice: **M Vincendon**, J F Mustard, F Forget, M A Kreslavsky, A Spiga, S L Murchie, J Bibring

0945h **P21C-08** History of Martian Surface Changes Observed by Mars Global Surveyor: **P E Geissler**, M Enga, P Mukherjee

Public Affairs

PA21A Moscone South: Poster Hall Tuesday 0800h
Public Affairs General Contributions Posters (*joint with GC, H, NH*)

Presiding: C Yoon, Korea Basic Science Institute; K Leitzell, NSIDC

0800h **PA21A-1292 POSTER** Carbon trading, climate change, environmental sustainability and saving planet Earth: **W W Yim**

0800h **PA21A-1293 POSTER** Managing A Lake/Aquifer System-Science, Policy, and the Public Interest: **R B Shaver**

0800h **PA21A-1294** WITHDRAWN

0800h **PA21A-1295 POSTER** Development of an Earthquake Impact Scale: **D J Wald**, K D Marano, K S JAISWAL

0800h **PA21A-1296 POSTER** Simultaneous Determination of Arsenic and Selenium Species in Sediment Extracts Utilizing Coupled Techniques with Mass Spectrometric Detection: H Yoon, **C Yoon**

0800h **PA21A-1297 POSTER** Natural Hazard Public Policy Implications of the May 12, 2008 M7.9 Wenchuan Earthquake, Sichuan, China: **K Cydzik**, D Hamilton, H D Stenner, A Cattarossi, P L Shrestha

0800h **PA21A-1298 POSTER** Uncloaking the Scientific Process: **K Leitzell**, W Meier

0800h **PA21A-1299 POSTER** Human-experienced temperature changes exceed global average climate changes for all income groups: **S M Hsiang**, L Parshall

PA21B Moscone South: Poster Hall Tuesday 0800h
Relationship of Natural and Anthropogenic Hazards to National and Global Security Posters (*joint with NH*)

Presiding: M J Friedel, US Geological Survey; B R Berger

0800h **PA21B-1300** WITHDRAWN

0800h **PA21B-1301 POSTER** The "geotoxicology" of airborne particulate matter: implications for public health, public policy, and environmental security (*Invited*): **G S Plumlee**, S A Morman

0800h **PA21B-1302 POSTER** Quantitative Measures of Mineral Supply Risk: **K R Long**

0800h **PA21B-1303 POSTER** ENSO influences the onset of violent conflicts: **K C Meng**, S M Hsiang

0800h **PA21B-1304 POSTER** Integrating interannual climate variability forecasts into weather-indexed crop insurance. The case of Malawi, Kenya and Tanzania: **M Vicarelli**, A Giannini, D Osgood

0800h **PA21B-1305 POSTER** Assessment of the TNT- and AMPA-Induced Changes in Vegetation Morphology and Bio-physical Properties: P K Campbell, **E Middleton**, L Corp

0800h **PA21B-1306 POSTER** A Relocatable Environmental Prediction System for Volcanic Ash Forecasts: J Cook, **D Geiszler**

0800h **PA21B-1307 POSTER** Groundwater Depletion and Long term Food Security in India: **R Fishman**, U Lall, V Modi, T U Siegfried, K K Narula

0800h **PA21B-1308 POSTER** The Emergency Smoke Response System (a prototype): P Lahm, **N Larkin**, T J Brown, S M Raffuse, T Strand, D Sullivan

Paleoceanography and Paleoclimatology

PP21A Moscone South: Poster Hall Tuesday 0800h
Deglaciation of the Northern Hemisphere: Timings and Forcings I Posters (*joint with A*)

Presiding: B M Goehring, Columbia University; M A Kelly, Dartmouth College

0800h **PP21A-1309 POSTER** Late Weichselian Ice sheet boundaries in North Western Russia: new insights from high resolution remote sensing and field observation: **A van Welden**, O Fredin, E Larsen, M Jensen, A Lyså

0800h **PP21A-1310** WITHDRAWN

0800h **PP21A-1311 POSTER** Extensive mapping of ice marginal landforms in northern Russia (25° E - 112° E); new precise constraints on ice sheet limits of the Eurasian ice sheets in Russia: **O Fredin**, L Rubensdotter, A van Welden, E Larsen, A Lyså, M Jensen

0800h **PP21A-1312 POSTER** Ice-sheet and paleoenvironment reconstructions at the Kara Sea continental margin during the Last Glacial Maximum to deglacial time interval: **J Tolzmann**, N Wittenberg, J J Matthiessen, R Stein

0800h **PP21A-1313 POSTER** Activity of the Svalbard-Barents Sea paleo-ice sheet (72-82 °N) on millennial and orbital time scales 0 – 80,000 years BP: **S P Jessen**, T L Rasmussen

0800h **PP21A-1314 POSTER** Large iceberg ploughed ridges in the southwestern Barents Sea: **R Mattingsdal**, K Andreassen

0800h **PP21A-1315 POSTER** Grounding zone system in outer Bjørnøynna, Barents Sea – constraints on its genesis and timing: **D C Ruther**, K Andreassen, K Husum, M Forwick

0800h **PP21A-1316 POSTER** The Oldest Dryas last significant fluctuation of the Scandinavian ice sheet margin in Eastern Baltic and problems of its regional correlation: **T Saks**, V Zelcs, M Nartiss, A Kalvans

0800h **PP21A-1317 POSTER** Beryllium-10 Production Rates for Late-Glacial and Holocene western Norway and Implications for Records of Fennoscandian Ice Sheet Demise: **B M Goehring**, J Mangerud, O S Lohne, J Svendsen, R Gyllencreutz, J M Schaefer, R C Finkel

0800h **PP21A-1318 POSTER** The deglaciation of Central Scandinavia: **T L Faulkner**

0800h **PP21A-1319 POSTER** The Garding Trough in northwest Germany: A high resolution record of Quaternary glacial and interglacial cycles for scientific drilling: **A Kunz**, B Urban, A Grube, F Sirocko, M Frechen

0800h **PP21A-1320 POSTER** Minor elements incorporation control by ionic radius and growth rate on a stalagmite from the Chauvet Cave (SE-France): **C Bourdin**, E Douville, D Genty

0800h **PP21A-1321 POSTER** Extent of the southern Greenland Ice Sheet during the Last and Penultimate Interglacials: **E Colville**, A E Carlson, B Beard, J S Stoner, C Hillaire-Marcel

0800h **PP21A-1322 POSTER** The Relationship between East Greenland Current Temperature and Southern Greenland Ice Sheet Runoff during the Last Two Deglaciations: **K Winsor**, A E Carlson, G P Klinkhammer, B A Haley, J S Stoner, C Hillaire-Marcel

0800h **PP21A-1323** WITHDRAWN

0800h **PP21A-1324 POSTER** Provenance of Greenland Ice Sheet icebergs constrained by Ar-Ar radioisotope data from late glacial-early Holocene records: P C Knutz, **M Storey**, A Kuijpers

0800h **PP21A-1325 POSTER** Ice Sheet Health during Deglaciation: Two End-Member Analysis using paired GCM and ice sheet model results: A N LeGrande, **A E Carlson**, D J Ullman, F S Anslow, J M Licciardi

0800h **PP21A-1326 POSTER** An Estimate of the Amplitude of Post-Glacial Warming: **W D Gosnold**, J A Majorowicz

0800h **PP21A-1327 POSTER** Constraints on the events surrounding the drainage of glacial Lake Ojibway based on James Bay Lowlands sedimentary sequences: **M Roy**, F Dell'Oste, M Parent, J Veillette

0800h **PP21A-1328 POSTER** STRATIGRAPHY OF GLACIAL LAKE OJIBWAY AND IMPLICATIONS FOR THE 8200 YR EVENT: **T Lowell**, J S Stroup, A J Breckenridge, C A Smith, J V Moser, E Sagredo

0800h **PP21A-1329 POSTER** ¹⁰Be ages of glacial and meltwater features northwest of Lake Superior: a chronology of Laurentide Ice sheet deglaciation and eastward flooding from Glacial Lake Agassiz: **M A Kelly**, T G Fisher, T Lowell, P Barnett, J M Schaefer, R Schwartz

0800h **PP21A-1330 POSTER** Enhancing the Deglaciation Chronology of Wisconsin using in-situ Cosmogenic Radionuclide: **D J Ullman**, A E Carlson, K M Syverson, M W Caffee

0800h **PP21A-1331 POSTER** Younger Dryas paleotopographic modeling of the Northwestern Outlet of glacial Lake Agassiz: **J T Teller**, Z Yang

0800h **PP21A-1332 POSTER** Nature and timing of the latest Wisconsin advance of the James River lobe, South Dakota: **S C Lundstrom**, J B Paces, D Iles, T Cowman

0800h **PP21A-1333 POSTER** A Record of Deglacial Atmospheric ¹⁴C based on Hulu Cave Speleothems: **A L Magana**, J R Southon, H Cheng, R Edwards

0800h **PP21A-1334 POSTER** Last Major Ice Collapse (17ka - 16ka) of the Anchorage Lowland, Alaska: **S B Kopczynski**, T Lowell, E B Evenson

0800h **PP21A-1335 POSTER** Ice-free conditions in north central British Columbia during the Last Glacial Maximum?: M G Pellatt, **T Lacourse**

0800h **PP21A-1336 POSTER** Reconstruction of last-deglacial palaeoclimate in Northeast Japan using ¹⁴C and ^{δ13}C records of marsh deposits: T Shinozaki, K Minoura, M Kondo, S Yasuyuki, S Masatoshi, M Uchida

PP21B Moscone South: Poster Hall Tuesday 0800h
Loess 2.0: Milestones and Recent Advances in the Study of Loess, Dust, and Other Aeolian Sediment Archives I Posters
(joint with A, GP, GC, EP)

Presiding: **Z Lai**, Qinghai Institute of Salt Lakes, Chinese Academy of Sciences; **B Machalet**, Humboldt-University of Berlin; **H M Roberts**, Aberystwyth University; **E A Oches**

0800h **PP21B-1337 POSTER** Modeling Loess Sedimentation: **J A Mason**

0800h **PP21B-1338 POSTER** A Mediterranean dust source? A link between the desiccation of the Mediterranean Sea and climate in the late Miocene: **L N Murphy**, D B Kirk-Davidoff, N M Mahowald

0800h **PP21B-1339 POSTER** Late Pleistocene Climatic Changes in the Western Mediterranean Inferred from Temperature, Productivity and Eolian Input Records: Implications for Human Dispersal: **B Hambach**, A Rosell Mele, A Martinez-Garcia

0800h **PP21B-1340 POSTER** Dune Activity as a Record of Holocene environmental change in the Al-Azraq basin, Jordan: **L M Veverka**, C Davies

0800h **PP21B-1341 POSTER** Extreme winds during the Quaternary deduced from yardang preservation within lacustrine sediments in the Qaidam Basin, China: **R Heermance**, P A Kapp, A Rohrmann, A McCallister

0800h **PP21B-1342 POSTER** Distinguishing the Asian dust sources based on cathodoluminescence analysis of single quartz grain: **K Nagashima**, H Nishido, M Kayama, R Tada, Y Isozaki, Y Sun, Y Igarashi

0800h **PP21B-1343 POSTER** Origin and recycling process of eolian dust emitted from the Tarim Basin deduced from the ESR signal intensity and Crystallinity Index of quartz: **Y Isozaki**, R Tada, Y Sun, K Nagashima, S Toyoda

0800h **PP21B-1344 POSTER** Deglacial Dust Provenance Changes in the Eastern Equatorial Pacific and Implications for ITCZ Movement: **R Xie**, F Marcantonio

0800h **PP21B-1345 POSTER** Temporal change of the sources of aeolian dust delivered to East Asia revealed by electron spin resonance signals in quartz: **S Toyoda**, Y Yuya, K Nagashima, Y Isozaki, Y Sun, R Tada, Y Igarashi

0800h **PP21B-1346 POSTER** The Importance of Insolation on the Temperature Variations for the Past 80 kyr in the Chinese Loess Plateau: D Cupery, **L Gao**, J Nie, W Liu, S C Clemens, Y Huang

0800h **PP21B-1347 POSTER** Dark layers of the late Quaternary Japan Sea: Marine records of the East Asian summer monsoon fluctuation: **K Ikehara**, K Usami

0800h **PP21B-1348 POSTER** Elemental concentration variations in Plio-Pleistocene sediments from ODP Site 1143 (southern South China Sea) obtained by XRF analyses: **J Tian**, X Xie, H Jin, P Wang, Z Jian

0800h **PP21B-1349 POSTER** Link West China and N Pacific Ocean—Miocene dust event in the lower reaches of the Yangtze River, China: **Z Zhang**, J Zhang, L Xie, S Liu

0800h **PP21B-1350 POSTER** Iron cycling in a late Paleozoic dust bowl: **J D Owens**, G S Soreghan, A Gerhardt, S Sur, T W Lyons

0800h **PP21B-1351 POSTER** Geochemical Identification of Windblown Dust Deposits in the Upper Permian Brushy Canyon Formation, Southern New Mexico: **M M Tice**, K Motanated, R Weiss

0800h **PP21B-1352 POSTER** A continuous, high resolution dust record over the last 133 ka for Central Europe (Eifel, Western Germany), focussing on the reconstruction of extreme storm events and paleo wind directions: **S Dietrich**, K Seelos, F Sirocko

0800h **PP21B-1353 POSTER** SHEDDING NEW LIGHT ON THE AGE OF THE PALOUSE LOESS, SOUTHEASTERN WASHINGTON, USING OPTICALLY STIMULATED LUMINESCENCE DATING OF QUARTZ: **H M Roberts**, D Gaylord, F F Foit, M Sweeney, A J Busacca

0800h **PP21B-1354 POSTER** Prospects for Complete Middle Pleistocene Loess Records in Interior Alaska: A Role for Tephrochronology: **B J Jensen**, A Reyes, D G Froese

0800h **PP21B-1355 WITHDRAWN**

0800h **PP21B-1356 POSTER** Similarities of the Plio-Pleistocene terrestrial eolian dust deposits in the world and in the Carpathian Basin (Central Europe): **G Varga**, J Kovács

0800h **PP21B-1357 POSTER** New Proxies from Loess-Paleosols on Mount Kilimanjaro document Late Pleistocene Megadroughts in East Africa: **R Zech**, Y Huang, J M Russell, R Tarozi, L Gao, A Hemp, W Zech

PP21C Moscone West: 2004 Tuesday 0800h
Changing Terrestrial Fluxes to the Oceans: Investigating Controls on Weathering and Sediment Fluxes Through Time Using Geochemical Proxies I *(joint with OS, EP, V)*

Presiding: **C Siebert**, University of Oxford; **J C Pett-Ridge**, Oregon State University; **K W Burton**, Earth Sciences - Oxford

0800h **PP21C-01** Boron and Lithium isotopic signatures in rivers as proxies of silicate weathering regimes : the example of the Mackenzie river system, Canada (*Invited*): **J Gaillardet**, R Millot, D Lemarchand, N Vigier

0815h **PP21C-02** Isotopic Evidence for Large Scale Temporal Changes in the Cenozoic Marine Lithium Cycle: **S Misra**, P N Froelich

0830h **PP21C-03** Continental weathering response to climate change: a modelling study (*Invited*): **Y Godderis**, J Z Williams, J Schott, D Pollard, S L Brantley

0845h **PP21C-04** Ca isotopes, chemical weathering, and geomorphic controls on long-term climate: **J Moore**, A D Jacobson, C E Holmden, D Crow

0900h **PP21C-05** A 30,000 year record of terrestrial sediment delivery to the southern Chile margin (*Invited*): **Z Chase**, J M Muratli, J McManus, A C Mix

0915h **PP21C-06** Glacial to Holocene detrital flux and sediment provenance variations in the South Atlantic Southern Ocean: **T L Noble**, A M Piotrowski, L F Robinson, J F McManus

0930h **PP21C-07** A Multiproxy approach to understanding floodplain weathering in the Fly River System, Papua New Guinea (*Invited*): **E A Moore**, A C Kurtz

0945h **PP21C-08** Hafnium and neodymium isotope composition of seawater and filtered particles from the Southern Ocean: **T Stichel**, M Frank, B A Haley, J Rickli, C Venchiarutti

PP21D Moscone West: 2006 Tuesday 0800h
Holocene Climate Variability: Changes in the Ocean-Atmosphere System and Their Impacts on Marine and Terrestrial Ecosystems I (*joint with B, OS*)

Presiding: **G Marino**, Univ. Autònoma de Barcelona; **M Sánchez Goñi**, Ecole Pratique des Hautes Etudes; **P Ziveri**, Universitat Autònoma Barcelona

0800h **PP21D-01** West African Holocene climate variability: trends and centennial scale features: **S Weldeab**

0815h **PP21D-02** Holocene TEX₈₆ temperature reconstructions from Lake Turkana, East Africa: **M A Berke**, T C Johnson, J P Werne, S Schouten, J S Sinninghe Damsté

0830h **PP21D-03** A comparison of Holocene rapid climatic variability between the western and eastern parts of the Mediterranean region: W J Fletcher, V Valsecchi, **M Sánchez Goñi**, L Londeix

0845h **PP21D-04** Biomarkers from varved lake sediments: evidence for the 8.2 ka climate event in Sweden: **S K Das**, J A Bendle, I Snowball, O Seki, L Zillan Snowball, T Stanton

0900h **PP21D-05** WITHDRAWN

0915h **PP21D-06** Towards a quantitative and independent reconstruction of Holocene temperature and precipitation in Northern Great Plains using novel organic proxies: **J L Toney**, S C Fritz, P A Baker, E C Grimm, P E Nyren, Y Huang

0930h **PP21D-07** Holocene Paleoclimate Reconstruction in Eastern Canada: Evidence from $\delta^{18}\text{O}$ of plant cellulose from the Mer Bleue Bog, Ottawa, Ontario: H El Bilali, R Patterson

0945h **PP21D-08** Holocene and Eemian Sea surface temperature trends as revealed by alkenone and Mg/Ca paleothermometry: **G Leduc**, R R Schneider, J Kim, G Lohmann

SPA - Aeronomy

SA21A Moscone South: Poster Hall Tuesday 0800h
Active Experiments in the Ionosphere Using Chemical Releases From the Space Shuttle and Rockets II Posters (*joint with SM*)

Presiding: **P A Bernhardt**, Naval Research Laboratory; **A Bhatt**, MIT Haystack Observatory

0800h **SA21A-1437 POSTER** Determination of the Trajectory of Ballistic Missiles Using a Dense GPS Array: **K Heki**, M Ozeki

0800h **SA21A-1438 POSTER** Observations of a Space Shuttle Burn by CINDI Instruments on C/NOFS: **R A Haaser**, M R Hairston, W R Coley, R A Heelis, G D Earle, R Stoneback, M D Perdue

0800h **SA21A-1439 POSTER** Remote Electrodynamic Signatures of a Pulsed Shuttle Exhaust Plume Detected by the C/NOFS Vector Electric Field Investigation Probes: **P W Schuck**, R F Pfaff, K R Bromund, P A Bernhardt

0800h **SA21A-1440 POSTER** Irregularities Associated with Artificially Created Dusty Plasmas in the near Earth Space Environment: **M R Bordikar**, W Scales, A Mahmoudian, H Fu

0800h **SA21A-1441 POSTER** Optical Emissions from the High Speed Rocket Exhaust Interaction with the Ionosphere: **A Bhatt**, P A Bernhardt, P J Erickson, F D Lind, R H Varney, M C Kelley

0800h **SA21A-1442 POSTER** Modeling of Plasma Irregularities in Expanding Ionospheric Dust Clouds: **H Fu**, W Scales, A Mahmoudian, M R Bordikar

0800h **SA21A-1443 POSTER** Monitoring Shuttle Burns and Rocket Launches with GPS: **A J Coster**, A Bhatt, B O'Hanlon, W Rideout

0800h **SA21A-1444 POSTER** Lidar measurements for the Charged Aerosol Release Experiment (CARE): **H R Burris**, L M Thomas, M Davis, C I Moore, P A Bernhardt, B B Xu, W R Smith, M R Suite, J I Overfield, W J Scharpf

0800h **SA21A-1445 POSTER** Incoherent Scatter from Dusty Plasmas: **M C Kelley**, R H Varney, P J Erickson, A Bhatt, F D Lind, P A Bernhardt

SA21B Moscone South: Poster Hall Tuesday 0800h
Meteoroids and Their Atmospheric Effects II Posters (*joint with P*)

Presiding: **L P Dyrud**, Johns Hopkins University APL; **J V Urbina**, The Pennsylvania State University

0800h **SA21B-1446 POSTER** Diurnal and seasonal variability of sporadic meteor flux: First observations of pre-sunrise secondary peak from Thumba: **D V Phani Kumar**, Y Kwak, A K Patra, K Kim, G Yellaiah, K K Kumar, I M Reid

0800h **SA21B-1447 POSTER** Physical aspects of micrometeoroids dynamics in the Earth atmosphere: **D Maravilla**, A Mendis

0800h **SA21B-1448 POSTER** Analysis of Altair 1998 meteor radar data: **J Zinn**, S Close, P L Colestock, A Macdonell, R Loveland

0800h **SA21B-1449 POSTER** Using FDTD Simulations to Understand Observed Polarization Properties of Meteor Head Echoes: **L Vertatschitsch**

0800h **SA21B-1450 POSTER** Global Variation of Meteor Trail Plasma Turbulence: J Hinrichs, **L Dyrud**, J V Urbina, E Hibbit

0800h **SA21B-1451 POSTER** The First Massively Parallel Simulations of Meteor Plasma in 3D: **M M Oppenheim**, Y S Dimant

0800h **SA21B-1452 POSTER** Estimating the Mass of Meteoroids from Radar Head Echo Observations: A Comparison of Two Techniques: **E N Bass**, M M Oppenheim, G Sugar, J L Chau, F Galindo

0800h **SA21B-1453 POSTER** A Numerical Model for Plasma Production and Scattering from Micrometeoroids: **P L Colestock**, J Zinn, S Close

0800h **SA21B-1454 POSTER** Observations of sporadic metal atom, ion and electron layers in the MLT above Arecibo: J S Friedman, **J T Fentzke**, R Delgado, S Raizada, Q Zhou, C A Tepley

SA21C Moscone South: 303 Tuesday 0800h
The Upper Atmosphere During the Current Solar Minimum I

Presiding: **L P Goncharenko**, MIT; **J P Thayer**, University of Colorado

0800h **SA21C-01** The Upper Atmosphere During the Current Solar Minimum (*Invited*): **J J Sojka**

0820h **SA21C-02** Global Characteristics of the Thermosphere and Ionosphere During the Current Solar Minimum: **S Zhang**, A J Coster, J M Holt, J M Forbes

0835h **SA21C-03** Behavior of the Ionosphere and Thermosphere at Solar Minimum: Data and Model Comparisons and Analysis: **L J Paxton**, Y Zhang, H Kil, R K Schaefer, J Comberiate, A B Christensen

0850h **SA21C-04** Wave Coupling Between the Lower Atmosphere and Thermosphere: Solar Cycle Influences (*Invited*): **J M Forbes**, M E Hagan

0910h **SA21C-05** Non-Migrating Tidal Effects on the Upper Atmosphere: New Tropospheric Forcing: **M E Hagan**, A I Maute, X Zhang, J M Forbes, R G Roble

0925h **SA21C-06** Numerical study of ionospheric responses to planetary waves under different solar conditions: **H Liu**, W Wang, A D Richmond, R G Roble

0940h **SA21C-07** The Upper Atmosphere and Ionosphere at Solar Minimum: Cyclical and Secular Variation (*Invited*): **S C Solomon**, L Qian, X Luan

SPA - Solar and Heliospheric Physics

SH21A Moscone South: Poster Hall Tuesday 0800h
Connecting the Evolving Sun to the Heliosheath I Posters

Presiding: **M Opher**, Physics and Astronomy; **Q Hu**, University of Alabama in Huntsville

0800h **SH21A-1491 POSTER** The Spatial Distribution of Magnetic Reconnection at the Heliopause: **M M Swisdak**, M Opher, J F Drake, F A Bibi

0800h **SH21A-1492 POSTER** MHD simulations of the solar corona and solar wind with the observation-based time-varying boundary maps of B_r and other variables: **K Hayashi**

0800h **SH21A-1493 POSTER** The effects of source location on solar particle transport in 3-dimensional interplanetary magnetic fields: H He, **G Qin**, M Zhang

0800h **SH21A-1494 POSTER** Exploration of variability in the line shape and Doppler shift of scattered solar Lyman α radiation from interplanetary Hydrogen: F Vincent, L B Jaffel, W Harris

0800h **SH21A-1495 POSTER** Towards Dynamic Realism for Solar Wind Boundary Conditions Used in Global Heliospheric Models: **L J Thatcher**, H Mueller, A Heiderer

0800h **SH21A-1496 POSTER** Hybrid simulation of interstellar wind interaction with solar wind plasma: V Izmodenov, **F Alouani Bibi**, M Opher, D Aleksashov, G Toth

0800h **SH21A-1497 POSTER** Anomalous Cosmic Ray Production in the Heliosheath: **J N Chamoun**, J F Drake, M M Swisdak

0800h **SH21A-1498 POSTER** Acceleration of Anomalous Cosmic Rays via Reconnection in the Heliosheath: **A Lazarian**, M Opher

0800h **SH21A-1499 POSTER** Numerical modeling of transient phenomena in the distant solar wind: **S Borovikov**, N V Pogorelov, Q Hu, L F Burlaga, G P Zank

0800h **SH21A-1500 POSTER** Additional Features of the Plasma Environment in the Heliosheath and Outer Heliosphere: Further Examination of the Voyager 2 Plasma Observations: **D S Intriligator**, J Intriligator, W Miller, W R Webber

0800h **SH21A-1501 POSTER** Propagation of Alfvénic modes in Partially Ionized Astrophysical Plasmas: **D Shaikh**

SH21B Moscone South: Poster Hall Tuesday 0800h
Global Heliosphere Revealed I Posters

Presiding: **N A Schwadron**, Boston University; **J Heerikhuisen**, University of Alabama in Huntsville

0800h **SH21B-1502 POSTER** Translation of IBEX-measured ENA fluxes to the outer heliosphere: **G B Crew**, M Bzowski, R Demajistre, H O Funsten, S A Fuselier, M Gruntman, J Heerikhuisen, M A Lee, D J McComas, E Moebius, E C Roelof, N A Schwadron, R Vanderspek

0800h **SH21B-1503 POSTER** Analysis of ENA Intensities and Spectra (0.6 to 55 keV) from the Nose and Tail Regions of the Heliosheath: Observations from IBEX and Cassini/INCA: **R Demajistre**, E C Roelof, S M Krimigis, D G Mitchell, M Gruntman, H O Funsten, D J McComas, N A Schwadron

0800h **SH21B-1504 POSTER** Time Variations of the ENA Flux Observed by IBEX: Is the Outer Heliosphere Evolving?: **D J McComas**, M Bzowski, G Clark, G B Crew, R Demajistre, H O Funsten, S A Fuselier, M Gruntman, P Janzen, G Livadiotis, E Moebius, D B Reisenfeld, E C Roelof, N A Schwadron

0800h **SH21B-1505 POSTER** Further Estimation of the Thickness of the Heliosheath using Updated SOHO Data: **K Hsieh**, A CZECHOWSKI, M Hilchenbach, S Grzedzielski, J Kota

0800h **SH21B-1506 POSTER** Synthetic study of heliospheric Ly-alpha data: **R Lallement**, E Quemerais, J Bertaux, B R Sandel, J T Clarke, W Schmidt

0800h **SH21B-1507 POSTER** The Heliopause Reconnection X-line: **D K Olson**, T E Moore, F A Bibi, M Opher, M A Coplan

0800h **SH21B-1508 POSTER** The link between pick-up ions and energetic neutral atoms: **F Alouani Bibi**, M Opher, C L Prested, N A Schwadron, G Toth

0800h **SH21B-1509 POSTER** Comparison of Model ENAs Produced from Heliospheric Multi-fluid MHD with the First All-Sky ENA Maps: **C L Prested**, N A Schwadron, M Opher, D J McComas, H O Funsten, S A Fuselier

0800h **SH21B-1510 POSTER** Interpreting high time resolution galactic cosmic ray observations in a diffusive context: **A Jordan**, H E Spence, J B Blake, D A Shaul

0800h **SH21B-1511 POSTER** Modeling the local interstellar flow: comparisons to first observations from IBEX: **L A Saul**, P A Bochsler, F Bühler, M Bzowski, G B Crew, H O Funsten, S A Fuselier, A Ghielmetti, D Heitzler, H Kucharek, T Leonard, D J McComas, E Moebius, T E Moore, L Petersen, C L Prested, J Scheer, N A Schwadron, P Wurz

0800h **SH21B-1512 POSTER** Implications of Voyager ACR Observations on the Injection Rate along the Termination Shock: **J Kota**, J R Jokipii, J Giacalone

0800h **SH21B-1513 POSTER** FONDUE : Fully ON-line Datacenter for Ultraviolet Emissions: **A Reberac**, E Quemerais

0800h **SH21B-1514 POSTER** Pickup Ion Distributions at the Termination Shock: A Numerical Study for IBEX: **H Kucharek**, N V Pogorelov, M A Lee, E Moebius, H O Funsten, D B Reisenfeld, P Janzen

0800h **SH21B-1515 POSTER** Studies in the Sensitivity of IBEX to Variable Heliosphere Boundary Conditions: **P C Frisch**, J Heerikhuisen, N V Pogorelov, G P Zank, H Mueller, G B Crew, B DeMajestre, H O Funsten, D J McComas, E Moebius, D B Reisenfeld, E C Roelof, N A Schwadron, J D Slavin

0800h **SH21B-1516 POSTER** The Importance of Non-Thermal Pressures in the Heliosheath: Towards New Methods of Analysis: **E C Roelof**, M Gruntman, S M Krimigis, D G Mitchell, D J McComas, H O Funsten

0800h **SH21B-1517 POSTER** Global Structure of the Heliosphere in the Interstellar Magnetic Field: **N V Pogorelov**, P C Frisch, J Heerikhuisen, G P Zank, D J McComas, N A Schwadron, E R Christian, G B Crew, R Demajistre, G Gloeckler, M Gruntman, H Fahr, H Fichtner, H O Funsten, S A Fuselier, S M Krimigis, H Kucharek, M A Lee, E Moebius, C L Prested, D B Reisenfeld, E C Roelof, E C Stone, M Witte

0800h **SH21B-1518 POSTER** Physical Processes in the Heliospheric Interface Region and their Implications for ENA Images: **M Gruntman**, E C Roelof, D J McComas, H O Funsten, S M Krimigis, D G Mitchell

SH21C Moscone South: 301 Tuesday 0800h Solar Flares I

Presiding: **A A Reinard**, NOAA/SWPC; **S Krucker**, Space Science Lab

0800h **SH21C-01** High Resolution Imaging of Solar Flare Footpoints in White Light and Hard X-rays: **S Krucker**, H S Hudson, R P Lin

0815h **SH21C-02** RHESSI and TRACE Observations of Emerging Flux Reconnection in a Solar Jet on August 21, 2003: **L Glesener**, S Krucker, R P Lin

0830h **SH21C-03** Ulysses/GRB Measurements of Hard X-Ray Flares on the Far Side of the Sun: **C Tranquille**, K Hurley, H S Hudson

0845h **SH21C-04** Combined Fokker-Planck Modeling of Particle Acceleration/Transport and Hydrodynamic Simulation of Atmospheric Response in Solar Flares: V Petrosian, **W Liu**, J T Mariska

0900h **SH21C-05** What is the relationship between photospheric flow [12] fields and solar flares?: **B T Welsch**, Y Li, P W Schuck, G H Fisher

0915h **SH21C-06** Using subsurface helicity measurements to predict flare occurrence: **A A Reinard**, J Henthorn, R Komm, F Hill

0930h **SH21C-07** Variation in Nuclear Decay Rates as a Possible Predictor of Solar Flares: **P A Sturrock**, J Buncher, E Fischbach, J Gruenwald, D Javorsek, J Jenkins, D Krause, J Mattes

0945h **SH21C-08** Bayesian analysis of RHESSI spectra: **J Ireland**, G Holman, B R Dennis, A K Tolbert, R A Schwartz

SPA - Magnetospheric Physics

SM21A Moscone South: Poster Hall Tuesday 0800h Magnetic Reconnection I Posters (joint with SH)

Presiding: **W S Daughton**, Los Alamos National Laboratory; **J Dorelli**, NASA/GSFC

0800h **SM21A-1552 POSTER** The role of Flux Transfer Events in solar wind-magnetosphere coupling: **J Dorelli**

0800h **SM21A-1553 POSTER** Statistic study on global shape of dayside magnetopause reconnection X line: based on Cluster & TC1 observations: **J Wang**, Z Pu, X Zhang, X Zhou, M W Dunlop, Y Wei, S Fu, C Xiao, X Wang, Q Zong

0800h **SM21A-1554 POSTER** Energy conversion in a time-dependent Petschek-reconnection model: **S Kiehas**, V S Semenov, N Erkaev, H K Biernat

0800h **SM21A-1555 POSTER** Nested Structure of Hall Magnetic Field in Collisionless Magnetic Reconnection with Multiple Reconnection Sites: **N Jain**, A S Sharma

0800h **SM21A-1556 POSTER** Extension of the electron dissipation region in collisionless Hall MHD reconnection: **B P Sullivan**, A Bhattacharjee, Y Huang

0800h **SM21A-1557 POSTER** Anomalous Resistivity Generated by the Current Driven Ion Acoustic Instabilities in Weakly Collisional Plasmas: **C Black**, A Bhattacharjee, K Germaschewski, C Ng

0800h **SM21A-1558 POSTER** The Coming Age of Petascale Kinetic Simulations: Implications for Theory and Observations of Magnetic Reconnection: **W S Daughton**, V Roytershteyn, H Karimabadi, L Yin, B J Albright, K Bowers, C A Cattell, D G Sibeck, J R Wygant

0800h **SM21A-1559 POSTER** Enabling Breakthrough Kinetic Simulations of the Magnetosphere Using Petascale Computing: H X Vu, **H Karimabadi**, Y Omelchenko, M Tatineni, A Majumdar, D Krauss-Varban, J Dorelli

0800h **SM21A-1560 POSTER** Possibility of Quasi-steady Reconnection in Collisionless Plasma: "Petschek" Solution?: D Soleno, **H Karimabadi**, J D Scudder, W S Daughton, V Roytershteyn

0800h **SM21A-1561 POSTER** Effects of Minority Species on Magnetic Reconnection: L M Kistler, **H Karimabadi**, V Roytershteyn, J D Scudder, W S Daughton

0800h **SM21A-1562 POSTER** PIC simulations of asymmetric reconnection: **K Malakit**, M A Shay, P Cassak

0800h **SM21A-1563 POSTER** A new Vlasov equilibrium in asymmetric current sheets: G Belmont, **N Aunai**, R Smets

0800h **SM21A-1564 POSTER** Two-fluid simulations of 3D magnetic reconnection in current sheets: **J C Meyer**, M A Shay, P Cassak

0800h **SM21A-1565 POSTER** Distinct Electron Regions Around a 3D Magnetotail Reconnection Site: **D Connick**, L Chen, B Lefebvre

0800h **SM21A-1566 POSTER** Equations of State in Collisionless Magnetic Reconnection: **A Le**, J Egedal, N K Katz, A Vrublevskis, W R Fox

0800h **SM21A-1567 POSTER** Re-distribution of ion pressure tensor during explosive reconnection: **K G Tanaka**, M Fujimoto, I Shinohara

0800h **SM21A-1568 POSTER** Guide Field Reconnection for actual physical parameters: **S Markidis**, G Lapenta, A Divin, M V Goldman, D L Newman

0800h **SM21A-1569 POSTER** A study of kinetic electrostatic 'bounce' modes in a 2D current sheet: **P Louarn**, A Tour, V Yanovsky

0800h **SM21A-1570 POSTER** Bridging the Gap Between Magnetic Reconnection in Space & Laboratory Plasmas Using 3D Kinetic Simulations: **V Roytershteyn**, W S Daughton, L Yin, B J Albright, K Bowers, S Dorfman, H Ji, M Yamada, H Karimabadi

0800h **SM21A-1571 POSTER** Two-dimensional Vlasov code simulation of magnetic reconnection: **K Togano**, T Umeda, T Ogino

0800h **SM21A-1572 POSTER** The Current-Driven LH Instability and The Formation of Stable Electron Holes: **H Che**, J F Drake, M M Swisdak, P H Yoon

SM21B Moscone South: 305 Tuesday 0800h
Dynamic Evolution of Earth's Radiation Belts: Observations, Modeling, Forecasting I

Presiding: Y Shprits, UCLA; A Y Ukhorskiy, JHU/APL

0800h **SM21B-01** Dynamic radiation belt modelling: Overview of physical processes and recent modelling attempts (*Invited*): **R B Horne**

0820h **SM21B-02** Radiation Belt Climatology: Current Understanding and Methods (*Invited*): **T P O'Brien**, T B Guild

0840h **SM21B-03** NASA's Radiation Belt Storm Probes (RBSP) Mission (*Invited*): **B H Mauk**, N J Fox, D G Sibeck, J M Grebowsky

0900h **SM21B-04** Determining dominant acceleration and loss processes in the Van Allen Belts: The Canadian ORBITALS Mission (*Invited*): **I R Mann**

0915h **SM21B-05** A Remarkable Natural Experiment: The Extremely Quiet Sun (2007-2009) and its Effect on Earth's Radiation Belts: N L Farr, **D Baker**, S G Kanekal, X Li

0930h **SM21B-06** Radial Transport of Radiation Belt Electrons on Multiple Time Scales: **M K Hudson**, B Kress, H Mueller, T Brito, Z Li

0945h **SM21B-07** Effects of Precipitation on the Loss of Radiation Belt Relativistic Electrons: **Y Chen**, R H Friedel, G D Reeves, T E Cayton, R Christensen

Study of Earth's Deep Interior (DI)

DI21A Moscone South: Poster Hall Tuesday 0800h
Subducting Slabs: Integrating Seismic Properties From Laboratory Data and Field Observations II Posters (*joint with MR, S, T, V*)

Presiding: L Bezacier, ENS Lyon, Universite de Lyon

0800h **DI21A-1643 POSTER** Oceanic plateau subduction beneath North America and its geological and geophysical implications:

L Liu, M Gurnis, M Seton, J Saleeby, D M Ullmer, J M Jackson

0800h **DI21A-1644 POSTER** Subducted Crustal Signatures in Diamondiferous Xenoliths from the Nyurbinskaya Pipe, Yakutia, Russia: Trace-Element and Oxygen Isotope Characteristics of Garnets: **A J Riches**, Y Liu, Z V Spetsius, J M Day, L A Taylor

0800h **DI21A-1645 POSTER** The Stability and Equation of State of Stishovite in the Lower Mantle: **A Kavner**, M M Armentrout

0800h **DI21A-1646 POSTER** Kinetics and mechanism of antigorite dehydration at subduction zone conditions: **M Chollet**, I Daniel, K T Koga, G Morard, B Van de Moortèle

0800h **DI21A-1647 POSTER** 3D seismic structures in different subduction zones (Central Java, Toba Caldera, Central Chile, Costa Rica and others): common and particular features: **I Koulakov**

0800h **DI21A-1648 POSTER** Elastic Wave Velocity Measurements for Clinohumite and Phase A to 11 GPa: Seismic and Petrologic Implications: **P Ulmer**, H T Phan, E Reusser, L Burlini

0800h **DI21A-1649 POSTER** Elasticity of serpentine: first principles investigation: **J Tsuchiya**, T Tsuchiya, I Katayama, Y Usui

0800h **DI21A-1650 POSTER** Shape of the subducted slab beneath the Kuril-Kamchatka arc derived from regional tomographic inversion: **N Bushenkova**, I Koulakov

0800h **DI21A-1651 POSTER** Neural network analysis for geological interpretation of tomographic images beneath the Japan Islands: **T Kuwatani**, M Toriumi

0800h **DI21A-1652 POSTER** Analog Modeling of the Juan Fernández Ridge, Central Chile, and Implications for Flat-Slab Subduction Dynamics: **D Woodell**, M L Anderson

0800h **DI21A-1653 POSTER** Slab melting in cold subduction zone: a perspective from the dehydration embrittlement hypothesis: **T Kogiso**, S Omori, S Maruyama

0800h **DI21A-1654 POSTER** Slab Brightness and Arc Volcanism in Central America: **T Song**

DI21B Moscone West: 2003 Tuesday 0800h
Discoveries of the Earth's Deep Mantle I (*joint with MR, S, T*)

Presiding: L Wen, State University of New York at Stony Brook; **T Duffy**, Princeton University

0800h **DI21B-01** Seismic Detectability of the Postperovskite Boundary (*Invited*): **S Shim**, K Catalli, V Prakapenka

0815h **DI21B-02** Dynamic Constraints on the Presence of Primordial Mantle Reservoirs (*Invited*): **A K McNamara**, E J Garnero, S Rost, T M Lassak, S Zhong

0830h **DI21B-03** Interaction of slabs and plumes with a mid lower mantle viscosity and density transition: **G Morra**, D A Yuen, F Cammarano, J Justo, L Boschi, P Chatelain

0845h **DI21B-04** Bulk Sound Velocity Measurements At High P,T Using Nuclear Inelastic Scattering: Influence Of Spin Transitions On Mantle Velocity Profiles: **C A McCammon**, L S Dubrovinsky, O Narygina, K Glazyrin, X Wu, I Kantor, I Sergueev, A Chumakov

0900h **DI21B-05** Deterministic scattering imaging in the lowermost mantle in a slab graveyard (*Invited*): **A R Hutko**, T Lay, J Revenaugh

0915h **DI21B-06** Ab initio assessment of high-P,T postperovskite phase equilibria in the MgSiO₃-Al₂O₃ pseudo binary system (*Invited*): **J Tsuchiya**, T Tsuchiya

0930h **DI21B-07** A broad thermochemical transition in the lower mantle?: **F Cammarano**, H Marquardt, S Speziale, P J Tackley

0945h **DI21B-08** Imaging the Lowermost Mantle Beneath East Asia With (Joint) Inverse Scattering (Generalized Radon Transform) of ScS and SKKS Data: **X Shang**, P Wang, R D van der Hilst, M V De Hoop

Seismology

S21A Moscone South: Poster Hall Tuesday 0800h
Monitoring Temporal Changes of Earth's Properties With Seismic Waves I Posters (*joint with G, H, NS, V, T*)

Presiding: F Brenguier, Institut de Physique du Globe de Paris

0800h **S21A-1684 POSTER** Controlled Source 4D Seismic Imaging: **Y Luo**, C Morency, J Tromp

0800h **S21A-1685 POSTER** Broadband seismic monitoring of active volcanoes using deterministic and stochastic approaches: **H Kumagai**, M Nakano, T Maeda, H Yepes, P Palacios, M C Ruiz, S Arrais, M Vaca, I Molina, T Yamashina

0800h **S21A-1686 POSTER** Spatial and temporal variations in seismicity and uplift within the Socorro Magma Body region in central New Mexico: **C J Ruhl**, S L Bilek, A V Newman

0800h **S21A-1687 POSTER** Near-real Time Interpretation of Micro-earthquake Data for Reservoir Modeling: **L J Hutchings**, K Boyle, B P Bonner

0800h **S21A-1688 POSTER** Monitoring stress related velocity variation in concrete with a 2.10⁻⁵ relative resolution using diffuse ultrasound: **E F Larose**, S Hall

0800h **S21A-1689 POSTER** Monitoring Stress Changes in a Concrete Bridge with Acoustic Waves: **S Stähler**, C Sens-Schönfelder, E Niederleithinger, S Pirskawetz

0800h **S21A-1690 POSTER** Response of sedimentary rocks after an earthquake : analogous ultrasonic experiment in concrete: **V Rossetto**, E F Larose

0800h **S21A-1691 POSTER** Laboratory Investigation of the Effect of Water-Saturation on Seismic Wave Dispersion in Carbonates: **W Li**, L J Pyrak-Nolte

0800h **S21A-1692 POSTER** Crustal structure in and around the focal region of the 2008 M7.2 Iwate-Miyagi Nairiku earthquake by the cross-correlation analysis: **R Takagi**, T Okada, H Nakahara, N Umino, A Hasegawa

0800h **S21A-1693 POSTER** Searching for temporal changes of the medium associated with 2008 Wenchuan, China earthquake from ambient noise correlation: **Z Xu**, Q Liu, J Chen, X Song

0800h **S21A-1694 POSTER** Temporal changes of seismic velocity around the Wenchuan earthquake fault zone from ambient noise correlation: **Z Liu**, J Huang, Y Shen

0800h **S21A-1695 POSTER** Water-level oscillations in response to S- and Love waves: **Z M Geballe**, Y Robiou du Pont, D S Dreger, C Wang

0800h **S21A-1696 POSTER** Temporal variations in crustal scattering structure near Parkfield, California, using receiver functions: **P Audet**

0800h **S21A-1697 POSTER** Increasing the temporal resolution of ambient seismic noise monitoring: **C Hadziioannou**, E Larose, A M Baig, M Campillo

0800h **S21A-1698 POSTER** Monitoring crustal temporal variations from ambient seismic noise correlations: resolution and accuracy assessments: **L Zaccarelli**, D Clarke, N M Shapiro, F Brenguier

0800h **S21A-1699 POSTER** Green's function retrieval by iterated coda correlations: **S de Ridder**

0800h **S21A-1700 POSTER** Spatio-temporal changes of seismic velocity at Miyakejima volcano associated with the 2000 eruption based on the cross-correlation analyses of ambient seismic noise records: **T Anggono**, T Nishimura, H Sato, H Ueda, M Ukawa

0800h **S21A-1701 POSTER** Temporal Variation of the Decay Rate of the Autocorrelation Function of the Ambient Seismic Noise: **S Ohmi**, K Hirahara

0800h **S21A-1702 POSTER** Coda wave interferometry at Yasur volcano (Vanuatu): temporal variations induced by a M=7.3 subduction earthquake: **J Battaglia**, J Métaixian, E Garaebiti

0800h **S21A-1703 POSTER** Medium-Term Earthquake Prediction Using Gravity Monitoring Data: **F B Zhan**, Y Zhu

0800h **S21A-1704 POSTER** The Hydrogeodynamic Monitoring of Earth Crust in the Territory of Armenia: **R Pashayan**

0800h **S21A-1705 POSTER** In-situ Estimation of Poisson's Ratio in Volcanoes and Active Fault Zones: **G Lin**, C H Thurber

0800h **S21A-1706 POSTER** Three dimensional P-wave velocity structure at Popocatepetl Volcano, Mexico: **P Berger**, C M Valdes-Gonzales

S21B Moscone South: Poster Hall Tuesday 0800h
Non-Double-Couple Seismic Sources: Determination, Resolution, and Uncertainty Posters (*joint with T, C, V*)

Presiding: **B R Julian**, U. S. Geological Survey; **G R Foulger**, University of Durham; **S R Ford**, Lawrence Livermore National Laboratory; **D S Dreger**, UC Berkeley

0800h **S21B-1707 POSTER** Non-double-couple earthquake mechanism as an artifact of point-source approach applied to a finite-extent focus: **P Adamova**, J Sileny

0800h **S21B-1708 POSTER** Seismic Evidence for Dilatational Source Deformations Accompanying the 2004-2008 Yellowstone Accelerated Uplift Episode (*Invited*): **T Taira**, R B Smith, W Chang

0800h **S21B-1709 POSTER** Full and Constrained Moment Tensor Inversions of Basal Icequakes Beneath Gornergletscher, Switzerland (*Invited*): **F Walter**, D S Dreger, J F Clinton, N Deichmann

0800h **S21B-1710 POSTER** A Seismological Portrait of the Anomalous 1996 Bardarbunga Volcano, Iceland, Earthquake (*Invited*): **H Tkalcic**, D S Dreger, G R Foulger, B R Julian, A Fichtner

0800h **S21B-1711 POSTER** Systematic Global Study of Vertical-CLVD Earthquakes Associated with Active Volcanoes: **A E Shuler**, G Ekstrom, M Nettles

0800h **S21B-1712 POSTER** Network Sensitivity Solutions for Regional Moment Tensor Inversions: **S R Ford**, D S Dreger, W R Walter

0800h **S21B-1713 POSTER** Full moment tensor analyses to investigate the dynamics of the 2001 Etna eruption: **A Sarao**, O Cocina, E Privitera, G F Panza

0800h **S21B-1714 POSTER** Mapping the Isotropic Component of Focal Mechanisms in Hydraulic Fractures: **A M Baig**, T I Urbancic

0800h **S21B-1715 POSTER** Dual-Frequency Coherence of Seismic Tremor and Source Properties: **L M Dorman**, S Y Schwartz, D L Clarke

0800h **S21B-1716 POSTER** Nanoseismic sources made in the laboratory: source kinematics and time history: **G McLaskey**, S D Glaser

0800h **S21B-1717 POSTER** Explosive/Implosive Events Observed in Fault Zone Borehole Seismometers: **K Ma**, Y Lin, S Lee

0800h **S21B-1718 POSTER** Resolution of Non-Double-Couple Mechanisms: Simulation of joint effect of noise, hypocenter mislocation and velocity structure mismodeling (*Invited*): **J Sileny**

0800h **S21B-1719 POSTER** Focal Mechanisms of Microearthquakes in the Dobra Voda Seismoactive Area in the Male Karpaty Mts., Slovakia: **V Vavrycuk**, L Fojtikova, A Cipciar, J Madaras

0800h **S21B-1720 POSTER** Resolving Seismic Moment Tensors with Body-Wave Amplitude Ratios: **B R Julian**, G R Foulger

0800h **S21B-1721 POSTER** Strain-dependent Damage Evolution and Velocity Reduction in Fault Zones Induced by Earthquake Rupture: **J Zhong**, B Duan

0800h **S21B-1722 POSTER** Rupture Plane Determination of Small to Moderate Earthquakes by Finite Moment Tensor Inversion: **W Chao**, L Zhao, Y Wu

0800h **S21B-1723 POSTER** Multiple moment-tensor inversions for the December 26, 2004 Sumatra earthquake based upon adjoint methods: **L Ren**, Q Liu

0800h **S21B-1724 POSTER** Recent advances in the source inversion of W-Phase: **Z Duputel**, L A Rivera, H Kanamori

S21C Moscone West: 2005 Tuesday 0800h
Innovations and Advances in Earthquake Early Warning Systems Around the World II: Overview and Applications (*joint with NH*)

Presiding: **G B Cua**, Swiss Seismological Service; **M Böse**, California Institute of Technology

0800h **S21C-01** The current status of earthquake early warning around the world (*Invited*): **R M Allen**

0815h **S21C-02** The SAFER-Project and Seismic Early Warning in Europe (*Invited*): **J Zschau**, P Gasparini

0830h **S21C-03** CISN ShakeAlert - Towards a Prototype Earthquake Early Warning System for California: **M Böse**, R M Allen, H Brown, G B Cua, D Given, M Fischer, E Hauksson, T H Heaton, M Hellweg, T H Jordan, O Khainovski, P J Maechling, D S Neuhauser, D H Oppenheimer, K Solanki

0845h **S21C-04** Earthquake Early Warning: A Prospective User's Perspective (*Invited*): **S P Nishenko**, W U Savage, T Johnson

0900h **S21C-05** Development of regional earthquake early warning and structural health monitoring system and real-time ground motion forecasting using front-site waveform data (*Invited*): **M Motosaka**

0915h **S21C-06** EVALUATING AND IMPROVING REAL-TIME STRATEGIES FOR ENGINEERING GROUND MOTION PREDICTIONS: **I Iervolino**, M Giorgio, G Manfredi

0930h **S21C-07** WITHDRAWN

0945h **S21C-08** The Seismic Alert System of Mexico and their automatic Alert Signals broadcast improvements: **J Espinosa Aranda**, A Cuellar Martinez, A Garcia, G Ibarrola, R Islas, S Maldonado

S21D Moscone West: 2007 Tuesday 0800h
Locating and Characterizing Seismic Noise Sources I (*joint with A, OS*)

Presiding: **D E McNamara**, USGS; **K D Koper**, Saint Louis University

0800h **S21D-01** Modeling and Observing Ocean Microseisms: **S Kedar**, F Webb, R W Clayton, N Graham, C E Jones, M Longuet Higgins

0815h **S21D-02** Theory of Seismic Noise Excitation by Ocean Waves: **T Tanimoto**

0830h **S21D-03** Toroidal Hum Excitation by Large Tidal Stick-Slip Ice Stream Movements: J S Resovsky, **M Visser**

0845h **S21D-04** Long-Period Cultural Noise: The Panama Canal Seiche: **D E McNamara**, C R Hutt, A Ringler, L S Gee

0900h **S21D-05** Array processing for observing Earth's "hum" and microseisms: **P Gerstoft**, P D Bromirski, P M Shearer, J Zhang, N Harmon

0915h **S21D-06** Resolving P-wave travel-time anomalies using seismic array observations of oceanic storms: **J Zhang**, P Gerstoft, P M Shearer

0930h **S21D-07** Locations of Secondary Microseism Sources in the Offshore of Southern California: **X Tian**, R W Clayton

0945h **S21D-08** Estimating the Distribution of Noise Sources in Ambient Noise Derived Green's Functions: **N Harmon**, P Gerstoft, C A Rychert

Tectonophysics

T21A Moscone South: Poster Hall Tuesday 0800h
Arc Systems, Ophiolites, and Continental Crust Formation I Posters (*joint with V*)

Presiding: **Y Tamura**, JAMSTEC

0800h **T21A-1769** POSTER Mapping and Deciphering Mantle Source Heterogeneity and Subduction Input in the Lau Basin: **S Escrig**, A Bezos, C H Langmuir, P J Michael

0800h **T21A-1770** POSTER Geochemical Evolution of Miocene Volcanism in Western Anatolia, Turkey Related to Orogenic Collapse: E Aldanmaz, **M Pickard**, B B Hanan, T Furman, B KURKCUOGLU, K Sayit

0800h **T21A-1771** POSTER A Mechanism for the Production of Calc-alkalic and Tholeiitic Magma Series in Azuma Volcano, Northeast Japan: **Y Hirahara**, T Takahashi, Q Chang, T Miyazaki, J Kimura, Y Tatsumi

0800h **T21A-1772** POSTER Reconstruction of Volcanoes in the Coastal Range, Eastern Taiwan and its Evolution during Arc-Continent Collision: **Y Lai**, S Song

0800h **T21A-1773** POSTER Intrusive Rocks from the Southern Mariana Trench: Comparison with Volcanic Sequences of the Early Izu Bonin Mariana Arc: **J A Johnson**, R Hickey-Vargas, P Fryer

0800h **T21A-1774** POSTER HIGHLY VARIABLE HELIUM ISOTOPE RATIOS IN THE VANUATU VOLCANIC ARC: P Jean-Baptiste, **P Allard**, P Bani, E Garaebiti, B Pelletier, E Fourré, N Metrich

0800h **T21A-1775** POSTER The Influence of Water on Mantle Melting and Crystallization in Back-arc Basin Systems: **M L Lytle**, K A Kelley, E H Hauri

0800h **T21A-1776** POSTER Systematics of plagioclase impregnation in peridotites from Godzilla Mullion: **M Loocke**, J E Snow, Y Ohara

0800h **T21A-1777** POSTER High-temperature gabbro mylonites and ultramylonites from Godzilla Mullion, the Parece Vela Basin: **Y Harigane**, K Michibayashi, Y Ohara

0800h **T21A-1778** POSTER Serpentinite schists of the Ohmachi seamount and their possible relation to extensional plate movements of the Philippine Sea Plate: **M Meschede**, H Ueda, Y Ogawa, Y Shipboard Scientific Party

0800h **T21A-1779** POSTER Microstructural evidence for dissolution precipitation creep in high pressure metamorphic serpentinites from subduction zones: **S Wassmann**, C Trepmann, A Krohe, B Stoeckhert

0800h **T21A-1780** POSTER Tectonic development of the Central Asian Orogenic System, western Mongolia: Long-lived evolution of a single accretionary system: **S E Cina**, A Yin, B Dash

0800h **T21A-1781** POSTER Relationship between the early Paleozoic SSZ ophiolite complex and North Qaidam UHP metamorphic belt in NW China: **C A Menold**, E O Walsh, C E Manning, A Yin

0800h **T21A-1782** POSTER The Ophiolite Problem, Is It Really a Problem?: **J F Casey**, J F Dewey

0800h **T21A-1783** POSTER The "ophiolite rule", chemostratigraphy of Teythan-type ophiolites and subduction initiation: S A Whattam, **R J Stern**

0800h **T21A-1784** POSTER Petrogenesis of mafic magma and associated silicic magma for calc-alkaline rocks in the Shirataka volcano, NE Japan: **S Hirotsani**, M Ban, M Nakagawa

0800h **T21A-1785** POSTER Magma generation and evolution processes of calc-alkalic and tholeiitic suites in Azuma volcano, NE Japan - Sr isotope micro-analysis study of plagioclase phenocrysts: **T Takahashi**, Y Hirahara, J Kimura, Q Chang, Y Tatsumi

0800h **T21A-1786** POSTER Along- and across-arc variations of Boron systematics of basaltic rocks from Kyushu, SW Japan: **M Miyoshi**, T Hasenaka, T Sano, T Fukuoka

0800h **T21A-1787** POSTER Fijian tonalities and crustal evolution: **E Drewes**, J B Gill, K Tani, C M Allen, I H Campbell, E Todd

0800h **T21A-1788** POSTER About the age of the Neoproterozoic Lainici-Paius terrane (South Carpathians, Romania): **C Balica**, I Balintoni, M N Ducea, T Berza, C Stremtan

0800h **T21A-1789** POSTER Avalonian and Cadomian terranes in North Dobrogea, Romania: **I Balintoni**, C Balica, M N Ducea, A Seghedi

0800h **T21A-1790** POSTER Melt Compositions from Deep Ocean Tephra Provide New Insights into the Magmatic Evolution of Taupo Volcanic Zone, New Zealand: **A Allan**, J Baker, R Wysoczanski, L Carter, C J Wilson

T21B Moscone South: Poster Hall Tuesday 0800h
Earthquake Cycle Deformation: Moving Beyond Kinematic Elastic Models I Posters (*joint with G, S*)

Presiding: **E A Hetland**, University of Michigan; **K M Johnson**, Indiana University

- 0800h **T21B-1791 POSTER** Are Surface Displacements Representative of Slip at Seismogenic Depths? Implications for Geologic Slip Rate Studies: **B Haravitch**, J F Dolan, Y Klinger
- 0800h **T21B-1792 POSTER** New GPS Network across the Altnyn Tagh Fault, preliminary results from the first survey: W Wang, **P Vernant**, J He, J chery, S Lu, W Ku, W Xia
- 0800h **T21B-1793 POSTER** Role of the Overriding Plate in the Subduction Process: Insights from Numerical Models: F Funicello, **Y V Dintner**, G Morra, C Faccenna
- 0800h **T21B-1794 POSTER** Late Quaternary faulting in the Vallo di Diano basin (southern Apennines, Italy): **F Villani**, S Pierdominici, F R Cinti
- 0800h **T21B-1795 POSTER** Pressure solution as a mechanism of creep and sealing in active faults: evidence from the SAFOD samples: **J L Gratier**, J Richard, S Mittempergher, F Renard, M Doan, G Di Toro, J Hadizadeh, A Boullier-Bertrand
- 0800h **T21B-1796 POSTER** Slip rates and interseismic locking depths of southern California faults inferred from viscoelastic earthquake cycle models: **R Y Chuang**, K M Johnson
- 0800h **T21B-1797 POSTER** Short-Term Interactions between Strike-Slip Faults across a Plate Boundary Zone at the Transition from Subduction to Collision: Comparison to the Marlborough Fault System, New Zealand: **S M Ellis**, D M Eberhart-Phillips, C A Williams, J A Nuechter, R Robinson, P Upton
- 0800h **T21B-1798 POSTER** PyLith: A Finite-Element Code for Modeling Quasi-Static and Dynamic Crustal Deformation: C A Williams, **B Aagaard**, M G Knepley
- 0800h **T21B-1799 POSTER** Evidence for lateral structural heterogeneity in the Kashmir Himalaya from coseismic and postseismic surface velocities: **R O Bendick**, S Khan, R G Bilham, M Khan, S Mohadjer
- 0800h **T21B-1800 POSTER** Role of coupled cataclasis-pressure solution deformation in microearthquake activity along the creeping segment of the SAF: Inferences from studies of the SAFOD core samples: **J Hadizadeh**, J Gratier, F Renard, S Mittempergher, G Di Toro
- 0800h **T21B-1801 POSTER** On the resolution of shallow mantle viscosity structure using post-earthquake relaxation data: Application to the 1999 Hector Mine, California, earthquake: **F F Pollitz**, W R Thatcher
- 0800h **T21B-1802 POSTER** A microstructural study of SAFOD gouge from actively creeping San Andreas Fault zone; Implications for shear localization models: **E D Blackburn**, J Hadizadeh, H A Babaie
- 0800h **T21B-1803** WITHDRAWN
- 0800h **T21B-1804 POSTER** Slow Earthquakes Controlled by Semi-Brittle Instabilities: **L L Lavier**, R A Bennett
- 0800h **T21B-1805 POSTER** Three-dimensional finite element analysis of post-seismic deformation following the 1992 M7.3 Landers and 1999 M7.1 Hector Mine, California earthquakes inferred from InSAR and GPS observations: **D Scandura**, P Lundgren, G Currenti, C Del Negro, Z Liu, C A Williams
- 0800h **T21B-1806 POSTER** Modeling Interseismic and Transient Deformation in Southcentral Alaska: A M Freed, **T Ali**

- 0800h **T21B-1807 POSTER** Comparing Earthquake Simulators That Include Rate and State Friction: **T E Tullis**, H Noda, K B Richards-Dinger, N Lapusta, J H Dieterich, Y Kaneko, N M Beeler
- 0800h **T21B-1808 POSTER** Present-day Crustal Deformation of Taiwan: **K Ching**, R Rau, J Hu, J Lee, K M Johnson
- 0800h **T21B-1809 POSTER** Paleoseismic Study in Antelope Valley, California: **A C Sarmiento**, S G Wesnousky
- 0800h **T21B-1810** WITHDRAWN

T21C Moscone South: Poster Hall Tuesday 0800h
Earthquakes at the Edge: Observing and Understanding Transitions of Seismogenic Properties and Processes Along Subduction Zones V Posters (*joint with G, S*)

Presiding: **Y Kano**, Disaster Prevention Research Institute; **J Guo**, University of Missouri-Columbia

- 0800h **T21C-1811 POSTER** Seismic imaging of the Honshu arc from the Japan Trench to the Japan Sea: **D Zhao**
- 0800h **T21C-1812 POSTER** Lateral structural variation within the overlying plate and its correlation to the Tonankai earthquake: **G Fujie**, A Nakanishi, J Park, K Obana, S Kodaira, Y Kaneda
- 0800h **T21C-1813 POSTER** Stress inversion analysis for micro-faults in an on-land accretionary complex, the Yokonami melange, Shikoku, SW Japan: an implication in seismic cycle: **Y Hashimoto**
- 0800h **T21C-1814 POSTER** The Suruga-Bay earthquake of August 11, 2009, as seen from dense GPS observation network in the Tokai district, Japan: **T Kato**, J Fukuda, T Ochi, Y Yokota, M Satomura, Y Harada, K Sato, K Ukei
- 0800h **T21C-1815 POSTER** Imaging of Heterogeneous Structure beneath the Metropolitan Tokyo Area: **S Nakagawa**, S Sakai, E Kurashimo, A Kato, H Hagiwara, K Kasahara, T Tanada, K Obara, N Hirata
- 0800h **T21C-1816 POSTER** Differences in rupture process between the 2001 and 2008 repeating earthquakes off Kamaishi: **K Shimamura**, T Matsuzawa, T Okada, N Uchida, T Kono, A Hasegawa
- 0800h **T21C-1817 POSTER** Seismic imaging of the two subducting slabs underneath Tokyo Metropolitan area inferred from Ps single scattering analysis: **T Tonegawa**, K Nishida, S Nakagawa, S Sakai, K Kasahara, T Tanada, K Obara, N Hirata
- 0800h **T21C-1818 POSTER** Afterslip Distribution of Large Earthquakes Using Viscoelastic Media: **T Sato**, H Higuchi
- 0800h **T21C-1819 POSTER** Characteristic focal mechanisms of the double-planed shallow seismic zone in the northeast Japan forearc region: **S Koga**, Y Ito, N Umino, R Hino, T Yamada, M Shinohara, T Kanazawa
- 0800h **T21C-1820 POSTER** Large-scale high-resolution seismic study in the western end of the Nankai seismogenic zone: **A Nakanishi**, S Kodaira, G Fujie, K Obana, K Takizawa, K Kashiwase, Y Kaneda
- 0800h **T21C-1821 POSTER** Thermal effects of seamount subduction on the Nankai margin: **G A Spinelli**, R N Harris
- 0800h **T21C-1822 POSTER** Numerical simulations of temperature distributions associated with subduction of the Philippine Sea plate in southwest Japan: Y Suminokura, **S Yoshioka**, T Matsumoto, J Nakajima
- 0800h **T21C-1823 POSTER** Estimation of temperature rise in a shallow slip zone of the megasplay fault in the Nankai Trough: **T Hiroono**, Y Hamada, K Ujiie, T Ishikawa, T Mishima, M Tanimizu, W Soh, M Kinoshita

0800h **T21C-1824 POSTER** Earthquake recurrences since late Pleistocene in Nankai Trough off Kumano: A preliminary result on Site C0006, IODP Exp. 316: **T Jiang**, S Li, C Li, X Xie, X Su, J Ren

0800h **T21C-1825 POSTER** Seafloor expressions of fault activities in the Nankai accretionary prism off Kumano: **J Ashi**, T Tsuji, Y Ikeda, S Morita, Y Hashimoto, A Sakaguchi, K Ujiie, S Saito, S Kuramoto

0800h **T21C-1826 POSTER** Seismic Reflector Polarity and Attributes Along the Megasplay Fault, NantTroSEIZE Transect: Implications for Fault Zone Properties: **C M Streiff**, H J Tobin, J D Kington

0800h **T21C-1827 POSTER** Implications of Faulting Styles in the Outer Wedge of the Nankai Accretionary Prism, Japan: **J D Kington**, H J Tobin

0800h **T21C-1828 POSTER** Tectonic Significance of Intraoceanic Thrusts in the Nankai Trough: **T Tsuji**, S Kodaira, J Park, J Ashi, Y Fukao, G F Moore, T Matsuoka

0800h **T21C-1829 POSTER** Geochemical Features of Shallow Subduction Thrusts: Non-Destructive XRF Core-Imaging Scanner Analyses of NanTroSEIZE C0004 and C0007 Fault Zone Slabs: **A Yamaguchi**, A Sakaguchi, T Sakamoto, K Iijima, G Kimura, K Ujiie, F M Chester, O Fabbri, D L Goldsby, A Tsutsumi, C Li, D Curewitz

0800h **T21C-1830 POSTER** Pleistocene Tephrostratigraphy in NanTroSEIZE coring sites, Kumano Trough: Implication for the shallow sedimentary and tectonic evolutions of Kumano Trough: **T Kanamatsu**

0800h **T21C-1831 POSTER** A preliminary result of stress orientation obtained from drilling induced tensile fractures and borehole breakouts at Site C0009 of Expedition 319, NanTroSEIZE: **W Lin**, M Doan, C Moore, L C McNeill, T Ito, D F Boutt, N W Hayman, Y Kano, P B Flemings, G Huftile, T B Byrne, D M Saffer, E Araki, K Moe, M Kinoshita, N O Eguchi, K Takahashi, S Toczko, E Scientists

0800h **T21C-1832 POSTER** Constraining in situ stress tensor in the Kumano forearc basin, Nankai, based on borehole wall failure analysis: **C Chang**, W Lin, L C McNeill, J C Moore, M Conin

0800h **T21C-1833 POSTER** Hydraulic Fracture Measurements at Site C0009 of IODP Expedition 319, NanTroSEIZE: **Y Kano**, T Ito, W Lin, P B Flemings, D F Boutt, M Doan, L C McNeill, T Byrne, D M Saffer, E Araki, N O Eguchi, K Takahashi, S Toczko, E Scientists

0800h **T21C-1834 POSTER** Helium Isotopic Ratios of Core Samples from IODP Exp. 319 (NanTroSEIZE Stage 2): **K Horiguchi**, J Matsuda, T Wiersberg, Y Shimo, H Tamura, H Kumagai, K Suzuki, S Saito, M Kinoshita, E Araki, T Byrne, L C McNeill, D Saffer, K Takahashi, N O Eguchi, S Toczko

0800h **T21C-1835 POSTER** Seismic characteristics of lower Kumano Basin in the Nankai Trough: **Y Nakamura**, S P Gulick, G F Moore, N L Bangs, J Park, J Ashi

0800h **T21C-1836 POSTER** Defining Lithological Units by Cuttings, Core and Logging Data at Site C0009A in the Nankai Trough, Japan: IODP Expedition 319: **N Efimenko**, A M Schleicher, D M Buchs, C Buret, K Kawabata, D F Boutt, M Underwood, E Araki, T B Byrne, L C McNeill, D M Saffer, N O Eguchi, K Takahashi, S Toczko, E Scientists

0800h **T21C-1837 POSTER** Downhole Hydrologic Testing in the Kumano Basin and Underlying Sediments: Results from NanTroSEIZE Expedition 319: **D F Boutt**, Y Kano, P B Flemings, M Doan, T Ito, W Lin, D M Saffer, T B Byrne, L C McNeill, E Araki, K Takahashi, N O Eguchi, S Toczko, K Moe, E Scientists

0800h **T21C-1838 POSTER** Simulation of Pore Pressure Response to Fault Slip in the NanTroSEIZE Region of the Nankai Subduction Zone: **E Screaton**, S Ge, R A Regueiro

0800h **T21C-1839 POSTER** Permeabilities of Core Samples from Integrated Ocean Drilling Program Expedition 316 and Implications for Shallow Fluid Flow due to Megasplay Fault Movement: **K T Rowe**, E Screaton

0800h **T21C-1840 POSTER** Clay Mineral Assemblages from Nankai Trough and Kumano Basin, IODP Expeditions 315 and 316, NanTroSEIZE Stage 1: **J Guo**, M Underwood, D Hillix, H Wu, H Banno, U Shrinivar

0800h **T21C-1841 POSTER** Petrophysical characterization of subduction input sediments off Kii Peninsula: Results from IODP NanTroSEIZE Stage 2: **S Saito**, M Underwood, Y Kubo, Y Sanada, E Araki, T B Byrne, L C McNeill, D M Saffer, N O Eguchi, S Toczko, K Moe

0800h **T21C-1842 POSTER** Converted Ps amplitude variations on a dipping interface: Application to receiver functions in central Japan: **K Shiomi**, J J Park

0800h **T21C-1843 POSTER** Deformation characteristics and associated clay-mineral variation in 2-3 km buried Hota accretionary complex, central Japan: **Y Yamamoto**, J Kameda, H Yamaguchi

0800h **T21C-1844 POSTER** Seismic structure of the Nicaraguan convergent margin by travel time tomographic inversion of wide-angle seismic data in the area of the 1992 Nicaragua slow earthquake: A Meléndez, K D McIntosh, **C R Ranero**, V Sallares

T21D Moscone South: Poster Hall Tuesday 0800h
Fault Processes in Nature and Laboratory: From Microscale to 3-D Regional Observations and Models IV Posters (*joint with MR, NS, S, NH*)

Presiding: **S Nippres**, University of Liverpool; **X Moreno**, CSIC

0800h **T21D-1845 POSTER** Complexity and segmentation of the Seattle Fault System: **K M Keranen**, R E Wells, B L Sherrod, R J Blakely, C S Weaver

0800h **T21D-1846 POSTER** Potential-field modeling and high-resolution seismic imaging to characterize subsurface structure in Surprise Valley, California: **N Athens**, V C Fontiveros, J M Glen, S L Klemperer, A E Egger, R L Morin

0800h **T21D-1847 POSTER** High Resolution Seismic Imaging of the Trench Canyon Fault Zone, Mono Lake, Northeastern California: **M W Novick**, A S Jayko, S Roeske, J S McClain, P E Hart, M Boyle

0800h **T21D-1848 POSTER** Sedimentation in an Active Fold and Thrust Belt, Santa Barbara Basin, CA: Spatial and Temporal Evolution from 1.0 Ma to Present: **C J Marshall**, C C Sorlien, C Nicholson, R J Behl, J Kennett

0800h **T21D-1849 POSTER** Seismic Travel Time Tomography around the Yamasaki Fault System of Southwest Japan: **A D Nugraha**, S Ohmi, J J Mori, T Shibutani

0800h **T21D-1850 POSTER** Imaging the Carboneras fault zone at depth: preliminary results from reflection/refraction seismic tomography: **S Nippres**, A Rietbrock, D R Faulkner, E Rutter, C A Haberland, T Teixido

0800h **T21D-1851 POSTER** Paleoseismic activity at the southern termination of Alhama de Murcia fault (Southeastern Betics, Spain): geomorphic and trenching evidence along a slow moving fault: M C Ortuño, **E Masana**, J P Buylaert, C Canora, P Cunha, E García-Meléndez, J Martínez-Díaz, A Murrey, R Sohbaty, P Štěpánčíková

0800h **T21D-1852 POSTER** Seismic evidence of active strike-slip faulting in the external Gulf of Cadiz (SW Iberian Margin): R Bartolome, E Gràcia, D Stich, S Martinez-Loriente, D Klaeschen, **E Masana**, S Diez, C Lo Iacono, X Moreno, N Zitellini, A Manuel, J Dañoibeitia

0800h **T21D-1853 POSTER** An integrated multiscale paleoseismic and neotectonic approach of the Carboneras Fault Zone, SE Spain, and its marine continuation in the Alboran Sea: **X Moreno, E Masana, E Gracia, R Bartolome, C Lo Iacono, A Rodés, R Pallàs**

0800h **T21D-1854 POSTER** Preliminary Field Investigation and Numerical Modeling of Slip Transfer across the Aksay Bend and Stepoever of the Altyn Tagh Fault: **A J Elliott, M E Oskin, B Duan, J Liu, D D Oglesby**

0800h **T21D-1855 POSTER** Healing of subsurface damage after the 1999 Chi-Chi earthquake: **K H Chen, R Rau, D S Dreger**

0800h **T21D-1856 POSTER** Observations and Modeling of Co-seismic Stress Changes in the M7.6 Chi-Chi Earthquake Taiwan – Apparent Evidence for Complete Stress Drop on a Small Fault Patch: **H Wu, M D Zoback, K Ma, S Hickman**

0800h **T21D-1857 POSTER** Material properties of Franciscan mélange and fault rock lithologies at SAFOD: Implications for fault zone processes along the central creeping segment of the San Andreas Fault: **K Keighley Bradbury, J P Evans, T N Jeppson, A R Lowry**

0800h **T21D-1858 POSTER** Damage Zones Associated with Second-Order Faults Adjacent to the San Andreas Fault Zone at Depth in Central California: Observations from SAFOD: **M Johri, M D Zoback**

0800h **T21D-1859 POSTER** Relationship Between Fault Creep and Shallow Stress Accumulation Rate: **M Wei, D T Sandwell, B R Smith-Konter**

0800h **T21D-1860 POSTER** Stuck in the Mud? Earthquake Propagation Through Clay-rich Fault Zones (*Invited*): **D R Faulkner, T M Mitchell, T Hirose, T Shimamoto**

0800h **T21D-1861 POSTER** 10Be and U-series dating of late Quaternary landforms along the southern San Jacinto fault: Implications for temporal slip rate variability: **K Blisniuk, M E Oskin, K Fletcher, W D Sharp, T K Rockwell**

0800h **T21D-1862 POSTER** A LATE BRITTLE COMPONENT OF MOTION WITHIN THE DUCTILE EASTERN SIERRA CREST SHEAR ZONE (ESCSZ) ALONG THE EASTERN BOUNDARY OF THE TOLUMNE BATHOLITH IN THE SADDLEBAG LAKE, CA AREA. WHITESIDES, Andrew¹, ENRIQUEZ, Marcus², HARDY, Jill¹, EHRET, Philip¹, IANNONE, Monika¹, CULBERT, Kristan¹ GROSS, Ben³, LODEWYK, Jessica³, CAO, Wenrong¹, ZHANG, Tao¹, MEMETI, Valbone³, PATERSON, Scott¹ SCHMIDT, Keegan⁴. (1) Department of Earth Sciences, University of Southern California, Los Angeles, CA 90089-0740, awhitesides@usc.edu, (2) Department of Geological Sciences, Cal State L.A., 5151 State University Drive, Los Angeles, CA 90032, (3) Department of Earth and Planetary Sciences, Washington University, Campus Box 1169, 1 Brookings Dr, Saint Louis, MO, 63130, (4) Division of Natural Science and Mathematics, Lewis-Clark State College, 500 8th Ave., Lewiston, ID 83501: **A S Whitesides, M Enriquez, J Hardy, P Ehret, M Iannone, K N Culbert, M B Gross, J Lodewyk, W Cao, T ZHANG, V Memeti, S R Paterson, K L Schmidt**

0800h **T21D-1863 POSTER** New Structural Interpretation of the Central Confusion Range, Western Utah, Based On Balanced Cross Sections: **D Yezerlski, D C Greene**

0800h **T21D-1864 POSTER** Geometry and Kinematics of Fault-Propagation Folds with Variable Interlimb Angles: **D Dhont, M Jabbour, Y Hervouet, J Deroin**

0800h **T21D-1865 POSTER** Surface roughness of ancient seismic faults exhumed from seismogenic depths (Gole Larghe Fault, Italian Alps): **A Bistacchi, W A Griffith, S A Smith, S Mittempergher, A R Niemeijer, G Di Toro**

0800h **T21D-1866 POSTER** Complex Rift-Parallel, Strike-Slip Faulting in Iceland: Kinematic Analysis of the Gljúfurá Fault Zone: **A Nanfíto, J A Karson**

0800h **T21D-1867 POSTER** Mechanics and Evolution of Long-Offset Oceanic Transform Faults: Insights From Numerical Experiments: **C S Takeuchi, Y A Fialko, J G Sclater**

0800h **T21D-1868 POSTER** Analysis of Faulting and Tectonic Lineations Along the Ninetyeast Ridge from Multibeam Bathymetry Data: **C F Paul, W Sager**

0800h **T21D-1869 POSTER** Faults, fault rocks and fractures in basalts: a macro- to micro-analysis of fault rock evolution on the NE Atlantic Margin: **R J Walker, R E Holdsworth, J Imber**

T21E Moscone West: 2011 Tuesday 0800h
Earthquake Geology and Seismotectonics of the 2008 Wenchuan Earthquake II (*joint with S, NH*)

Presiding: **Y Chen**, Natl Taiwan Univ; **X Xu**, Institute of Geology, CEA

0800h **T21E-01** Postseismic deformation monitoring and modeling of the 2008 Mw7.9 Wenchuan, China earthquake, constrained using GPS and InSAR measurements: **Z Shen, M Wang, J Sun, H Liao, P Zhang, M Hao, Y Wan, R Burgmann, Y Zeng, W Gan, W Tao, Q Wang, K Wang, Y Wang, W Chen, F Wang, L Xue**

0815h **T21E-02** Coseismic Kinematic Slip Model for the 12 May 2008 Wenchuan-Beichuan Mw 7.9 Earthquake in Sichuan, China from Joint Inversion of ALOS, Envisat, GPS and Teleseismic Data and Preliminary Postseismic InSAR: **E J Fielding, A Sladen, Z Li, R Burgmann, I M Ryder, J Avouac**

0830h **T21E-03** The coseismic deformation characteristic of the Wenchuan Ms 8.0 earthquake in 2008: **C Qu, X Shan, X Song, G Zhang, G Zhang**

0845h **T21E-04** Co-seismic rupture and maximum displacement of the 2008 Wenchuan earthquake and its tectonic implications: **H Li, J Si, J van der Woerd, J Pei, X Fu, P Tapponnier**

0900h **T21E-05** Coseismic Slip Model of the 2008 Wenchuan Earthquake Derived From Joint Inversion of InSAR, GPS and Field Data: **X Tong, D T Sandwell, Y A Fialko**

0915h **T21E-06** Fault rupture geometry and slip distribution of the 2008 Mw7.9 Wenchuan, China earthquake, constrained using InSAR and GPS measurements: **Y Wan, J Sun, M Wang, F Wang, Z Shen**

0930h **T21E-07** Numerical Investigation of Earthquake Dynamics in Chuan-Dian Fault System: **H Xing, X Xu**

0945h **T21E-08** Rupture Segmentation and Spatial Aftershock Distribution of the 2008 Mw 7.9 Wenchuan Earthquake, China: **J Chen, J Chen, T Li, J Yin, M Huang**

T21F Moscone West: 2009 Tuesday 0800h
The Many Faces of Slow Slip, Tremor, and Earthquakes III (*joint with G, H, MR, NH, V, S, NG*)

Presiding: **P Bodin**, University of Washington; **J R Brown**, Stanford University

0800h **T21F-01** Lab Scale Profile of a Transition from Earthquakes to Slow Events, and Silent Quakes. (*Invited*): **J R Grasso, C Voisin, E Larose, F Renard, D Zigone**

0815h **T21F-02** Deep non-volcanic tremor of circum-Pacific subduction zones: **J R Brown, G C Beroza**

0830h **T21F-03** Diverse Behavior of Slow Slip and Tremor at the Northern Costa Rica Subduction Zone: **S Y Schwartz, T H Dixon, K C Outerbridge, J I Walter, M Protti, V M Gonzalez, M M Thorwart, W Rabbel**

0845h **T21F-04** Large Slow Slip Events and the Nonvolcanic Tremor Observed in the Mexican Subduction Zone are not of the Same Origin: **V Kostoglodov**, A L Husker, N M Shapiro, M Campillo, N Cotte, R W Clayton

0900h **T21F-05** Is slow slip in Cascadia tidally modulated?: **J C Hawthorne**, A M Rubin

0915h **T21F-06** Episodic Tremor and Slip: Cycles Within Cycles: **K C Creager**, A Wech, J E Vidale

0930h **T21F-07** Streaking tremor in Cascadia: **J E Vidale**, A Ghosh, J R Sweet, K C Creager, A Wech, H Houston

0945h **T21F-08** Properties of Creep Fronts on Rate-and-State Faults: **A M Rubin**

Volcanology, Geochemistry and Petrology

V21A Moscone South: Poster Hall Tuesday 0800h Layered Intrusions III Posters

Presiding: **M Humphreys**, University of Cambridge; **C Tegner**, Aarhus University; **M B Holness**, University of Cambridge; **C E Leshner**, UC Davis

0800h **V21A-1952 POSTER** Magma crystallisation on a steep side-wall: Physical behaviour of the crystal mush: **M Humphreys**, M B Holness

0800h **V21A-1953 POSTER** Iron isotopes for the layered series of the Skaergaard intrusion: **C E Leshner**, C Lundstrom, E Brown, F Huang, J J Glessner, G Hoffmann-Barfod, P Thy

0800h **V21A-1954 POSTER** Liquidus temperatures for the layered series of the Skaergaard intrusion: **P Thy**, C Tegner, C E Leshner

0800h **V21A-1955 POSTER** Experimental constraints on mineral-melt reactions in the Middle Zone of the Skaergaard intrusion: **I V Veksler**, T F Nielsen

0800h **V21A-1956 POSTER** Chemical variations in the Triple Group of the Skaergaard intrusion: insights for the mineralization and crystallization process: **T F Nielsen**, S Bernstein

0800h **V21A-1957 POSTER** Liquids of the Skaergaard intrusion traced by melt inclusions: **J K Jakobsen**, I V Veksler, C Tegner

0800h **V21A-1958 POSTER** Petrology of the Upper Border Series of the Skaergaard Intrusion: **L Salmonsén**, C Tegner, J K Jakobsen

0800h **V21A-1959 POSTER** Revisiting the Age of the Stillwater Complex: **C J Wall**, J S Scoates, R M Friedman, W P Meurer

0800h **V21A-1960 POSTER** Nd-Sr Isotope Record of Crustal Contamination Processes During Growth of the Cuillin Layered Gabbro Complex, Isle of Skye, Scotland: **M E Brandriss**

0800h **V21A-1961 POSTER** What Can Crystal Size Distributions and Olivine Compositions Tell Us About Magma Solidification Processes in Kilauea Iki Lava Lake, Hawaii?: **N Vinet**, M D Higgins

0800h **V21A-1962 POSTER** Cyclical Phase Layering in the Duluth Complex at Duluth – Evidence for Periodic Magma Venting from a Shallow Staging Chamber: **J Miller**, E Stifter

0800h **V21A-1963 POSTER** CUMULATE ROCKS ASSOCIATED WITH CARBONATE ASSIMILATION, HORTAVÆR COMPLEX, NORTH-CENTRAL NORWAY: **C G Barnes**, T Prestvik, Y Li

0800h **V21A-1964 POSTER** 200 Ma Glass Inclusions in the Palisades Sill, NY and NJ: **K X Chau**, G Sen

0800h **V21A-1965 POSTER** Amphibole-bearing multiphase solid inclusions in olivine, the Murotomisaki Gabbro, Southwest Japan: An evidence of hydrous flux melting: **T Hoshida**, M Obata

0800h **V21A-1966 POSTER** Experimental constraints of the olivine crystals compaction in cumulus layer: **M Forien**, N Bagdassarov, M W Schmidt

0800h **V21A-1967 POSTER** How Jurassic Folds Control the Geometry of a Tertiary Intrusion: Trachyte Mesa, Henry Mountains, Utah: **K Kiyosugi**, C Connor, P H Wetmore, D C Roman

0800h **V21A-1968 POSTER** 3D potential-field model of a Triassic Nikolai large igneous province vent, central Alaska Range: **J M Glen**, J M Schmidt, G G Connard

0800h **V21A-1969 POSTER** Formation of the Late Permian Taihe layered gabbro-granite complex: a common regional process for the formation of the Fe-Ti oxide deposits of the Emeishan large igneous province (SW China): **J G Shellnutt**, B Jahn

0800h **V21A-1970 POSTER** Platinum-group elemental distribution of the Panzhihua layered gabbroic intrusion and associated Fe-Ti oxide ores, SW China: **K Pang**, M Zhou, L Qi

0800h **V21A-1971 POSTER** Multiple S Isotopic Study of the Eagle Ni-Cu-PGE magmatic Deposit, Northern Michigan, USA: **X Ding**, E Ripley, C Li

0800h **V21A-1972 POSTER** Origin of Archean Chromitites in the Nuggihalli Schist Belt, Dharwar Craton (India): **R Mukherjee**, S K Mondal, M T Rosing, R Frei

0800h **V21A-1973 POSTER** PGE-enrichment with late-stage Fe-Ti oxide crystallisation observed in the Dufek-Forrestal layered mafic intrusion, Antarctica: **R Hanemann**, F Melcher, S B Mukasa, L Viereck-Goette, M Abratis

0800h **V21A-1974 POSTER** The Nokomis Cu-Ni-PGE Deposit, Duluth Complex: A sulfide-bearing, crystal-laden magmatic slurry: **D M Peterson**

0800h **V21A-1975 WITHDRAWN**

0800h **V21A-1976 POSTER** CONTINUITY BETWEEN EASTERN AND WESTERN BUSHVELD COMPLEX, SOUTH AFRICA, CONFIRMED BY XENOLITHS FROM KIMBERLITE: **L D Ashwal**, S J Webb, G Cawthorn

0800h **V21A-1977 POSTER** Magnetic modeling of the Bushveld Igneous Complex: **S J Webb**, J Cole, S A Letts, C Finn, T H Torsvik, M D Lee

0800h **V21A-1978 POSTER** Fabrics, internal zonation and magma flow in small gabbroic sills, Karoo, South Africa: **M C Marsh**, E C Ferre, A Lehman, C K Ranaweera, L P Mare, S M Maes, J W Geissman

V21B Moscone South: Poster Hall Tuesday 0800h Remote Sensing of Earth's Active Volcanoes I Posters

Presiding: **R Wright**, Hawaii Institute of Geophysics and Planetology; **V J Realmuto**, Jet Propulsion Laboratory; **M Abrams**, Jet Propulsion Lab

0800h **V21B-1979 POSTER** The Optimization of Spatial, Spectral, and Temporal Resolution for Constraining Eruption Style on Earth and Io with Thermal Remote Sensing: **A G Davies**, L P Keszthelyi, A J Harris

0800h **V21B-1980 POSTER** MODIS' Performance in Volcano Monitoring in the Northeastern Pacific Ocean: **T S Steensen**, P Webley, J Dehn, K G Dean

0800h **V21B-1981 POSTER** Historical series and Near Real Time data analysis produced within ASI-SRV project infrastructures: **M Silvestri**, M Musacchio, M Buongiorno, S Corradini, V Lombardo, L Merucci, C Spinetti, E Sansosti, S Pugnaghi, S Teggi, S Vignoli, A Amodio, L Dini

0800h **V21B-1982 POSTER** DISTRIBUTION OF THE TEMPERATURE IN THE ASH-GAS FLOW DURING KORYAKSKY VOLCANO ERUPTION IN 2009: **E Gordeev**, V Droznin

0800h **V21B-1983 POSTER** Volcanoes activity Early warning system based on MSG SEVIRI data: **M Musacchio**, M Silvestri, M Buongiorno

0800h **V21B-1984 POSTER** Satellite based observation and interpretation of the 2009 Sarychev Peak eruption on Matua Island of Kuril Islands, Russia: **M Urai**, Y Ishizuka

0800h **V21B-1985 POSTER** The use of satellite-based remote sensing to quantify the contribution of volcanoes to the global SO₂ budget: **H E Thomas**, I Watson, S A Carn

0800h **V21B-1986 POSTER** Forecasting large explosions using thermal satellite data at Bezymianny volcano, Kamchatka: **S M van Manen**, J Dehn, S Blake

0800h **V21B-1987 POSTER** RETRIEVAL OF MULTISPECTRAL INFRARED EMISSIVITY FROM THERMALLY-MIXED VOLCANIC SURFACES FOR MORE ACCURATE COMPOSITIONAL MAPPING: **S Rose**, I Watson, M Ramsey

0800h **V21B-1988 POSTER** Multispectral Thermal Infrared Remote Sensing of Volcanic SO₂ Plumes with NASA's Earth Observing System: **V J Realmuto**

0800h **V21B-1989 POSTER** Spaceborne observations from AVHRR and GOES weather satellites during the November 2002 eruption of Reventador Volcano, Ecuador: **L Moxey**, A J Harris, J Dehn, S K Rowland

0800h **V21B-1990 POSTER** The cooling rate of an aa lava flow determined using an orbital imaging spectrometer: **R Wright**, H Garbeil

0800h **V21B-1991 POSTER** Advantages of SO₂ evaluation in the wavelength range 360-390 nm: N Bobrowski, **C Kern**, U Platt, C Hoermann, T Wagner

0800h **V21B-1992 POSTER** Monitoring passively degassing volcanoes from space: A comparison between ASTER and OMI retrievals of lower tropospheric SO₂: **L A Henney**, M Watson, S A Carn

0800h **V21B-1993 POSTER** Thermal Infrared Remote Sensing of the Yellowstone Geothermal System: **R G Vaughan**, L P Keszthelyi, H Heasler, C Jaworowski, J B Lowenstern, D J Schneider

0800h **V21B-1994 POSTER** Absorption Coefficients for SO₂ between 280 and 330 nm and 200 and 300 K: **J B Halpern**, D Carlis, C Knight, J Burris

0800h **V21B-1995 POSTER** Detection of thermal changes possibly associated with volcanic activity and discrimination of faint changes from MODIS: **T Noguchi**, N Ohno, K Hattori

0800h **V21B-1996 POSTER** Theoretical validation of ASTER_SW algorithm used for the monitoring of hot volcanic lakes: A Bernard, **R A Campion**

0800h **V21B-1997 POSTER** Detection of Low Temperature Volcanogenic Thermal Anomalies with ASTER: **D C Pieri**, S Baxter

V21C Moscone South: Poster Hall Tuesday 0800h
Dynamics of Small-Scale Magmatic Systems: Linking the Mantle to the Volcano I Posters

Presiding: **K V Cashman**, University of Oregon; **I E Smith**, University of Auckland; **L Pioli**, Universite de Geneve

0800h **V21C-1998 POSTER** Linking Eruptive Dynamics and Frequency to Petrologic and Geochemical Constraints at a Hyperactive Andean Arc Volcano: **M A Dungan**, O Reubi, C Bouvet de Maisonneuve, B Bourdon, C H Langmuir, O Bachmann, A Burgisser

0800h **V21C-1999 POSTER** Polymagmatic Activity at a Monogenetic Volcanic Centre: Defining the Evolution of a Plumbing System: M Brenna, **S J Cronin**, I E Smith, Y Sohn, K Nemeth

0800h **V21C-2000 POSTER** Geochemical Trends are a Window on the Processes that Generate Volcano Fields: **I E Smith**, L McGee, M Brenna

0800h **V21C-2001 POSTER** Small Scale Heterogeneity in the Mantle Beneath the Southern Cascades: Isotope and Trace-Element Geochemistry of Primitive Basalts in the Poison Lake Chain: **J M Wenner**, R Teasdale

0800h **V21C-2002 POSTER** Melt Inclusions from Volcán Llaima (38.7°S, Andean Southern Volcanic Zone, Chile): Insights into Shallow Magma Storage and Crystallization: **C Bouvet de Maisonneuve**, M A Dungan, O Bachmann, A Burgisser

0800h **V21C-2003 POSTER** Characterization of tephra from the northwest rift zone eruption, Newberry Volcano, Oregon: **D McKay**, K V Cashman, P J Wallace

0800h **V21C-2004 POSTER** Effects of shallow subvolcanic magma storage regions on magma evolution and eruptions dynamics of small mafic centers: **K V Cashman**, P J Wallace, D Mckay, D M Ruscitto

0800h **V21C-2005 POSTER** Slug pressurization in Strombolian eruptions: analytical and experimental investigation of the transition from passive to explosive degassing: **E Del Bello**, J Taddeucci, E W Llewellyn

0800h **V21C-2006 POSTER** Open system degassing, bubble rise and flow dynamics within volcanic conduits- an experimental approach: **L Pioli**, B J Azzopardi, C Bonadonna, E Marchetti, M Ripepe

0800h **V21C-2007 POSTER** Eruption dynamics and vesiculation within Hawaiian fountains: The 1959 Kilauea Iki eruption: **W K Stovall**, B F Houghton, H M Gonnermann, S A Fagents, D Swanson

0800h **V21C-2008 POSTER** Hawaiian Fountain Evolution from Fissure to Point Source: The Opening Fissure from the Mauna Ulu 1969-1974 Eruption, Kilauea, Hawaii: **C E Parcheta**, B F Houghton, D Swanson

0800h **V21C-2009 POSTER** Morphological characteristics of glassy pyroclasts from the AD 1913 rift-edge phreatomagmatic eruption on Ambrym, Vanuatu: K Nemeth, **S J Cronin**

0800h **V21C-2010 POSTER** Developments in analysis of basaltic ash applied to recent activity at Etna and Stromboli volcanoes: **N C Lautze**, J Taddeucci, D Andronico, L Tornetta, C Cannata, B F Houghton, A Cristaldi

0800h **V21C-2011 POSTER** Eruption recurrence rates in terrestrial basaltic fields determined from tephra records in maar sediments: exemplified by the Auckland Volcanic Field: **P A Shane**

0800h **V21C-2012 POSTER** Role of Fractional Crystallization, Magma Recharge, and Magma Mixing in the Differentiation of the Small Hasandag Volcano, Central Anatolia, Turkey: **G K Ustunisik**, A Kilinc

0800h **V21C-2013 POSTER** Into the Cone: A Ground Penetrating Radar Investigation of Near Vent Processes at Cerro Negro Volcano: **L M Courtland**, S E Kruse, C Connor

0800h **V21C-2014 POSTER** Using lower crustal earthquakes below Askja volcano, central Iceland to map melt movements and plumbing geometry: **J Key**, H Soosalu, R S White, S S Jacobsdóttir

V21D Moscone South: Poster Hall Tuesday 0800h
Role of CO₂ in Magma Evolution and Degassing Processes I Posters

Presiding: **N Metrich**, CNRS; **E R Johnson**, University of Tasmania; **H Shinohara**, Geological Survey Japan, AIST

0800h **V21D-2015 POSTER** SOIL GASES AS INDICATORS OF FLUID CIRCULATION AND PERMEABLE ZONES: SANTA MARIA- CERRO QUEMADO-ZUNIL VOLCANIC COMPLEX, GUATEMALA: **D A Lopez**, J A Walker, L Bennati, A Finizola, F Barahona, R Cartagena, V Conde, C R Funes, C Rios

0800h **V21D-2016 POSTER** Emission Flux of Soil Carbon Dioxide in Hydrothermal Area of the Tatun Volcano Group, Northern Taiwan: **H wen**, T F Yang, T F Lan, H Lee

0800h **V21D-2017 POSTER** Dynamics of diffuse CO₂ emission and eruptive cycle at Cerro Negro volcano, Nicaragua: **F Rodriguez**, G Melian, J Barrancos, G Padilla, M Diaz, D Calvo, D Nolasco, N Perez, P A Hernandez Perez, M Ibarra, W Strauch, A Muñoz

0800h **V21D-2018 POSTER** Fumarole/plume and diffuse CO₂ emission from Sierra Negra volcano, Galapagos archipelago: E Padron, P A Hernandez Perez, N Perez, T Theofilos, **G Melian**, J Barrancos, G Virgil, H Sumino, K Notsu

0800h **V21D-2019 POSTER** Temporal evolution of diffuse CO₂ emission from the summit crater of Fogo volcano, Cape Verde: **P A Hernandez Perez**, P Fernandes Tavares, G Melian, J A Fernandes Dias Fonseca, D Calvo, S M Silva Victoria, E Padron, J Rodriguez, F Rodriguez, J Cabral, A da Mota Gomes, G Padilla, Z Bandomo, D Nolasco, I Barros, V Alfama, A A Goncalves, A Querido, A Fernandes, N Perez

0800h **V21D-2020 POSTER** Changes of diffuse CO₂ emission from the summit cone of Teide volcano, Tenerife, Canary Islands: a premonitory volcanic unrest signature?: **G Padilla**, N Perez, P A Hernandez Perez, E Padron, G Melian, D Nolasco, J Barrancos, R Marrero, D Calvo, M Diaz Requejo, F Rodriguez, G Chiodini

0800h **V21D-2021 POSTER** Diffuse and visible emission of CO₂ from Etna volcano, Italy: **G Melian Rodriguez**, P A Hernandez Perez, F Sortino, S Giammanco, J Barrancos, M Lopez, J Maldonado, R Hernandez, N Perez

0800h **V21D-2022 POSTER** Global CO₂ Emission from Volcanic Lakes: **N Perez**, P A Hernandez Perez, G Padilla, G Melian Rodriguez, E Padron, J Barrancos, D Calvo, M Kusukabe, T Mori, D Nolasco

0800h **V21D-2023 POSTER** Dynamics of diffuse CO₂ emission from El Hierro volcanic system, Canary Islands: **J Barrancos**, G Melian, R Marrero, D Calvo, M Diaz Requejo, G Padilla, E Padron, D Nolasco, P A Hernandez Perez, N Perez

0800h **V21D-2024 POSTER** CO₂ DEGASSING SYSTEM OF STROMBOLI VOLCANO INFERRED BY SUMMIT, PERIPHERAL AND HYDROTHERMAL CONTINUOUS MEASUREMENTS: **S Inguaggiato**, D Rouwet, F Vita, S Morici

0800h **V21D-2025 POSTER** Difference in the CO₂/H₂O Ratio of Magmatic Component Included in Fumarolic Gases Sampled at Two Neighboring Akan and Kussharo Volcanic Calderas on Hokkaido Island, Japan: **T Ohba**, N Taira, M Ohwada, N Morikawa, K Kazahaya

0800h **V21D-2026 POSTER** Mammoth Mountain Magmatic Gas Emissions Persist 20 Years after the 1989 Geologic Unrest: **C D Farrar**, W C Evans, D Bergfeld, A G Hunt

0800h **V21D-2027 POSTER** Structural controls on CO₂ degassing at Mt. Etna: **M Burton**, A La Spina, G G Salerno

0800h **V21D-2028 POSTER** Volatiles in Melt Inclusions from Kilauea Volcano, Hawai'i: Implications for Eruption Mechanisms and Source Heterogeneity: **I Sides**, M Edmonds, J MacLennan, D Swanson

0800h **V21D-2029 POSTER** High CO₂ in MORB - a link to explosive submarine eruptions?: **C Helo**, M Longpré, N Shimizu, D A Clague, J Stix

0800h **V21D-2030 POSTER** Melt inclusion record of CO₂ and H₂O evolution of magma from Kikai-Akahoya caldera-forming eruption of Satsuma-Iojima volcano, Japan: **G Saito**, Y Morishita, Y Kawanabe

0800h **V21D-2031 POSTER** Magma differentiation and volatile evolution at Fuego Volcano, Guatemala: **K Berlo**, J Stix, K Roggensack

0800h **V21D-2032 POSTER** Magma degassing: new experiments on CO₂, H₂O, S and Cl between basaltic melt and fluid and development of a new thermodynamical model: **P Lesne**, S Kohn, J Blundy, F Witham, H Behrens, R E Botcharnikov

0800h **V21D-2033 POSTER** CO₂-DRIVEN LARGE MAFIC EXPLOSIVE ERUPTIONS: A CASE STUDY FROM THE COLLI ALBANI VOLCANIC DISTRICT (ITALY): **C Freda**, M Gaeta, B Giaccio, F Marra, D M Palladino, P Scarlato, G Sottili

0800h **V21D-2034 POSTER** Oxygen isotope composition of mafic magmas at Vesuvius: **L Dallai**, R Cioni, C Boschi, C D'Oriano

0800h **V21D-2035 POSTER** Volatile Evolution of Magma Associated with the Solchiaro Eruption in the Phlegrean Volcanic District (Italy): **R esposito**, R J Bodnar, B De Vivo, A Lima, L Fedele, N Shimizu, J Hunter

V21 E Moscone South: Poster Hall Tuesday 0800h
Volcano Databases: Preserving the Past and Present for the Future I Posters (*joint with NH*)

Presiding: **F M Schwandner**, Nanyang Technological University; **A Ratdomopurbo**, Nanyang Technological University; **H S Crossweller**, University of Bristol; **L Siebert**, Smithsonian Institution

0800h **V21E-2036 POSTER** Behind A Database: The Characterization Of Explosive Eruptions: **C bonadonna**, A C Volentik, K T Smith, A Costa, C Connor

0800h **V21E-2037 POSTER** The Lava Morphology Database (LAMDA): **R S Peckyno**, S L de Silva, R M Lopes, D C Pieri

0800h **V21E-2038 POSTER** Dome forming eruptions: a global hazards database: **S E Ogburn**, S Loughlin, E S Calder, N Ortiz

0800h **V21E-2039 WITHDRAWN**

0800h **V21E-2040 POSTER** Toward Phase IV, Populating the WOVodat Database: **A Ratdomopurbo**, C G Newhall, F M Schwandner, J Selva, H Ueda

0800h **V21E-2041 POSTER** Analysis of a Global Database on Quaternary Explosive Volcanism: **N Ortiz**, R S Sparks, L Hobbs

0800h **V21E-2042 POSTER** The Colima Volcano Database: an online tool for a global data access: **L Capra**, M Manea, V Manea, G Norini

0800h **V21E-2043 POSTER** Neolithic to Bronze Age Somma-Vesuvius activity improved by distal tephrostratigraphy: **B Caron**, G Siani, R Sulpizio, G Zanchetta, M Paterne, R Santacroce

0800h **V21E-2044 POSTER** The Hazard Notification System (HANS): **S F Snedigar**, D Y Venzky

0800h **V21E-2045 POSTER** Satellite-Based Magmatic Volcano Eruption Database: **A J Krueger**, S A Carn, N A Krotkov

0800h **V21E-2046 POSTER** A global database of volcano edifice morphometry using SRTM DEMs: **P Grosse**, B Van Wyk de Vries, I A Petrinovic, P A Euillades

0800h **V21E-2047 POSTER** Tackling the Data Management Challenge at the IRIS DMC: **B R Weertman**, T K Ahern, R Casey, R B Benson

0800h **V21E-2048 POSTER** NOVAC - Network for Observation of Volcanic and Atmospheric Change: Data archiving and management: T Lehmann, **C Kern**, L Vogel, U Platt, M Johansson, B Galle

0800h **V21E-2049 POSTER** Significant Volcanic Eruptions Database at NOAA's National Geophysical Data Center (NGDC): K J Stroker, **P K Dunbar**

0800h **V21E-2050 POSTER** Exupéry – a mobile fast response system for managing a volcanic crisis: **M K Hort**

V21F Moscone West: 2018 Tuesday 0800h
Mantle Potential Temperature: A Very Hot Topic I (*joint with MR, NG, DI, T*)

Presiding: **M J Krawczynski**, MIT; **J A Barr**, Massachusetts Institute of Technology; **C B Till**, MIT

0800h **V21F-01** A Consensus on Mantle Potential Temperatures? (*Invited*): **K D Putirka**

0815h **V21F-02** Constraints on mantle temperature from global seismological models and experimental observations (*Invited*): **C A Dalton**, U H Faul

0830h **V21F-03** Mantle temperature: a 2009 perspective: **C H Langmuir**, E Klein

0845h **V21F-04** Geodynamical and petrological modeling constraints of mantle potential temperature at mid-ocean ridges (*Invited*): **P M Gregg**, M D Behn, T L Grove, A M Shaw

0900h **V21F-05** Dry melting and thermal advection in the mantle wedge control the location of volcanic arcs: **P C England**, R F Katz

0915h **V21F-06** Cold Fusion at Hotspots: **J H Natland**

0930h **V21F-07** Potential temperature and the scaling of mantle convection (*Invited*): **J Korenaga**

0945h **V21F-08** Fe-Mn geochemistry as a tracer of CFB sources: **A V Luttinen**

V21G Moscone West: 2020 Tuesday 0800h
Physics and Chemistry of Ignimbrites: Forty Years of Progress? I (*joint with MR*)

Presiding: **R S Sparks**, Bristol University; **C J Wilson**, Victoria University

0800h **V21G-01** Cenozoic Ignimbrites, Source Calderas, Relict Magma Chambers, and Tectonic Settings: Perspectives from Cordilleran North America (*Invited*): **P W Lipman**

0820h **V21G-02** Crystal-rich ignimbrites: Monotonous Intermediates but highly appropriate (*Invited*): **O Bachmann**

0840h **V21G-03** Welding of Pyroclastic Deposits: Questions Arising from Experiments (*Invited*): **K Russell**, S Quane, G Robert, G D Andrews, B M Kennedy

0900h **V21G-04** What are the magma fluxes required to build up magma chambers large enough to feed major ignimbrite eruptions?: **C Annen**

0915h **V21G-05** Causes of supervolcano eruptions: **J Stix**, G Girard, B M Kennedy, J B Hanson, M E Campbell, J Wilcock

0930h **V21G-06** Fall Deposits Associated with Major Ignimbrites and the Question of Total Eruptive Volume: **S Self**, J Wolff, J A Cortes

0945h **V21G-07** Insights from laboratory experiments into the physics of pyroclastic flows: L Girolami, **T H Druitt**, O Roche

V21H Moscone West: 2016 Tuesday 0800h
Volcano Tectonics: New Insights From Earth and Other Planets I (*joint with P, T, EP*)

Presiding: **E P Holohan**, University College Dublin; **E Cañón-Tapia**, CICESE

0800h **V21H-01** The thick and thin of magma in volcano-tectonics at various scales (*Invited*): **B Van Wyk de Vries**, A Delcamp, L Mathieu, E Lebas, V Troll

0815h **V21H-02** A new model for cone sheet emplacement: data from the Isle of Skye (UK) and numerical modeling: **A Tibaldi**, A Bistacchi, F Pasquare, D Rust

0830h **V21H-03** Lithospheric flexure: the key to the structural evolution of large volcanic edifices on the terrestrial planets. (*Invited*): **P J McGovern**

0845h **V21H-04** Structural setting of Mt. Etna revealed by integrating PS and GPS measurements: **A Bonforte**, M Coltelli, A Ferretti, F Guglielmino, C Prati, G Puglisi

0900h **V21H-05** Rift Zone Abandonment and Reconfiguration in Hawaii: Evidence from Mauna Loa's Ninole Rift Zone: **J K Morgan**, J Park, C A Zelt

0915h **V21H-06** Identification of Volcanic Landforms and Processes on Earth and Mars using Geospatial Analysis (*Invited*): **S A Fagents**, **C W Hamilton**

0930h **V21H-07** Magmatic activity on Super-Earths: What do we expect to see? (*Invited*): **E S Kite**, M Manga, E Gaidos

0945h **V21H-08** What is a Volcano? How planetary volcanism has changed our definition: **R M Lopes**, K L Mitchell, D A Williams, G Mitri, T K Gregg

Union

U22A Moscone South: 102 Tuesday 1020h
Lunar Reconnaissance Orbiter/LCROSS: New Insights Into the Moon II

Presiding: **H E Spence**, Boston University; **R R Vondrak**, NASA

1020h **U22A-01** Diviner Lunar Radiometer Experiment: Initial global mapping results (*Invited*): **D A Paige**, B T Greenhagen, A R Vasavada, C Allen, J L Bandfield, N E Bowles, S B Calcutt, E M De Jong, R C Elphic, E J Foote, M C Foote, K L Donaldson Hanna, D J McCleese, R R Ghent, T D Glotch, P O Hayne, P G Lucey, B C Murray, J T Schofield, M A Siegler, K Snook, L A Soderblom, F W Taylor, I R Thomas, M B Wyatt

1035h **U22A-02** LRO Diviner: First Look at Lunar Global Temperatures and Thermophysical Properties: **A R Vasavada**, D A Paige, J L Bandfield, R R Ghent, B T Greenhagen, M A Siegler, K Snook

1050h **U22A-03** Lunar Exploration Neutron Detector for NASA's LRO mission: instrument concept and first data: **I G Mitrofanov**, W V Boynton, G Chin, L G Evans, J Garvin, D Golovin, K Harshman, A Kozyrev, M L Litvak, A Malakhov, T P McClanahan, G M Milikh, M Mokrousov, G Nandikotkur, R Sagdeev, A B Sanin, V Shevchenko, V Shvecov, R D Starr, T Tomlina, V Tretyakov, J Trombka, A Varenikov, A A Vostrukhin

1105h **U22A-04** Regional variations of neutron flux and search of Hydrogen enhanced areas at southern polar region of Moon from LEND/LRO instrument: **M L Litvak**, I Mitrofanov, A Sanin, D Golovin, A Kozyrev, A Malakhov, M Mokrousov, V Tretyakov, A A Vostrukhin, A Varenikov, G M Milikh, R Sagdeev, W V Boynton, K Harshman, J Trombka, T McClanahan, G Chin, R D Starr, L G Evans, V Shvecov, V Shevchenko

1120h **U22A-05** The Lunar Reconnaissance Orbiter Mini RF System (*Invited*): **S Nozette**

1135h **U22A-06** Initial Observations of the Moon by LRO's Lyman Alpha Mapping Project (LAMP) Instrument (*Invited*): **R Gladstone**

1150h **U22A-07** An Overview of the Lunar Crater Observation and Sensing Satellite (LCROSS) post-Impact Results: **A Colaprete**, K Ennico, D H Wooden, J Heldmann, G Bart

1205h **U22A-08** The LCROSS Impact Cratering Experiment: **P H Schultz**, B Hermalyn, C M Ernst, A Colaprete

Atmospheric Sciences

A22A Moscone West: 3004 Tuesday 1020h
High-Latitude Climate Feedbacks II (*joint with C, GC, OS*)

Presiding: **I L Eisenman**, Caltech & UW; **J E Kay**, NCAR; **M Flanner**, University of Michigan

1020h **A22A-01** A strategy to improve projections of Arctic climate change (*Invited*): **A Hall**, J Boe, X Qu, T M Pavelsky, E Fetzer

1035h **A22A-02** Meteorological factors controlling year-to-year variations in the spring onset of snow melt in the Arctic Ocean: **E V Maksimovich**, J J Gascard, T P Vihma

1050h **A22A-03** The effect of snowmelt water on surface atmospheric variability in Siberia: **S Matsumura**, K Yamazaki

1105h **A22A-04** Influence of sea ice cover on high latitude precipitation: Inferences from precipitation isotope measurements and a 2D model: **E S Posmentier**, A Faiia, X Feng, F A Michel

1120h **A22A-05** Intensifying Hydrological Cycle as a Mechanism for Recent Warming in the Antarctic Peninsula: **X Qu**, A Hall, J Boe

1135h **A22A-06** Interannual Variations of Arctic Cloud Types: Relationships with Sea Ice and Comparisons with Satellite Observations: **R Eastman**, S G Warren

1150h **A22A-07** Surface Albedo Forcing: A New Diagnostic Tool for Parsing the Effects of Cloud and Cryosphere in Climate Change: **T P Charlock**, F G Rose, D A Rutan, Z Jin

1205h **A22A-08** The Global Radiative Impact of the Sea-Ice-Albedo Feedback in the Arctic: **S R Hudson**

A22B Moscone West: 3007 Tuesday 1020h
Nighttime Air Chemistry I

Presiding: **W H Brune**, Pennsylvania State University; **J Stutz**

1020h **A22B-01** Another look at the possible role of OH in nighttime air chemistry (*Invited*): **W H Brune**, H D Harder, D E Heard, A Hofzumahaus, G Huey, Y Kanaya, M Martinez, L Mauldin, X Ren, P S Stevens

1035h **A22B-02** Nighttime Chemistry Aloft: In-situ NO₃ and N₂O₅ Measurements from Aircraft and Tall Towers (*Invited*): **S S Brown**, W P Dubé, H Fuchs, A R Ravishankara

1050h **A22B-03** Nighttime Chemistry in the Polluted Boundary Layer (*Invited*): **J Stutz**, K Wong, C Tsai, O Pikel'naya

1105h **A22B-04** Recent studies and new information about nighttime chemistry (*Invited*): **P B Shepson**

1120h **A22B-05** Night time chemistry in the polluted marine boundary layer: **R McLaren**, P Wojtal, D Majonis, J McCourt, J D Halla, J Brook

1135h **A22B-06** Inferred NO₂ Dry Deposition Rate at Nighttime in Arid Climate Conditions: W S Goliff, **T Gonzalez**, W R Stockwell

1150h **A22B-07** Measurements of the sum of NO₃ and N₂O₅ in the urban, nocturnal boundary layer and studies of urban nighttime chemistry: **A K Benton**, J M Langridge, O Dessens, S Ball, R Jones

1205h **A22B-08** N₂O₅ reactivity: From in situ observations to global models: **T H Bertram**, J A Thornton, B Alexander

A22C Moscone West: 3006 Tuesday 1020h
Ocean-Atmosphere-Sea Ice-Snow (OASIS) Interactions in Polar Regions: Results From Recent Field Campaigns I (*joint with C, H, OS*)

Presiding: **P B Shepson**, Purdue University; **H J Beine**, UC Davis

1025h **A22C-01** Reactive Halogens in the Polar Troposphere (*Invited*): **U Platt**

1050h **A22C-02** Mercury in the Arctic spring: a tracer for physical and chemical processes linking the atmosphere to the land and sea (*Invited*): **T A Douglas**, M Sturm, J D Blum, L S Sherman, A Steffen

1115h **A22C-03** Observations of HOBr, BrO, and other halogen species by CIMS in Barrow, AK during OASIS: **J Liao**, L G Huey, D Tanner, H Sihler, U Friess, U Platt, F M Flocke, J J Orlando, P B Shepson, H J Beine

1130h **A22C-04** ClOx During Periods of Ozone Depletion in the Lower Arctic Troposphere at Barrow, Alaska: **C R Thompson**, P J Tackett, A Keil, P B Shepson

1145h **A22C-05** Atmospheric Mercury in an Arctic OASIS (Ocean-Atmosphere-Sea Ice-Snow pack): **A Steffen**, J W Bottenheim, R M Staebler, S Netcheva, T A Douglas, A S Cole, C Scherz, P Lee, J Narayan, J E Moores, R Ebinghaus

1200h **A22C-06** OASIS-CANADA: Results from the OOTI (Out On The Ice) Experiments: **J W Bottenheim**, S Netcheva, R M Staebler, A Steffen

A22D Moscone West: 3002 Tuesday 1020h
Physics and Chemistry of the Upper Troposphere and Lower Stratosphere II

Presiding: **M C Barth**, National Center Atmospheric Research; **L Pan**, National Center for Atmospheric Research

1020h **A22D-01** Short-lived organic trace gases in the UT/LS: Results from recent field campaigns. (*Invited*): **E L Atlas**, L Pan, S Schauffler, K P Bowman, D R Blake, S Meinardi, D Stone, R Lueb, X Zhu, L Pope

1035h **A22D-02** Composition and Trends of Short-Lived Trace Gases in the UT/LS over Europe Observed by the CARIBIC Aircraft: **A K Baker**, C A Brenninkmeijer, D E Oram, D A O'Sullivan, F Slemr, T J Schuck

1050h **A22D-03** Strong enhancement in NO_x mixing ratios from aircraft emissions in flight corridors over the south-central United States: **F M Flocke**, A J Weinheimer, D J Knapp, D D Montzka, W Zheng, L K Emmons, D C Rogers, T L Campos, B A Ridley

1105h **A22D-04** OH and HO₂ in the troposphere over Europe: **E Regelin**, H D Harder, M Martinez, D Kubistin, H Fischer, H Bozem, T Klippel, Z Hosaynali Beygi, J Williams, T Custer, S Wong-Zehnpfennig, M G Lawrence, R Sander, J Lelieveld

1120h **A22D-05** Scavenging of nitrates by frozen precipitation: Impacts on upper tropospheric NO_x and O₃: **J L Neu**, M J Prather

1135h **A22D-06** Modeling Study of Thunderstorm Effects on the Composition and Chemistry of the Upper Troposphere during the Early Stages of the 2006 North America Monsoon: **M C Barth**, J Lee, C S Boxe, J Worden, A Hodzic

1150h **A22D-07** Interannual variability of ozone in the winter lower stratosphere and the relationship to laminar transport and mixing: **M A Olsen**, A R Douglass, M R Schoeberl, J M Rodriguez, Y Yoshida

1205h **A22D-08** Identification of transport pathways and location of mixing in the extratropical tropopause region using CO-O₃ correlations and Lagrangian model simulations: **B Vogel**, L Pan, P Konopka, G Guenther, R Mueller, T L Campos, W Hall, I Pollack, A J Weinheimer, J Wei, E L Atlas, K P Bowman

Biogeosciences

B22A Moscone West: 3016 Tuesday 1020h
Buried Alive: The Dark, Deep Biosphere of Intraterrestrial Life II (*joint with G*)

Presiding: **A Schippers**, Federal Institute for Geosciences and Natural Resources (BGR); **K J Edwards**

1020h **B22A-01** Inside the intraterrestrials: The deep biosphere seen through massively parallel sequencing: **J Biddle**

1035h **B22A-02** Viral infections as controlling factors for the deep biosphere? (*Invited*): **B Engelen**, T Engelhardt, M Sahlberg, H Cypionka

1050h **B22A-03** Carbon and nitrogen assimilation activities of deep subsurface microbes analyzed by NanoSIMS: **Y Morono**, T Terada, F Inagaki

1105h **B22A-04** Fossilized intact polar lipids of photosynthetic organisms in ancient subsurface sediments: **T Bauersachs**, S Schouten, E C Hopmans, J S Sinninghe Damsté

1120h **B22A-05** North Pond: Evidence of upward supply of oxygen to deeply buried sediments from the basaltic basement: **W Ziebis**, T G Ferdelman, J McManus, F Schmidt-Schierhorn, S Stephan, K J Edwards, H W Villinger

1135h **B22A-06** Microbial iron reduction under deep subsurface pressure conditions: **A Picard**, I Daniel, D Testemale, J Hazemann, P Oger

1150h **B22A-07** The Global Distribution of Organic-Fueled Respiration in Subseafloor Sediment: **S L D'Hondt**, R A Pockalny, A J Spivack, R W Murray, H Røy, J Kallmeyer, H N Schrum, B Brunner, B Gribsholt, D Graham

1205h **B22A-08** Abiotic sulfide oxidation via manganese reduction fuels the deep biosphere: **S Bottrell**, M E Böttcher, A Schippers, R Parkes, R Raiswell

B22B Moscone West: 3018 Tuesday 1020h
The Oxygen Side of Sulfate: Isotope Signatures and Applications II (*joint with A, PP, V, OS, GC*)

Presiding: **H Bao**, LSU; **J Farquhar**, UMCP; **B Brunner**

1020h **B22B-01** Utilizing observations and modeling of atmospheric sulfate $\Delta^{17}\text{O}$ to constrain dust aerosol acidification by SO_2 : Implications for dust alkalinity and the sulfur budget (*Invited*): **B Alexander**, D J Allman, H M Amos, T Fairlie, J Dachs, R S Sletten

1035h **B22B-02** Variability in the oxygen isotope composition of sulfate in the modern open ocean (*Invited*): **A V Turchyn**, J K Bishop, D P Schrag

1050h **B22B-03** $^{18}\text{O}/^{16}\text{O}$ -ratios of dissolved sulfate: Insights from porewater modeling (*Invited*): **U G Wortmann**, B M Chernyavsky, S M Bernasconi, B Brunner, M E Böttcher, P K Swart

1105h **B22B-04** Sulfur cycling in contaminated aquifers: What can we learn from oxygen isotopes in sulfate? (*Invited*): **K Knoeller**, C Vogt, N Hoth

1120h **B22B-05** Oxygen and sulfur isotope fractionation during methane dependent sulfate reduction in high pressure continuous incubation studies: **C Deusner**, B Brunner, T Holler, F Widdel, T G Ferdelman

1135h **B22B-06** Sulfite exchange dominates oxygen isotope compositions of sulfate produced from abiotic pyrite oxidation: **I E Kohl**, H Bao

1150h **B22B-07** The oxygen side of sulfate constrains global biospheric productivity in the mid-Phanerozoic: **B A Wing**

1205h **B22B-08** Theoretical determination of O and S isotope fractionations between gypsum and aqueous sulfate: **Y Liu**, H Bao

Cryosphere

C22A Moscone West: 3014 Tuesday 1020h
Remote Sensing and Modeling of Snow and Glacial Processes I (*joint with H, G*)

Presiding: **H Marshall**, Boise State University; **N P Molotch**, University of Colorado at Boulder

1020h **C22A-01** Examining the scale dependence of the statistical relationship between snow depth and microwave radiance (*Invited*): **M T Durand**, E J Kim, S A Margulis, N P Molotch

1035h **C22A-02** Assessment of the accuracy of current snow cover mapping algorithms for MODIS (*Invited*): **T H Painter**, K E Rittger, J Dozier

1050h **C22A-03** How much snow is there on the mountain, where and when?: **M Lehning**, T Grünwald, R Dadić, R Mott, M Schirmer, V Wirz

1105h **C22A-04** A Theoretically Based Parameterization of Snow and Ice Broadband Albedo: **A S Gardner**, M J Sharp

1120h **C22A-05** The 'dark' side of the Greenland Ice Sheet: 2009 updated long term melting trends, remotely controlled boats on supraglacial lakes and cryokonite holes. (*Invited*): **M Tedesco**

1135h **C22A-06** The ICESat-2 Mission: Laser altimetry of ice, clouds and land elevation: **T Neumann**, T Markus, W Abdalati

1150h **C22A-07** A COMPARISON OF SIMULATED MODEL RUNOFF TO OBSERVED SUPRAGLACIAL LAKE WATER VOLUMES IN THE REGION OF JAKOBHAVN, GREENLAND: **J Adler**, S H Mernild, K Steffen

1205h **C22A-08** Hydrological response of climate change in a glaciated catchment in the Himalayas: **W W Immerzeel**, M F Bierkens, L P Van Beek

Earth and Planetary Surface Processes

EP22A Moscone West: 2008 Tuesday 1020h
Turbulence and Coherent Structure in Geophysical Flows at Earth's Surface: Measuring, Modeling, and Prediction I (*joint with B, H, H, OS, H, H*)

Presiding: **J G Venditti**, Simon Fraser University; **J Best**, University of Illinois; **R J Hardy**, Durham University

1020h **EP22A-01** Coherent Motions of the Turbulent Boundary Layer (*Invited*): **R J Adrian**

1035h **EP22A-02** The Effect of Mountain Topography on Local Atmospheric Flows (*Invited*): **M B Parlange**, C W Higgins, M Diebold, M Lehning

1050h **EP22A-03** EXTRACTING COHERENT STRUCTURES FROM TURBULENCE TIME SERIES USING POINTWISE HÖLDER REGULARITY: AN APPLICATION TO FLOW OVER A DUNE: **C J Keylock**, J G Venditti

1105h **EP22A-04** Hydro-morphodynamics of two large eddies and associated sandbars along the Colorado River during high flow: **S A Wright**, M A Kaplinski

1120h **EP22A-05** Turbulence structures over mildly sloped pool riffle sequences (*Invited*): **T Stoesser**

1135h **EP22A-06** Spatial Coherence of Turbulent Flows over Water-worked Gravel beds: **J R Cooper**, S J Tait

1150h **EP22A-07** Effects of near-bed turbulence and micro-topography on macroinvertebrate movements across contrasting gravel-bed surfaces (*Invited*): **T K Buffin-Belanger**, S P Rice, I Reid, J Lancaster

1205h **EP22A-08** Turbulence modulation in turbidity currents as a response to slope breaks and its influence on deposition patterns: **M I Cantero**, S Balachandar, A Cantelli, C Pirmez, G Parker

Geodesy

G22A Moscone West: 3022 Tuesday 1020h
Plate Motion and Plate Boundaries I (*joint with GP, T, NH, S*)

Presiding: **R M Fernandes**, UBI, CGUL, IDL; **D Argus**, Jet Propulsion Laboratory; **J T Freymueller**, University of Alaska Fairbanks

1020h **G22A-01** Seafloor horizontal positioning from a continuously operating buoy-based GPS-acoustic array:

C D Chadwell, K M Brown, M D Tryon, U Send

1035h **G22A-02** The Impact of Spatio-Temporal Errors and Network Distribution on the Estimation of Plate Motion and its Uncertainty (*Invited*): **S D Williams**

1050h **G22A-03** Fast analysis of GPS time-series with gaps:

M S Bos, R M Fernandes, S D Williams, M L Bastos

1105h **G22A-04** Strain Accumulation Across the Messina Straits and Kinematics of Sicily and Calabria From GPS Data and Dislocation Modeling: **E Serpelloni**, R Burgmann, M Anzidei, P Baldi, B Mastrolembo

1120h **G22A-05** Crustal motion of the Calabrian Arc from the CALARCO GPS deployment: **N D'Agostino**, A Gervasi, I Guerra, M Nedimovic, L Seeber, M S Steckler

1135h **G22A-06** Exploratory models of long-term crustal flow and resulting seismicity across the Alpine-Aegean orogen: **T M Howe**, P Bird

1150h **G22A-07** Very long time series of 14 years for the studies on Indian Plate Kinematics with GPS/GNSS data: **M EC**, R N Narayana Babu

Global Environmental Change

GC22A Moscone West: 3001 Tuesday 1020h
Thirty Years of Progress: Advancements in Climate Change Projections Since the 1979 Charney Report (*joint with A, OS, H, NH, PA, C, B*)

Presiding: **A J Busalacchi**, ESSIC U. Maryland; **R Pierrehumbert**, The University of Chicago

1025h **GC22A-01** A Personal Perspective on the Public Policy Implications of the Charney Report: **R Pomerance**

1040h **GC22A-02** Carbon Climate Feedbacks and Climate Sensitivity (*Invited*): **I Fung**

1055h **GC22A-03** Will substantial mitigation permit future climate change to reach a 2°C stabilization goal?: **W M Washington**, H Teng

1110h **GC22A-04** An observationally based energy balance for the Earth since 1950: **D M Murphy**, S Solomon, R W Portmann, K H Rosenlof, P Forster, T Wong

1125h **GC22A-05** Future Projections of ENSO and Drought (*Invited*): **M A Cane**

1140h **GC22A-06** Is Global Warming Accelerating?: **J Shukla**, T M DelSole, M K Tippett

1155h **GC22A-07** The Charney Report – Creation and Consequences: **J S Perry**

1200h **GC22A-08** An Oceanographic Perspective on the Charney Report: **C I Wunsch**

1207h **GC22A-09** Climate Sensitivity, a Historical Survey: **R E Dickinson**

Geomagnetism and Paleomagnetism

GP22A Moscone West: 2002 Tuesday 1020h
Tuning the Geologic Timescale I (*joint with PP*)

Presiding: **G Acton**, UC Davis; **J W Geissman**, Univ New Mexico

1020h **GP22A-01** GTSnext: towards a next generation of the geological time scale over the last 100 millions years. (*Invited*):

K Kuiper, D Condon, F Hilgen, J Laskar, K Mezger, H Pälike, X Quidelleur, U Schaltegger, M Sprovieri, M Storey, J R Wijbrans

1035h **GP22A-02** Mesozoic cyclostratigraphy, the 405-kyr orbital eccentricity metronome, and the Astronomical Time Scale (*Invited*):

L Hinnov, J G Ogg

1050h **GP22A-03** The Integration of Paleomagnetic, Litho-, and Bio- Stratigraphies (*Invited*): **T C Moore**

1105h **GP22A-04** Magnetostratigraphic and Cyclostratigraphic Records From Eocene-Miocene Sediments Cored in the Paleoequatorial Pacific: Initial Results From IODP Expedition 320: **G Acton**, C Ohneiser, Y Yamamoto, J E Channell, H F Evans, C Richter, T Yamazaki

1120h **GP22A-05** Paleomagnetism of Eocene Tuffs from Laramide Foreland Basins: Implications for the Geomagnetic Polarity Time Scale: **K Tsukui**, W C Clyde

1135h **GP22A-06** High-resolution Rock Magnetic Cyclostratigraphy in an Eocene Flysch, Spanish Pyrenees: **K P Kodama**, D J Anastasio, L Hinnov

1150h **GP22A-07** Chron E23r, paleosecular variation, CAMP volcanism and the end-Triassic extinction event (*Invited*): **D V Kent**, H Wang, P E Olsen

1205h **GP22A-08** THE COLORADO PLATEAU CORING PROJECT: THE TIMESCALE AND TEMPO OF BIOTIC CHANGE OF THE EARLY MESOZOIC: **P E Olsen**, D V Kent, R Mundil, R Irmis, J W Geissman, J Martz, W Parker

Hydrology

H22A Moscone South: 104 Tuesday 1020h
Langbein Lecture

Presiding: **J L Wilson**, New Mexico Tech

1025h **H22A-01** Water, Weather and Climate in Our Future: What Can We Know? (*Invited*): **J C Schaake**

Earth and Space Science Informatics

IN22A Moscone South: 103 Tuesday 1020h
Geovisualization With Virtual Globes II (*joint with A, B, C, ED, OS, H, GC, G, P, NH, EP, V, S, PA*)

Presiding: **M Weiss-Malik**, Google; **J Dehn**, Geophysical Institute

1020h **IN22A-01** Open Access to Multi-Domain Collaborative Analysis of Geospatial Data Through the Internet: **A Turner**

1050h **IN22A-02** Virtual Specimens: **D G De Paor**

1105h **IN22A-03** GeoSearch: a new virtual globe application for the submission, storage, and sharing of point-based ecological data: **J A Cardille**, R Gonzales, L Parrott, J Bai

1120h **IN22A-04** Tours in Virtual Globes: **R Treves**

1135h **IN22A-05** GIScience Operations with Virtual Globes: **S T Shipley**, S J Cantrell, A Peterlin

1150h **IN22A-06** JMARS - A Planetary GIS: **P R Christensen**, **E Engle**, S Anwar, S Dickenshied, D Noss, N Gorelick, M Weiss-Malik

1205h **IN22A-07** A Guide to the Neogeography of Alaska:
J E Bailey, K Kennedy

Nonlinear Geophysics

NG22A Moscone South: 309 Tuesday 1020h
Active Monitoring and Earthquake Statistics (*joint with S*)

Presiding: **M R Yoder**, University of California Davis; **M S Zhdanov**, University of Utah

1020h **NG22A-01** Are extreme events (statistically) special? (*Invited*):
I G Main, M Naylor, J Greenhough, S Touati, A F Bell, J McCloskey

1035h **NG22A-02** Statistics of Seismic Extremes and Associated Sequences (*Invited*): **V G Kossobokov**

1050h **NG22A-03** Modeling seismic catalogs by cascade models: Do we need long-term correlations? (*Invited*): **A Bunde**, S Lennartz, D L Turcotte

1105h **NG22A-04** Ten years later: The PI index and earthquake forecasting (*Invited*): **K F Tiampo**, J B Rundle, J R Holliday, W Klein

1120h **NG22A-05** Feasibility study of surveying an offshore gas reservoir by using low-frequency electromagnetic sounding: example of Shtokman deposit at Barents Sea (*Invited*): **E Velikhov**, M S Zhdanov

1135h **NG22A-06** Crosswell CASSM(Continuous Active-Source Seismic Monitoring): Recent Developments (*Invited*): **T M Daley**, F Niu, J B Ajo Franklin, R Solbau, P G Silver

1150h **NG22A-07** Active Monitoring using Offshore Cabled Observatory for Passive Monitoring (*Invited*): **H Mikada**

1205h **NG22A-08** Fluid Wave Effects for Monitoring of Fractured Rock: **V A Korneev**

Near Surface Geophysics

NS22A Moscone West: 3005 Tuesday 1020h
Urban Geophysics II (*joint with S, GP, H*)

Presiding: **C M Krawczyk**, LIAG; **S K Verma**, National Geophysical Research Institute

1020h **NS22A-01** More noise, please: How cultural overprinting in the urban environment can be exploited for improved subsurface imaging (*Invited*): **C J Weiss**

1035h **NS22A-02** Seismic Microzonation of Urban areas in India – A case study from Jabalpur, Central India (*Invited*): **N P Rao**

1050h **NS22A-03** ERT studies on tailings ponds of the Sierra Minera Cartagena-La Union, SE Spain (*Invited*): **P Martinez-Pagan**, A Faz-Cano, M R Rosales-Aranda

1105h **NS22A-04** Comparative efficiency of various electrical and electromagnetic methods in mapping shallow 3-D conductors encountered in urban geophysical problems: **S K Verma**, A Manglik, N Krishna Murthy, V Ananda Rao, K M Bhatt, S Chandra, B Tezkan, T Harinarayana, C Scholl, P K Patro, S Dutta

1119h **NS22A-05** Integrated Very Low Frequency EM, electrical resistivity and Geological studies on the Lanta Khola landslide, North Sikkim, India: **S P Sharma**, K Anbarasu, S Gupta, A Sengupta

1132h **NS22A-06** Shear-wave velocity model of the basin of Santiago de Chile derived from ambient noise measurements for the determination of seismic site conditions and amplification: **M Pilz**, S Parolai, M Picozzi, R Wang, F Leyton, J A Campos, J Zschau

1144h **NS22A-07** Tailings Pond Characterization And Designing Through Geophysical Surveys In Dipping Sedimentary Formations: **D Muralidharan**, R Andrade, K Anand, R Sathish, K Goud

1156h **NS22A-08** GEOELECTRICAL METHOD IN ESTIMATING AQUIFER PARAMETERS OF GRANITIC HARD ROCK TERRAIN:
S Chandra, S Ahmed

Ocean Sciences

OS22A Moscone West: 3003 Tuesday 1020h
Ocean Sciences General Contributions: Physical Oceanography I

Presiding: **R Robertson**, UNSW@ADFA; **R Newton**, Lamont Doherty Earth Observatory

1020h **OS22A-01** Water Mass Analysis In The Canadian Basin: Results from the ODEN-2005 Transect: **R Newton**, P Schlosser, R Mortlock, A Mauldin, A Wong

1035h **OS22A-02** The COASTALT Project: Towards an Operational Use of Satellite Altimetry in the Coastal Zone: S Vignudelli, P Cipollini, C Gommenginger, H M Snaith, E Coelho, J Fernandes, J Gomez-Henri, C Martin-Puig, P L Woodworth, S Dinardo, **J J Benveniste**

1050h **OS22A-03** WITHDRAWN

1105h **OS22A-04** Global Ocean Reanalysis Simulations at Mercator Océan GLORYS1: the Argo years 2002-2008: M drevillon, **L Parent**, N Ferry, E Greiner, B Barnier

1120h **OS22A-05** Of Yo-Yos, the PIG and Tides: **R Robertson**

1135h **OS22A-06** Observations of meridional overturning circulation above and below the ocean surface: **P C Chu**, C Sun, C Fan

1150h **OS22A-07** Climate Variability in the Southern Indian Ocean as Revealed by Self-Organizing Maps: **Y Morioka**, T Tozuka, T Yamagata

1205h **OS22A-08** Can loss of balance from mesoscale eddies adequately power deep ocean mixing?: **P D Williams**, T W Haine, P L Read

Planetary Sciences

P22A Moscone South: 307 Tuesday 1020h
Mars Gullies, Deformation, and Geophysics

Presiding: **B C Hahn**, University of Tennessee, Knoxville; **M Grott**, DLR

1020h **P22A-01** Active Martian S. Hemisphere Dune Gullies: **S Diniega**, S Byrne, C M Dundas, A McEwen

1035h **P22A-02** New and Recent Gully Activity on Mars: **C M Dundas**, A S McEwen, S Diniega, S Byrne

1050h **P22A-03** Deformation of Sedimentary Rocks in Valles Marineris: **J M Metz**, J P Grotzinger, R Milliken, C M Weitz, C H Okubo

1105h **P22A-04** Mechanisms for shrinkage fracturing at Meridiani Planum: **W A Watters**, S W Squyres

1120h **P22A-05** A Simple Physical Model for the Thermal Conductivity of Planetary Regolith: **S E Wood**, J A Moody

1135h **P22A-06** On the Spatial Variability of the Martian Elastic Lithosphere Thickness: Evidence for Mantle Plumes?: **M Grott**, D Breuer

1150h **P22A-07** Regional Crustal Components of Martian Heat Flow from Mars Odyssey Gamma-Ray Spectrometry (GRS): **B C Hahn**, S M McLennan

1205h **P22A-08** Gravity constraints for True Polar Wander on Mars: **I Matsuyama**, M Manga

Paleoceanography and Paleoclimatology

PP22A Moscone West: 2004 Tuesday 1020h High-Resolution Paleoclimate Modeling and Proxy Records I

Presiding: B W Bird, The Ohio State University; K Proemmel, FU Berlin, Institute for Meteorology; S Wagner, FU Berlin; N Stansell, The Ohio State University

1020h **PP22A-01** High-resolution paleoclimate modeling: the mid-Holocene in North America and the northeast Pacific (*Invited*): N S Diffenbaugh, M Ashfaq, J W Williams, B N Shuman, P J Bartlein

1035h **PP22A-02** High-Resolution Simulations of Paleoclimate over North America and Comparisons with Paleoclimatic Data (*Invited*): S W Hostetler, P J Bartlein, R S Thompson, J R Alder, K Izumi, A Schuetz, S L Shafer, P U Clark

1050h **PP22A-03** Regional modelling of Europe during the last Deglaciation (*Invited*): P J Valdes

1105h **PP22A-04** Model simulations and proxy-based reconstructions for the European region in the past millennium (*Invited*): E Zorita

1120h **PP22A-05** Multi-Scale Analysis of Climatic Controls on Stable Isotopes in Proxy Records from Tropical South America (*Invited*): M Vuille, F da Cruz, F Vimeux

1135h **PP22A-06** High-Resolution $\delta^{18}\text{O}$ record of middle-late Holocene hydrologic variability from the central Peruvian Andes (*Invited*): D T Rodbell, M Abbott, B W Bird, N Stansell

1150h **PP22A-07** Holocene climate fluctuations in the tropical Andes : what can we learn from glaciers ? (*Invited*): V Jomelli, M Khodri, V Favier, D Brunstein, M Ledru, P Wagnon, P Blard, J sicart, R Braucher, D Grancher, D L Bourles, P Braconnot

1205h **PP22A-08** Climate forcings of changes in paleoprecipitation patterns in Brazil from oxygen isotope ratios on speleothems: F da Cruz, H Cheng, E S Barreto, X Wang, M Vuille, R Edwards, I Karmann, S J Burns, A Auler

PP22B Moscone West: 2006 Tuesday 1020h Holocene Climate Variability: Changes in the Ocean-Atmosphere System and Their Impacts on Marine and Terrestrial Ecosystems II (*joint with B, OS*)

Presiding: G Marino, Univ. Autònoma de Barcelona; M Sánchez Goñi, Ecole Pratique des Hautes Etudes; P Ziveri, Universitat Autònoma Barcelona

1020h **PP22B-01** A Geochemical Reconstruction of Aleutian Low Variability over the Holocene: Investigating Teleconnections (*Invited*): T S Ivanochko, A B Bush, S E Calvert, R S Ganeshram, T F Pedersen

1035h **PP22B-02** An Intense Ocean-Atmosphere Interaction during the Holocene Optimum: Evidence from Sub-alpine Lake Sediments in Taiwan: S Kandasamy, C A Chen, J Y Lou, S Kao

1050h **PP22B-03** Dynamical Response of the Tropical Pacific Ocean to Solar Forcing During the Holocene: T M Marchitto, J D Ortiz, A van Geen

1105h **PP22B-04** Holocene history of the North American monsoon: Reconciling terrestrial and marine proxies: J A Barron

1120h **PP22B-05** Cooling of the California Current southern dynamic boundary during Northern Hemisphere warmings: J Herguera, P Mortyn, M Martínez-Botí, G Bernal Franco

1135h **PP22B-06** Holocene ITCZ and ENSO-driven climate variability from the Panama isthmus: D H Urrego, R B Aronson, M B Bush

1150h **PP22B-07** CHANGING POSITION OF SOUTHERN OCEAN WESTERLIES DECOUPLES HOLOCENE LAND AND SEA TEMPERATURES: C S Turney, M McGlone, J Wilmshurst, K Pahnke
1205h **PP22B-08** Ultra-high resolution geochemical record of Holocene climate change in East Antarctic sediments: K A Kryc, R B Dunbar, R W Murray, P Manley, S A Brachfeld, C M Moy, D A Mucciarone

SPA - Aeronomy

SA22B Moscone South: 303 Tuesday 1125h Causes and Effects of Ionospheric Density Gradients I

Presiding: C R Martinis, Center for Space Physics; T J Immel, U. Cal. Berkeley

1125h **SA22B-01** GPS, GNSS, and Ionospheric Density Gradients: P M Kintner, B O'Hanlon, T E Humphreys

1140h **SA22B-02** Effects of Ionospheric Gradients and Irregularities on Radio Frequency Systems (*Invited*): K M Groves, S Basu, R G Caton, C S Carrano

1155h **SA22B-03** Estimating Density Gradients and Drivers from 3D Ionospheric Imaging: S Datta-Barua, G S Bust, N Curtis, A Reynolds, G Crowley

1207h **SA22B-04** First Observations of Large-Scale Wave Structure Using the CERTO Beacon on the C/NOFS Satellite and a Longitudinal Chain of Stations in Pacific Region: R T Tsunoda, D M Bubenik, S Thampi, M Yamamoto

SA22A Moscone South: 303 Tuesday 1020h The Upper Atmosphere During the Current Solar Minimum II

Presiding: L P Goncharenko, MIT; L J Paxton

1020h **SA22A-01** Impact of CIR Storms on Thermosphere Density Variability during the Current Solar Minimum: J Lei, J P Thayer, J M Forbes

1033h **SA22A-02** Observations of Record-Low Thermospheric Densities During the Current Solar Minimum (*Invited*): J T Emmert, J Lean, J Picone

1048h **SA22A-03** Observations of the Solar Minimum Thermosphere Above Poker Flat, Alaska, with an All-Sky Imaging Fabry-Perot Spectrometer: M G Conde, C Anderson, C S Andersen

1101h **SA22A-04** Anomalous Behavior of the Thermosphere During the Solar Minimum: S L Bruinsma, J M Forbes

SPA - Solar and Heliospheric Physics

SH22A Moscone South: 301 Tuesday 1020h Energetic Particles in the Heliosphere I

Presiding: G Li, Univ Alabama Huntsville; T Mulligan, The Aerospace Corporation

1020h **SH22A-01** Time Dependent Composition in Large Solar Energetic Particle Events: C M Cohen, A J Tylka, G M Mason, R A Mewaldt, D V Reames

1035h **SH22A-02** Testing the Origin of Hybrid Solar Energetic Particle Events: E R Christian, T T von Rosenvinge, C M Cohen, A C Cummings, R A Leske, G M Mason, R A Mewaldt, E C Stone, M E Wiedenbeck

1050h **SH22A-03** Heavy ions transport in selected SEP events: L Zhao, G Li, G M Mason, R A Mewaldt, M I Desai, M A Dayeh, C M Cohen, R A Leske, D K Haggerty, O P Verkhoglyadova, G P Zank

1105h **SH22A-04** Effects of Interplanetary Transport on Derived Energetic Particle Source Strengths: **E E Chollet**, J Giacalone, R A Mewaldt

1120h **SH22A-05** Comparing Solar Flares With and Without Proportional Acceleration of >20 MeV Protons and Electrons Above Various Energies: **A Y Shih**, R P Lin, B R Dennis

1135h **SH22A-06** Formation of a Broken Power-Law Electron Spectrum in Impulsive Solar Flare Energetic Electron Events: **H Reid**, E Kontar

1150h **SH22A-07** Two-Stage Model of Solar Flare Particle Acceleration: Processes and Scales of Energization in low-beta Reconnection: **D Krauss-Varban**, B T Welsch

1205h **SH22A-08** Interplanetary CME Effects on the Short-Period Variability in the GCR Flux: **T Mulligan**, J B Blake, D A Shaul, J J Quenby

SPA - Magnetospheric Physics

SM22A Moscone South: 305 Tuesday 1020h
System Effects of Ionospheric-Magnetospheric Plasma Redistribution During Storms II (*joint with SA*)

Presiding: J C Foster; M J Wiltberger, NCAR

1020h **SM22A-01** System Effects of Ionospheric-Magnetospheric Plasma Redistribution During Storms (*Invited*): **W Lotko**

1035h **SM22A-02** Ion and Neutral Outflows in the Polar Cap and Auroral Oval (*Invited*): **R W Schunk**

1050h **SM22A-03** Statistical Characterization of Stormtime Ionospheric Redistribution At Mid-Latitudes: **P J Erickson**, J C Foster, M Z Miskin, F Beroz, W Rideout

1102h **SM22A-04** Physical Processes for Driving Ionospheric Outflows in Global Simulations (*Invited*): **T E Moore**, R J Strangeway

1117h **SM22A-05** On the Usefulness and Limitations of Empirical Ion Outflow Scaling Laws: **R J Strangeway**, W Zeng, R E Lopez

1129h **SM22A-06** Transport of Ionospheric Ions to the Plasma Sheet during Geomagnetic Storms (*Invited*): **L M Kistler**

1144h **SM22A-07** Effects of the solar cycle on cusp/cleft O⁺ outflow access to the polar cap and lobes: **J Liao**, L M Kistler, C Mouikis, B Klecker, I S Dandouras

1156h **SM22A-08** Comparing Different Approaches of Modeling Magnetospheric Composition: **A Gloer**, G Toth, M H Fok, T I Gombosi, Y Yu, T Moore

1208h **SM22A-09** Storm Time Production of Ring Current Ions: Energization, Injection, and Trapping of Ionospheric H⁺ versus O⁺: **M D Cash**, R Winglee, E M Harnett

Study of Earth's Deep Interior (DI)

DI22A Moscone West: 2016 Tuesday 1020h
Grand Challenge Computational Problems in Geophysics I (*joint with A, C, OS, S*)

Presiding: L N Moresi, Monash University; J Brown, ETH Zurich; M W Spiegelman, Columbia/LDEO

1020h **DI22A-01** Parallel large-scale adaptive mesh PDE solution and applications to multiscale problems in solid earth geophysics (*Invited*): **O Ghattas**, C Burstedde, G Stadler, L C Wilcox, T Tu, T Issac, M Gurnis, L Alisic, E Tan, S Zhong

1035h **DI22A-02** A Geodynamic Grand Challenge: Time-Reversed Mantle Convection Reconstructions From Tomographic Images of Present-Day Mantle Structure: **P Glisovic**, A M Forte, R Moucha

1050h **DI22A-03** Jacobian-Free Newton-Krylov Methods and Physics-based Preconditioning for Problems in Computational Geophysics (*Invited*): **D A Knoll**, L Chacon, K J Evans

1105h **DI22A-04** Simulating Subsurface Reactive Flows on Ultrascale Computers with PFLOTRAN: **R T Mills**, G E Hammond, P C Lichtner, C Lu, B F Smith, B Philip

1120h **DI22A-05** The Coming Role of GPU in Computational Geodynamics (*Invited*): **D A Yuen**, M G Knepley, G Erlebacher, G B Wright

1135h **DI22A-06** GPU Implementation for High-Resolution 2-D Variable Viscosity Stokes Flow: **M G Knepley**, D A Yuen, D May

1150h **DI22A-07** Efficient preconditioning strategies for finite element discretisations of variable viscosity Stokes flow. (*Invited*): **D May**

1205h **DI22A-08** Simulations of solid-fluid coupling with application to crystal entrainment in vigorous convection: **J Suckale**, L T Elkins-Tanton, J Sethian, J Yu

Mineral and Rock Physics

MR22A Moscone West: 301 I Tuesday 1020h
Ices: From Planetary Interiors to Astrobiology I (*joint with P*)

Presiding: M S Gudipati, Jet Propulsion Laboratory, California Institute of Technology; I Daniel, Universite de Lyon

1020h **MR22A-01** How do the physical properties of ice influence the habitability of outer solar system satellites? (*Invited*): **F Nimmo**

1035h **MR22A-02** Production of pre-biotic molecules from extra-terrestrial ices: **N Goldman**

1050h **MR22A-03** Detection of HCN ice on Triton: **D P Cruikshank**, M J Burgdorf, C M Dalle Ore, T Sekiguchi

1105h **MR22A-04** The Photochemistry of Polycyclic Aromatic Hydrocarbons (PAHs) in Water Ice: **L J Allamandola**, J Bouwman, H Cuppen, M S Gudipati, H Linnartz

1120h **MR22A-05** Electrical properties of saline ices and ice-silicate mixtures: geophysical and astrobiological consequences (*Invited*): **R E Grimm**, D Stillman

1135h **MR22A-06** Interior ice/mineral/water interface dynamics (*Invited*): **A W Rempel**

1150h **MR22A-07** Ice-like H₂O in hemimorphite, Zn₄Si₂O₇(OH)₂H₂O: Cp and entropy behavior of confined H₂O in microporous silicates: **C A Geiger**, E Dachs

1205h **MR22A-08** The Influence of Salts on the Stability of Dense H₂O Ices (*Invited*): **C E Manning**, I Daniel

MR22B Moscone West: 3009 Tuesday 1020h
Physics of Anelasticity and Dissipation in Earth and Planetary Bodies I (*joint with C, G, P, V, DI, S*)

Presiding: N S Bagdassarov, Institute for Geosciences; J C Castillo, JPL/Caltech

1020h **MR22B-01** Some Remarks on the Microscopic Physics of Seismic Wave Attenuation and Tidal Dissipation (*Invited*): **S Karato**

1035h **MR22B-02** Internal Friction and Mechanical Relaxation in Geomaterials (*Invited*): **N S Bagdassarov**, N Wagner

1050h **MR22B-03** Experimentally determined attenuation and modulus in Earth analogue materials over a wide range of frequency: **C McCarthy**, K Fujisawa, Y Takei, T Hiraga

1105h **MR22B-04** Combined Flexural and Torsional Oscillation Methods for Laboratory Study of Viscoelasticity and Poroelasticity: **I Jackson**, J Mu, D R Schmitt

1120h **MR22B-05** Anelasticity maps for acoustic dissipation mechanisms in minerals: **M A Carpenter**

1135h **MR22B-06** Microphysics of Low-Frequency Attenuation: Grain Boundaries, Heterophase Boundaries, Subgrain Boundaries, Spatiotemporal Scaling (*Invited*): **R F Cooper**, M I Sundberg, C McCarthy

1150h **MR22B-07** Preliminary Measurements of the Attenuation Properties of Polycrystalline Water Ice and CO₂ Clathrate Hydrates at the Tidal Frequencies of Europa and Enceladus: **M Choukroun**, J C Castillo, J B Young, R Mielke

1205h **MR22B-08** Frictional Sliding of Ice: A Fundamental Process underlying Tectonic Activity within Icy Satellites (*Invited*): **E M Schulson**

MR22C Moscone West: 2003 Tuesday 1020h
The Core-Mantle Boundary I (*joint with S, DI, T, V*)

Presiding: **R Caracas**, Ecole Normale Supérieure; **A K McNamara**, Arizona State University

1020h **MR22C-01** Metal/Silicate Partitioning of Mo, W and V: Effects of T, P, X and fO₂: **E Hill**, K J Domanik, M J Drake

1035h **MR22C-02** Detection and Absence of Ultra Low Velocity Zones (*Invited*): **S Rost**, E J Garnero, C Thomas, A K McNamara, S Pathirana, W Stefan

1050h **MR22C-03** Diffusion in Post-Perovskite from First Principles: **M W Ammann**, J P Brodholt, D Dobson

1105h **MR22C-04** Weakening of CaIrO₃ during the perovskite-post perovskite transformation. (*Invited*): **D Dobson**, S A Hunt, D Weidner, N Walte, M W Ammann, J P Brodholt

1120h **MR22C-05** The effect of FeSi alloys on the seismology and transport properties of the lowermost mantle and the outer core: M Verstraete, **R Caracas**

1135h **MR22C-06** Thermal Conductivity of the Mantle at the Core-Mantle Boundary: **N de Koker**

1150h **MR22C-07** Stark temperature contrasts in the lowermost mantle (*Invited*): **H Bunge**, B Schuberth, G Steinle-Neumann, J Oeser

1205h **MR22C-08** The Dynamo's Sensitivity to Core-Mantle Thermal Interactions: Investigations of Mars and Earth (*Invited*): **S Stanley**, M T Zuber, L T Elkins-Tanton, E Parmentier

Seismology

S22A Moscone West: 2005 Tuesday 1020h
Innovations and Advances in Earthquake Early Warning Systems Around the World III: Methods, Sensors, and Networks (*joint with NH*)

Presiding: **E S Cochran**, University of California, Riverside; **M Yamada**, Kyoto University

1020h **S22A-01** An Integrated Regional and On-site Early Warning Approach: Off-line Application to the Mw 6.3, 2009 Central Italy (L'Aquila) earthquake: **A Zollo**, O Amoroso, M Lancieri, Y Wu, H Kanamori

1035h **S22A-02** Multiple-Threshold Event Detection and Other Enhancements to the Virtual Seismologist (VS) Earthquake Early Warning Algorithm: M Fischer, **M Caprio**, G B Cua, T H Heaton, J F Clinton, S Wiemer

1050h **S22A-03** Fast Seismic Event Classification Based On Magnitude-Distance Relation Based On Support Vector Machines Using Only One Three Component Station: **L H Ochoa Gutierrez**, J L Morales, C A Vargas-Jimenez, L F Niño

1105h **S22A-04** Real-time Estimation of Fault Rupture Extent for Recent Large Earthquakes: **M Yamada**, J J Mori

1120h **S22A-05** EDIM - An Earthquake Disaster Information System for the Marmara Region, Turkey: **N Köhler**, F Wenzel, M O Erdik, J Zschau, C Milkereit, M Picozzi, J Fischer, J Redlich, F Kühnlenz, B Lichtblau, I Eveslage, I Christ, R Lessing, C Kiehle

1135h **S22A-06** The Quake-Catcher Network: A Community-Led, Strong-Motion Network with Implications for Earthquake Advanced Alert: **E S Cochran**, J F Lawrence, C M Christensen, R S Jakka, A I Chung

1150h **S22A-07** The Self-Organising Seismic Early Warning Information Network: **F Kühnlenz**, I Eveslage, J Fischer, K M Fleming, B Lichtblau, C Milkereit, M Picozzi

1205h **S22A-08** Development of Earthquake Early Warning System in Southern California Using Real Time GPS and Seismic Data: **M B Squibb**, Y Bock, B W Crowell, P Jamason, P Fang, E Yu, R W Clayton, S Kedar, F Webb, Y Bar-Sever, K J Miller

S22B Moscone West: 2007 Tuesday 1020h
Locating and Characterizing Seismic Noise Sources II (*joint with A, OS*)

Presiding: **D E McNamara**, USGS; **K D Koper**, Saint Louis University

1020h **S22B-01** Microseisms and Globally Widespread Changes in Extreme Storm Frequency (*Invited*): **R C Aster**, D E McNamara, P D Bromirski

1035h **S22B-02** Seasonal variations of the secondary microseism sources: **E Stutzmann**, M Schimmel, G Patau, J Gallart, A Maggi

1050h **S22B-03** COMPOSITION AND VARIATION OF NOISE RECORDED AT THE YELLOWKNIFE SEISMIC ARRAY, 1991-2007: **K D Koper**, B de Foy, H Benz

1105h **S22B-04** Extending the North Atlantic Hurricane Record using Seismic Noise: **C W Ebeling**, S A Stein

1120h **S22B-05** Correlation of Microseisms Properties with Global Ocean Wave Effects: **M L Lukac**, P M Davis, R W Clayton, N Graham, D Estrin

1135h **S22B-06** Characterizing the ambient seismic wavefield for upper crustal imaging: energy sources and station deployment protocols in an ocean island setting: **A M Reading**, N Heckscher, L Graham, P Arroucau, N Rawlinson

1150h **S22B-07** Exploring Seismic Noise with the USArray Transportable Array: **R Woodward**, R W Busby, D W Simpson

1205h **S22B-08** Comparison of Ambient Noise From Two Station Designs, Evaluating USArray's Transportable and Flexible Arrays in the Pacific Northwest: M Pfeifer, **M Alvarez**, R Woodward, Z Yang

S22C Moscone West: 3008 Tuesday 1020h
Predictive Power of Coulomb Stress I (*joint with T, NH*)

Presiding: **D D Jackson**, J D Zechar, Lamont-Doherty Earth Observatory; **D Schorlemmer**, USC

1020h **S22C-01** Prospective testing of Coulomb short-term earthquake forecasts: **D D Jackson**, Y Y Kagan, D Schorlemmer, J D Zechar, Q Wang, K Wong

1035h **S22C-02** CoulombExpress: Automated near-realtime forecasts of earthquake-induced stress transfer and expected seismicity rate changes (*Invited*): **S Toda**, B Enescu, R S Stein

1050h **S22C-03** How do Numerical Models of Aftershocks, with 3D Heterogeneous Stress, Rate-State Friction, and Coulomb Stress, Compare to Observed Aftershock Sequences?: **D E Smith**, J H Dieterich

- 1105h **S22C-04** Coulomb stress and time dependent seismic hazard
(*Invited*): **S Steacy**
- 1120h **S22C-05** Sensitivity study of forecasted aftershock seismicity based on Coulomb stress calculation and rate- and state-dependent frictional response (*Invited*): **M Cocco**, S Hainzl, J Woessner, B Enescu, F Catali, A Lombardi
- 1135h **S22C-06** Propagating Uncertainties from Source Model Estimations to Coulomb Stress Changes: C Baumann, **S Jonsson**, J Woessner
- 1150h **S22C-07** Should Coulomb stress change calculations be used to forecast aftershocks and to influence earthquake probability estimates? (*Invited*): **T Parsons**
- 1205h **S22C-08** Testing the Predictive Power of Coulomb Stress on Aftershock Sequences: J Woessner, A Lombardi, **MJ Werner**, W Marzocchi

Tectonophysics

T22A Moscone West: 2011 Tuesday 1020h **Earthquake Geology and Seismotectonics of the 2008 Wenchuan Earthquake III** (*joint with S, NH*)

Presiding: **B Huang**, Inst Earth Sciences, Academia Sinica; **Z Shen**, Peking Univ.

- 1020h **T22A-01** Structural setting of the 2008 M7.9 Wenchuan earthquake and implications for regional earthquake hazards: **J Hubbard**, J H Shaw, N L Dedontney, Y Klinger
- 1035h **T22A-02** Longterm slip rate of the Pengguan Fault, deduced from river terraces along the Jinghe River: **X Xu**, Y Chen, L Chung, G Chen, G Yu, X Tan, X Sun, M Jaiswal, J H Shyu, K Lai
- 1050h **T22A-03** Paleoearthquakes and large earthquakes recurrence interval along Yingxiu-Beichuan fault of the Longmenshan Fault Zone, Sichuan, China: **Y Ran**, X Xu, W Chen, L Chen, S Dong, H Wang
- 1105h **T22A-04** Insight from the co-seismic deformation of the Mw 8.0 2008 Wenchuan Earthquake around the Xiaoyudong area: **C Chang**, G Chen, X Xu, R Yuan
- 1120h **T22A-05** Late Quaternary normal and strike-slip faulting pattern along the eastern margin of the Tibetan Plateau: **Y Zhang**, H Li, J Li
- 1135h **T22A-06** Strong ground motion simulation of the M = 8.0, May 12 2008 Wenchuan earthquake, using various slip models: L W Bjerrum, **M B Sorensen**, K Atakan
- 1150h **T22A-07** Join estimation for rupture processes of the 2008 Wenchuan Earthquake from regional and near source seismic array observations: **B Huang**, J Chen, Q Liu, Y Chen, X Xu
- 1205h **T22A-08** Multi-scale, Finite-Frequency Travel-time Tomography of the Crust and Upper Mantle Structure in the Longmen Shan Range and Sichuan Basin, SW China: **S Hung**, B Guo, Q Liu, J Chen

T22B Moscone West: 2009 Tuesday 1020h **The Many Faces of Slow Slip, Tremor, and Earthquakes IV** (*joint with G, H, MR, NH, V, S, NG*)

Presiding: **J S Gomborg**, US Geological Survey; **W H Schulz**, US Geological Survey

- 1020h **T22B-01** Thermal and Petrologic Environments of ETS: **K Wang**, I Wada, H Jiangheng
- 1035h **T22B-02** Observed scaling of source parameters reproduced in a model of small repeating earthquakes with the slip form of rate and state friction laws: N Lapusta, **T Chen**

- 1050h **T22B-03** What is a characteristic time of nonvolcanic tremor in slow earthquakes?: **S Ide**
- 1105h **T22B-04** Large Contrast Between the Moment Magnitude of Tremor and the Moment Magnitude of Slip in ETS Events: **H Kao**, K Wang, H Dragert, G C Rogers, J Y Kao
- 1120h **T22B-05** Improved Moment Release Estimates of ETS Across Cascadia from Joint Seismic and Geodetic Analyses: **M R Brudzinski**, T I Melbourne
- 1135h **T22B-06** The Slumgullion Natural Laboratory: Landsliding Mechanisms Inferred from Seismic and Geodetic Observations: **W H Schulz**, J W Kean, J S Gomborg, P Bodin, G Wang, J A Coe, P MacQueen, K Foster, K Creager
- 1150h **T22B-07** The Transition from Stable Creep to Stick-slip Instability in Gravity-driven Landslide Motion (*Invited*): **R M Iverson**, D G Schaeffer
- 1205h **T22B-08** Numerical Models of Slow Slip and Dynamic Rupture Including Dilatant Stabilization and Thermal Pressurization: **P Segall**, A M Bradley

Union

U22B Moscone West: 3020 Tuesday 1020h **The 2009 Samoan and Sumatran Earthquakes: Origins, Impacts and Consequences III**

Presiding: **S H Kirby**, U.S. Geological Survey; **F J Tilmann**, University of Cambridge

- 1020h **U22B-01** The 2009 Samoan and Sumatran Earthquakes: A Coincidence with Precedents (*Invited*): **A J Michael**
- 1035h **U22B-02** Imaging the ruptures of the 2009 Samoan and Sumatran earthquakes using broadband network back-projections: Results and limitations: **A R Hutko**, T Lay, K D Koper
- 1050h **U22B-03** Performance of Buildings in the 2009 Western Sumatra Earthquake: **G Deierlein**, T Hart, N Alexander, E Hausler, S Henderson, K Wood, V Cedillos, S Wijanto, C Cabrera, S Rudianto
- 1105h **U22B-04** Planning Matters: Response Operations following the 30 September 2009 Sumatran Earthquake: **L K Comfort**, V Cedillos, H Rahayu
- 1120h **U22B-05** Geological Investigation and analysis in response to Earthquake Induced Landslide in West Sumatra: **D Karnawati**, W Wilopo, S Salahudin, I Sudarno, P Burton
- 1135h **U22B-06** Impacts of the 2009 Sumatran Earthquake and Its Relation to the Great Megathrust Events: **K A Grijalva**, R Burgmann, K E Sieh, P Banerjee, C Vigny, D H Natawidjaja, I Meilano
- 1150h **U22B-07** The September 2009 Padang earthquake and implications for seismic risk in western Sumatra: **J McCloskey**, S S Nalbant, A F Bell
- 1205h **U22B-08** GPS Observations Following the Sept. 30, 2009, Padang Earthquake: **R McCaffrey**, C Subarya, Y Bock

Volcanology, Geochemistry and Petrology

V22A Moscone West: 2020 Tuesday 1020h **Bowen Lecture**

Presiding: **R S Sparks**, Bristol University; **A N Halliday**

- 1020h **V22A-01** Calculated metamorphic phase equilibria. Applications and strategies for equilibria in high pressure rocks. (*Invited*): **T Holland**, R Powell

1050h **V22A-02** Activity-composition relationships in the forward modelling of metamorphic phase equilibria (*Invited*): **R Powell**, T Holland

V22B Moscone West: 2020 Tuesday 1120h
Geochemical Investigations of Salt-Brine Systems at the Waste Isolation Pilot Plant (WIPP) and Other Geologic Repositories I

Presiding: **L H Brush**, Sandia National Laboratories; **G T Roselle**, Sandia National Laboratories

1120h **V22B-01** Modelling of the reactive transport for rock salt-brine in geological repository systems based on improved thermodynamic database (*Invited*): **W Müller**, H Alkan, M Xie, H Moog, E L Sonnenthal

1135h **V22B-02** Biogeochemical Investigations to Evaluate the Performance of the Waste Isolation Pilot Plant (WIPP) (*Invited*): **J B Gillow**

1150h **V22B-03** Actinide Speciation and Solubility in a Salt Repository (*Invited*): **D Reed**, M Borkowski, M Richmann, J Lucchini, H Khaing, J Swanson

1205h **V22B-04** Predictions of Actinide Solubilities under Near-Field Conditions Expected in the WIPP: **L H Brush**, Y Xiong

Tuesday P.M.

Union

U23A Moscone South: Poster Hall Tuesday 1340h
An Earthquake in an Ancient City: The April 2009 L'Aquila (Central Italy) Seismic Sequence IV Posters (*joint with S, G, T, NH*)

Presiding: **L Chiaraluce**, Istituto Nazionale di Geofisica e Vulcanologia

1340h **U23A-0015 POSTER** FEM inversion of DInSAR data of the 2009 L'Aquila Earthquake (Italy): **E Trasatti**, C Kyriakopoulos, S Atzori, M Chini, S Salvi

1340h **U23A-0016 POSTER** 3D Finite Element Modeling of the 2009 L'Aquila Earthquake Deformation Field: M Volpe, **E Casarotti**, A Piersanti

1340h **U23A-0017 POSTER** The main asperity of the 2009 L'Aquila earthquake as seen by teleseismic Receiver Function analysis: **I Bianchi**, C Chiarabba, N Piana Agostinetti

1340h **U23A-0018 POSTER** RUPTURE PROPAGATION AND DAMAGE DISTRIBUTION FOR THE Mw 6.3 APRIL 6, 2009 L'AQUILA EARTHQUAKE: **S D'Amico**, K D Koper, R B Herrmann, A Akinci, L Malagnini

1340h **U23A-0019 POSTER** Slip distribution inversion by trans-dimensional Monte Carlo sampling: application to the 2009 L'Aquila Earthquake (Central Italy): **N Piana Agostinetti**, E Trasatti, A Malinverno

1340h **U23A-0020 POSTER** Teleseismic and geodetic joint inversion for the main event of the Abruzzo (central Italy) 6th of April 2009, Mw 6.3 earthquake: S Salvi, **A Antonioli**, S Atzori

1340h **U23A-0021 POSTER** The April 2009 Central Italy (L'Aquila) event as seen by a 250 km distant accelerometer array: **N Maercklin**, A Zollo, A Orefice, G Festa, A Emolo, R De Matteis, B Delouis, A Bobbio

1340h **U23A-0022 POSTER** Strong Ground Motion Characteristics from the 6 April 2009 L'Aquila earthquake, Italy: **A Akinci**, L Malagnini, F Sabetta

1340h **U23A-0023 POSTER** Post-seismic slip on the 6th April 2009 L'Aquila earthquake surface rupture, measured using a terrestrial laser scanner (tripod-mounted lidar): **K J McCaffrey**, M Wilkinson, G Roberts, P A Cowie, R Phillips, R J Walters, S Barba, L La Rocca, E Vittori, A Blumetti, L Guerrieri, F Guzzetti, G Lollino, S Porfido, E Esposito, L Piccardi, P Campedel, S Cocco, G Sileo, A M Michetti

1340h **U23A-0024 POSTER** Coseismic ground deformations related to the 2009 L'Aquila seismic sequence (Italy): **P Montone**, E Working Group

1340h **U23A-0025 POSTER** Macroseismic survey of the April 6, 2009 L'Aquila earthquake (central Italy): R Camassi, R Azzaro, F Bernardini, **S D'Amico**, E Ercolani, A Rossi, A Tertulliani, M Vecchi, P Galli

1340h **U23A-0026 POSTER** Scaling of Source Spectra of the April 2009 L'Aquila, Italy Earthquakes: **G Calderoni**, S K Singh, A Rovelli

1340h **U23A-0027 POSTER** Appraisal of the hypocentral location of the L'Aquila main shock: **A Michelini**, L Faenza, A Lomax, M Cocco

1340h **U23A-0028 POSTER** Fast Determination of Moment Tensors and Rupture History: Application to the April 6th 2009, L'Aquila Earthquake: **L Scognamiglio**, E Tinti, A Michelini, D S Dreger, A Cirella, M Cocco, L Faenza, S Mazza

1340h **U23A-0029 POSTER** Systematic Determination of Moment Tensor of the April 6, 2009 L'Aquila Earthquake Sequence: **R B Herrmann**, L Malagnini

1340h **U23A-0030 POSTER** Seismic moment tensors of the April 2009, L'Aquila (Central Italy), earthquake sequence: **S Pondrelli**, S Salimbeni, A Morelli, G Ekstrom, M Olivieri, E Boschi

U23B Moscone South: Poster Hall Tuesday 1340h
An Earthquake in an Ancient City: The April 2009 L'Aquila (Central Italy) Seismic Sequence V Posters (*joint with S, G, T, NH*)

Presiding: **S Atzori**, INGV

1340h **U23B-0031 POSTER** Geochemical variation of groundwater in the Abruzzi region: earthquakes related signals?: **C Cardellini**, G Chiadini, S Caliro, F Frondini, R Avino, C Minopoli, N Morgantini

1340h **U23B-0032 POSTER** Search for precursory deformation anomalies preceding the 2009/04/06 L'Aquila earthquake: **L Crescentini**, A Amoroso, V Botta

1340h **U23B-0033 POSTER** The new emergency structure of the Istituto Nazionale di Geofisica e Vulcanologia during the L'Aquila 2009 seismic sequence: the contribution of the COES (Seismological Emergency Operation Center - Centro Operativo Emergenza Sismica): **M Moretti**, A Govoni, C Nostro, F La Longa, M Crescimbene, M Pignone, G Selvaggi, C Working Group

1340h **U23B-0034 POSTER** Emergency seismic and CGPS networks: a first employment for the L'Aquila Mw 6.3 earthquake: **L Abruzzese**, A Avallone, G Cecere, M Cattaneo, V Cardinale, A Castagnozzi, R Cogliano, F Criscuoli, N D'Agostino, C D'Ambrosio, G De Luca, E D'Anastasio, L Falco, V Flammia, F Migliari, F Minichiello, A Memmolo, G Monachesi, R Moschillo, M Pignone, S Pucillo, G Selvaggi, L Zarrilli, A Delladio, A Govoni, D Franceschi, M De Martin, M Moretti

1340h **U23B-0035 POSTER** First breath of the French seismic crisis committee with the 2009 L'Aquila earthquake: **C Voisin**, B Delouis, M M Vergnolle, Y Klinger, L Chiaraluce, L Margheriti, A Mariscal, C Pèquégat, A Schlagenhauf, P Traversa

1340h **U23B-0036 POSTER** Shakemaps of the L'Aquila main shock: **L Faenza**, V Lauciani, A Michelini

1340h **U23B-0037 POSTER** From the rupture to the buildings: reconciling engineering evidences of the April 6 2009 L'Aquila earthquake (Mw 6.3): V Convertito, **I Iervolino**, D Calcaterra, F De Luca Tupputi, A Santo, G Di Crescenzo, G Festa, A Zollo, F Silvestri, A d'Onofrio, A Simonelli, G Manfredi, G Verderame, P Ricci, V James, A Penna, S Sica, P Monaco, G Totani

1340h **U23B-0038 POSTER** Site effect investigation in the Aterno valley using earthquake data after the Mw 6.3 April 6 L'Aquila earthquake: **P Bordonì**, F Cara, M Pilz, D Di Giacomo, G Ameri, P Augliera, R Azzara, F Bergamaschi, G Cultrera, E D'Alema, G Di Giulio, M Gallipoli, P Harabaglia, L Luzi, S Marzorati, M Massa, G Milana, M Mucciarelli, F Pacor, S Parolai, M Picozzi, R Puglia, M Sobiesiak

1340h **U23B-0039 WITHDRAWN**

1340h **U23B-0040 POSTER** Past earthquake history and seismic hazard in Fucino region, Central Italy: **A Schlagenhauf**, I Manighetti, L C Benedetti, Y Gaudemer, K Pou

1340h **U23B-0041 POSTER** Performance evaluation of an automatic system for earthquake monitoring in Italy: **S Mazza**, A Bono, V Lauciani, F Mele, M Olivieri, S Pintore, M Quintiliani, L Scognamiglio

1340h **U23B-0042 POSTER** Spectral-Element Simulations of Seismic Waves Generated by the 2009 L'Aquila Earthquake: **F Magnoni**, E Casarotti, A Michelini, A Piersanti, D Komatitsch, J Tromp

1340h **U23B-0043 POSTER** Stress evolution during the April 2009 L'Aquila Seismic sequence (central Italy): **A Antonioli**, S Atzori, C Chiarabba, L Chiaraluce, M Cocco

1340h **U23B-0044 POSTER** High rate GPS data registered during the L'Aquila 2009 earthquake: **R Devoti**, A Avallone, F Cannavo', A Cavaliere, P DeMartino, R Giuliani, M Marzario, M Mattia, M Mattone, E Serpelloni

1340h **U23B-0045 POSTER** Automatic Detection, and P- and S-wave Picking Algorithm: an application to the 2009 L'Aquila (Central Italy) earthquake sequence: **F Aldersons**, L Chiaraluce, R Di Stefano, D Piccinini, L Valoroso

U23C Moscone South: Poster Hall Tuesday 1340h **An Earthquake in an Ancient City: The April 2009 L'Aquila (Central Italy) Seismic Sequence VI Posters**

Presiding: V Lapenna, CNR-IMAA

1340h **U23C-0046 POSTER** Precursory Foreshock Signals before the Abruzzo, Italy, Mainshock (Mw 6.3) of 6 April 2009: **G A Papadopoulos**, G Minadakis

1340h **U23C-0047 POSTER** Geological effects of the 2009 L'Aquila earthquake detected by COSMO-SkyMed high resolution interferometry: **M Chini**, M Moro, M Saroli, S Stramondo, C Brunori, S Salvi

1340h **U23C-0048 POSTER** INTEGRATION OF SHORT-TERM CO-SEISMIC DEFORMATION (InSAR) IN THE GEOMORPHIC DEVELOPMENT OF AN ACTIVELY UPLIFTING FOOTWALL, L'AQUILA EARTHQUAKE (06 APRIL, 2009), ITALY: **C Berti**, F J Pazzaglia, J M Ramage, E Miccadei, T Piacentini

1340h **U23C-0049 POSTER** 2D ERT for investigating geological setting of the Lago Sinizzo edges (L'Aquila, Italy): **A Perrone**, A Giocoli, G Calamita, C De Bari, R Luongo

1340h **U23C-0050 POSTER** Ground Penetrating Radar and Microwave Tomography for high resolution post-earthquake damage assessment of a public building in L'Aquila City (Abruzzo Region, Italy): **M Bavusi**, A Loperte, V Lapenna, F Soldovieri, C Moroni

1340h **U23C-0051 POSTER** Mid-latitude Electromagnetic and Ionospheric Phenomena Accompanying and Preceding of Abruzzo Earthquakes on April 2009: **B G Gavrilov**

1340h **U23C-0052 POSTER** THE APRIL 6, 2009 EARTHQUAKE AT L'AQUILA: A PRELIMINARY SEISMO-MAGNETIC ANALYSIS OF MULTIPOINT GROUND-BASED MAGNETIC FIELD MEASUREMENTS: **K Schwingenschuh**, U Villante, M De Lauretis, P Francia, A Piancatelli, E Pietropaolo, A Meloni, P Palangio, G Prattes, M Boudjada, W Magnes, H Eichelberger, T Zhang, P Nenovski, A Rozhnoi

1340h **U23C-0053 POSTER** Deep electromagnetic investigations after April 6, 2009 earthquake to characterize the L'Aquila Basin: M Balasco, A Giocoli, E Gueguen, V Lapenna, A Perrone, **S Piscitelli**, E Rizzo, G Romano, A Siniscalchi, M Votta

1340h **U23C-0054 POSTER** Fluid anomalies detected in concomitance with the April 6, 2009 Central Italy earthquake: **G Martinelli**, J Heinicke, F Italiano, V Tramutoli

1340h **U23C-0055 POSTER** The Study of Abnormal Variance of Temperature in Abruzzo, Italy M6.3 Earthquake on April 6, 2009: **W Ma**, X Zhang, W Ma, L Wu

1340h **U23C-0056 POSTER** Relation between Radon Concentration and Jet Stream at Abruzzo M6.3 Earthquake of April 6, 2009 in Italy: **H Wu**

U23D Moscone South: Poster Hall Tuesday 1340h **Mantle Heterogeneity: Bridging the Gap Between Observations and Dynamics I Posters**

Presiding: R Caracas, Ecole Normale Supérieure; **T W Becker**, USC

1340h **U23D-0057 POSTER** Adaptively parameterized 3D models of the European upper mantle from surface wave tomography: **J Schäfer**, L Boschi, E H Kissling

1340h **U23D-0058 POSTER** Adaptive Gridding Tomography: refining P-wave velocity models for mantle structure beneath Africa: A Nyblade, **S E Hansen**, M H Benoit, S A Burdick, R D van der Hilst

1340h **U23D-0059 POSTER** Towards a Global Multiple-frequency Tomography of the Earth's Mantle: **C Zanolli**, E Debayle, M Sambridge

1340h **U23D-0060 POSTER** Joint inversion of long period waveform and surface wave dispersion data for crust and upper mantle structure using the Spectral Element Method: **V Lekic**, B A Romanowicz

1340h **U23D-0061 POSTER** Multi-scale seismic heterogeneity, complex subduction, and small-scale convection beneath the western U.S.: **B Schmandt**, E Humphreys, A Levander

1340h **U23D-0062 POSTER** Heterogeneity spectrum inversion from a stochastic analysis of global surface-wave delay-time data: **S Della Mora**, L Boschi, T W Becker

1340h **U23D-0063 POSTER** ON THE SCATTERING STRENGTH OF THE LOWER MANTLE BENEATH THE PACIFIC OCEAN: Y Xu, **K Koper**

1340h **U23D-0064 POSTER** Vertical coherency of heterogeneity in the Earth's mantle constrained from a comprehensive set of global seismic data: **L Boschi**, T W Becker, G Ekstrom, H J van Heijst, N A Simmons, J Trampert

1340h **U23D-0065 POSTER** Deep Earth Geopoetry: a Permanent Megastructure Above the Core-Mantle Boundary?: **A M Dziewonski**, V Lekic, B A Romanowicz

1340h **U23D-0066 POSTER** Mineralogical Processes in the Lower Mantle and their Implications for Seismic Heterogeneities: **S Shim**, K Catalli, B Grocholski

1340h **U23D-0067** POSTER Phase relations in partially molten lower mantle material investigated in-situ by X-ray fluorescence: **G Lo Nigro**, D Andrault, S PETITGIRARD, G Garbarino

1340h **U23D-0068** POSTER The spectral approach to mantle heterogeneities: **F Albareda**

1340h **U23D-0069** POSTER Scales of mantle heterogeneity emerging from 3-D models of advective stretching: **L H Kellogg**, N Conjeppuram

1340h **U23D-0070** POSTER Geodynamic Implications of Long Persistent (ca. 540 My) Heterogeneities in Deep-Mantle Structure: T H Torsvik, **K C Burke**

1340h **U23D-0071** POSTER The African and Pacific Superplume Structures Constrained by Assembly and Breakup of Pangea: **N Zhang**, S Zhong, W Leng, Z Li

1340h **U23D-0072** POSTER Global belt of geoid lows shows evidence for mid mantle upwellings: **S Spasojevic**, M Gurnis, R Sutherland

1340h **U23D-0073** POSTER Synthetic Geoids from Mantle Circulation Models: **A Horbach**, H Bunge

1340h **U23D-0074** POSTER Does low post-perovskite viscosity have an effect on structures at the core-mantle boundary?: **T Nakagawa**, P J Tackley, M W Ammann, J P Brodholt, D Dobson

1340h **U23D-0075** POSTER Constraining the thermal evolution of the oceanic lithosphere: **W Landuyt**, G Laske, D K Blackman

1340h **U23D-0076** POSTER An Interdisciplinary Approach for Inferring the Thermochemical Structure of the Upper Mantle: P J Tackley, **F Cammarano**, T Nakagawa

1340h **U23D-0077** POSTER Global mantle flow simulations with realistic rheologies on adapted meshes with 1km local resolution at plate boundaries: **G Stadler**, C Burstedde, L C Wilcox, M Gurnis, L Alisic, O Ghattas, E Tan, S Zhong

U23E Moscone South: 104 Tuesday 1340h
Sustainable Development: Long-Term Science and Policy Challenges II

Presiding: **J C Mutter**, Columbia University; **J Buizer**, Arizona State University; **X Cai**

1340h **U23E-01** Sustainable development: challenges and opportunities for the natural sciences (*Invited*): **J C Mutter**, R Fishman, J K Anttila-Hughes, S M Hsiang

1355h **U23E-02** Design of a Geospatial Systems Model Integrating Power Generation, Transmission and Distribution for Use in Evaluating Low-Carbon Energy Pathways: **D M Kammen**, J Nelson, A Petros-Good, J Johnston, M Fripp, I Hoffman, C Blanco

1410h **U23E-03** Hydrologic Non-Stationarity and Implications for Sustainable Watershed Management: **X Cai**, D Wang, C Rouge

1425h **U23E-04** The Different Faces and Common Drivers of Groundwater Depletion in India - Challenges of Measurement, Modeling and Policy: **R Fishman**, U Lall, T U Siegfried, K Narula, V Modi

1440h **U23E-05** Thermal stress and tropical cyclones affect economic production in Central America and Caribbean: **S M Hsiang**

1455h **U23E-06** Changes in the Perceived Risk of Climate Change: Evidence from Sudden Climatic Events: **J K Anttila-Hughes**

1510h **U23E-07** The handshake between the integrated assessment and climate modeling communities: IPCC AR5 as a catalyst for improved networking, collaboration and communication: **K A Hibbard**, G Meehl, J Edmonds, N Nakićenović, J Lamarque, S Rose, D van Vuuren, R Moss, G C Hurtt

1525h **U23E-08** On the Necessity of New Institutions for Sustainable Development in a Changing Climate: J L Kinter, **J Shukla**

U23F Moscone West: 3006 Tuesday 1340h
The 29 September 2009 Tsunami and Earthquake II

Presiding: **V V Titov**, NOAA/PMEL; **B E Jaffe**, U.S. Geological Survey

1340h **U23F-01** A new approach to UNESCO-IOC Post-Tsunami Field Surveys: **L S Kong**, J Steffen, D Dominey-Howes, L Biukoto, A Titimaea, R Thaman, R Vaa

1355h **U23F-02** The past, present and future of tsunami field surveys post-Samoa, 2009: J C Borrero, **C Synolakis**, E Okal, P Liu, V V Titov, B E Jaffe, H M Fritz

1355h **U23F-03** Preliminary assessment of the impacts and effects of the South Pacific tsunami of September 2009 in Samoa: **D Dominey-Howes**

1410h **U23F-04** Reconnaissance Survey of the 29 September 2009 Tsunami on Tutuila Island, American Samoa: **H M Fritz**, J C Borrero, E Okal, C Synolakis, R Weiss, B E Jaffe, P J Lynett, V V Titov, S Foteinis, I Chan, P Liu

1425h **U23F-05** Regional Impact of the 29 September 2009 North Tonga Tsunami on the Futuna and Alofi Islands (Wallis & Futuna): G Lamarche, B Pelletier, **J R Goff**

1440h **U23F-06** Field Survey and Preliminary Analysis of the September 29, 2009 Tsunami on Upolu and Manono Islands, Samoa (*Invited*): **J C Borrero**, E Okal, H M Fritz, R Weiss, C Synolakis, S Foteinis, P Liu, I Chan, J Simcock

1455h **U23F-07** Field survey of the 2009 tsunami in American Samoa: **S Koshimura**, Y Nishimura, Y Nakamura, Y Namegaya, G J Fryer, A Akapo, L S Kong, D Vargo

1510h **U23F-08** Field Survey of the 29 September 2009 Tsunami on Savai'i Island, Samoa: **R Weiss**, H M Fritz

Atmospheric Sciences

A23A Moscone South: 103 Tuesday 1340h
Bjerknes Lecture (This session will be Webcast)

Presiding: **A Robock**, Rutgers University; **E J Jensen**, NASA Ames Research Center

1340h **A23A-01** The biggest control knob: carbon dioxide in Earth's climate history (*Invited*): **R B Alley**

Atmospheric and Space Electricity

AE23A Moscone West: 3008 Tuesday 1340h
Effects of Thunderstorms and Lightning on the Atmosphere-Ionosphere System I (joint with A, P, SA)

Presiding: **C Haniu**, LPC2E/CNRS; **T Neubert**, Technical University of Denmark

1340h **AE23A-01** The ASIM Mission for Studies of Severe Thunderstorms: **T Neubert**

1355h **AE23A-02** TARANIS - impact of recent observations on the scientific payload: **J Pincon**, E Blanc, P Brelly, F Lefevre, J Rauch, J Sauvaud, E Seran

1410h **AE23A-03** Science Goal and Mission Status of JEM-GLIMS: **M Sato**, T Ushio, T Morimoto, M Suzuki, A Yamazaki, K Masayuki, R Ishida, Y Takahashi, U S Inan, Y Hobara, Y Sakamoto, K Yoshida, H Ishikawa, K Yoshita

1425h **AE23A-04** The 762nm emissions of sprites: **C Kuo**, A B Chen, Y Wu, S Chang, L Lee, S Huang, J Chou, L Tsai, R Hsu, H Su, H U Frey, S B Mende, Y Takahashi, L Lee

1440h **AE23A-05** Observation of the Blue Spectra from Sprites at 10,000 fps: **T Kammae**, M G McHarg, R K Haaland, H C Stenbaek-Nielsen

1455h **AE23A-06** Emergence of sprite streamers from ionization waves in the lower ionosphere: **U Ebert**, A Luque

1510h **AE23A-07** Implications of Electron Momentum Relaxation Time Scales for Modeling of Transient Electric Fields in the Lower Ionosphere: **V P Pasko**

1525h **AE23A-08** Laboratory Experiments Simulating Sprites on Earth, Venus and Jupiter: **S Nijdam**, D Dubrovin, E van Veldhuizen, U Ebert, Y Yair, C G Price

Biogeosciences

B23A Moscone South: Poster Hall Tuesday 1340h **Adaptation of Vegetation to Changes in Environmental Forcing III Posters** (joint with A, GC, H)

Presiding: **S J Schymanski**, Max Planck Institute for Biogeochemistry; **S Zaehle**, Max Planck Institute for Biogeochemistry; **K P Tu**, UC Berkeley; **T N Buckley**, Sonoma State University

1340h **B23A-0346** WITHDRAWN

1340h **B23A-0347** POSTER Pan-Arctic trends (1982–2006) in temperature and bioclimatological indicators: **K A Luus**, R E Kelly

1340h **B23A-0348** POSTER World-wide association of timberline forest advance with microsite type along a precipitation gradient: **A C Johnson**, A Yeakley

1340h **B23A-0349** POSTER How does the photosynthetic machinery of invasive perennial pepperweed allow it to adapt and respond to changes in California's climate?: **B Runkle**, O Sonnentag, M Detto, X Liang, J A Dracup, D D Baldocchi

1340h **B23A-0350** POSTER Effects of Climate Change on Regional Crop Production in Eastern Pennsylvania: **S T Ross**, J M Mangan

1340h **B23A-0351** POSTER Scale dependent uncertainties in deriving plant physiological variables from inversion of a canopy reflectance model: **K Schulz**, M Bernhardt, M Pause, A Lausch, J Borzuchowski

1340h **B23A-0352** POSTER Using NEON to Measure Adaptation of Vegetation to Changes in Environmental Forcing: **P H Martin**, R Kao, C Gibson

1340h **B23A-0353** POSTER The Boston-Area Climate Experiment: Initial responses of plant growth and soil respiration to twelve combinations of warming and altered precipitation: **J S Dukes**, S S Höppner, V Suseela, C E Goranson

1340h **B23A-0354** POSTER Impacts of diurnal temperature range on ecosystem carbon balance: an experimental test in grassland mesocosms: **C L Phillips**, J W gregg, J K Wilson, L A Pangle, D Bailey

1340h **B23A-0355** POSTER Ecosystem respiratory responses to interannual and seasonal temperature variability in intact tallgrass prairie ecosystems in the EcoCELLs: **J Arnone**, R L Jasoni, J D Larsen, W Coulombe, A Darrouzet-Nardi, Y Luo, P Verburg

1340h **B23A-0356** POSTER Responses of soil respiration to elevated carbon dioxide and nitrogen addition in subtropical forest ecosystems in China: **Q Deng**, G Zhou, D Hui, D Zhang

1340h **B23A-0357** POSTER Positive feedback between increasing atmospheric CO₂ and ecosystem productivity: **I Gelfand**, S K Hamilton, G P Robertson

1340h **B23A-0358** POSTER Characteristics of water use in *Fagus crenata* among 3 sites throughout Japan: **M Tateishi**, T Kumagai, Y Utsumi, Y Suyama, T Hiura

1340h **B23A-0359** POSTER Leaf gas exchange traits of domestic and exotic tree species in Cambodia: **Y Miyazawa**, M Tateishi, T Kumagai, K Otsuki

1340h **B23A-0360** POSTER Population and species differences in treeline tree species germination in response to climate change: **L M Kueppers**, A Faist, C Castanha

1340h **B23A-0361** POSTER Subalpine Conifer Seedling Demographics Across an Elevational Gradient at Niwot ridge, Colorado: Comparison of Site, Species, and Provenance: **C Castanha**, B Weibel, M S Torn, L M Kueppers

B23B Moscone South: Poster Hall Tuesday 1340h **Adaptation of Vegetation to Changes in Environmental Forcing IV Posters** (joint with A, GC, H)

Presiding: **S J Schymanski**, Max Planck Institute for Biogeochemistry; **K P Tu**, UC Berkeley

1340h **B23B-0362** POSTER Impact of Multiple Environmental Stresses on Wetland Vegetation Dynamics: **C P Muneeppeerakul**, S Tamea, R Muneeppeerakul, F R Miralles-Wilhelm, A Rinaldo, I Rodriguez-Iturbe

1340h **B23B-0363** POSTER Using the optimality hypothesis to predict vegetation indices in a water limited environment: **C van der Tol**, A Meesters, H Dolman, M Waterloo

1340h **B23B-0364** POSTER A regional dynamic vegetation-climate model for Central America: **R S Snell**, S A Cowling, B Smith

1340h **B23B-0365** POSTER Nonlinear Ecosystem Responses to Variable Precipitation Timing and Magnitude Using a Low-dimensional Modeling Framework: **M D Petrie**, N A Brunzell

1340h **B23B-0366** POSTER Biophysical Impact From Increasing Carbon Dioxide on U.S. Agroecosystems: **J Bryant**, K Richter, A D Leakey, T E Twine

1340h **B23B-0367** POSTER Climate Change Impact on Forest Cover using Warmth Index and Minimum Temperature in Korea: **S Choi**, W Lee, S Yoo, S Park

1340h **B23B-0368** POSTER Applicability of the Vegetation Optimality Model across Catchments and Climates: **S J Schymanski**, M Sivapalan, M L Roderick

1340h **B23B-0369** POSTER What principles govern plant nitrogen uptake responses to changes in CO₂, climate and nitrogen deposition?: **J B Fisher**, S Sitch, Y Malhi, R A Fisher, C Huntingford, S Tan

1340h **B23B-0370** POSTER Response of South American Ecosystems to Precipitation Variability: **R G Knox**, Y Kim, M Longo, D Medvigy, J Wang, P R Moorcroft, R L Bras

1340h **B23B-0371** POSTER Use Of Optimality Hypothesis To Understand Root Structure And Its Implications In Water Fluxes: **J C Quijano**, P Kumar, D Drewry, M Sivapalan

1340h **B23B-0372** POSTER Flowering plant physiology triggered the expansion of tropical rainforest: **J Lee**, C K Boyce

1340h **B23B-0373** POSTER Hydrological drivers of wetland vegetational biodiversity patterns within Everglades National Park, Florida: **J Todd**, D Pumo, S Azalee, R Muneeppeerakul, F R Miralles-Wilhelm, A Rinaldo, I Rodriguez-Iturbe

1340h **B23B-0374** POSTER Modeling the Response of Arctic Vegetation to Increasing Atmospheric Carbon Dioxide and Climate Change: **E S Cassidy**, P K Snyder

B23C Moscone South: Poster Hall Tuesday 1340h
Buried Alive: The Dark, Deep Biosphere of Intraterrestrial Life
III Posters (joint with G)

Presiding: **A Schippers**, Federal Institute for Geosciences and Natural Resources (BGR); **K J Edwards**

1340h **B23C-0375 POSTER** Fe redox mapping of basalt alteration: **A Turner**, K J Edwards, B M Toner

1340h **B23C-0376 POSTER** Assessing the Potential for Expression of Metabolically Diverse Genes in Subseafloor Sediments: **J M Dick**, E Shock

1340h **B23C-0377 POSTER** High abundance and diversity of archaea from deep-sea sediments of the South China Sea: **P Wang**, T Li, A Hu, C Zhang

1340h **B23C-0378 POSTER** Nucleic acid based quantitative microbial community analysis in different marine and terrestrial sediments: **A Schippers**, A Blazejak, G Köweker

1340h **B23C-0379 POSTER** Diversity, abundance and activity of methanogenic archaea beneath the Antarctic and Greenland ice sheets: **M Stibal**, J L Wadham, G P Lis, J Telling, M J Barnett, A Dubnick, M J Sharp

1340h **B23C-0380 POSTER** Microbiological Profiles of Deep Terrestrial Sedimentary Rocks Revealed by an Aseptic Drilling Procedure: **Y Suzuki**, T Suko, A Fukuda, M Kouduka, K Nanba, S Sakata, K Ito

1340h **B23C-0381 POSTER** A New Estimate of Total Microbial Subseafloor Biomass: J Kallmeyer, **R A Pockalny**, S L D'Hondt, R R Adhikari

1340h **B23C-0382 POSTER** Methane-related microbial processes and metabolic stratification in a terrestrial mud volcano, southwestern Taiwan: **T Cheng**, L Lin, P Wang, P Chu, J Wu

1340h **B23C-0383 POSTER** Sulfate-Reducing Ammonium Oxidation: A Thermodynamically Feasible Metabolic Pathway in Subseafloor Sediment: **H N Schrum**, A J Spivack, M Kastner, S L D'Hondt

1340h **B23C-0384 POSTER** Influence of subsurface fluid flow on porewater chemical distributions at North Pond: **J McManus**, T G Ferdelman, W Ziebis, F Schmidt-Schierhorn, S Stephan, J M Muratli, K J Edwards, H W Villinger

1340h **B23C-0385 POSTER** Microbial and fluid processes in terrestrial mud volcanoes of eastern Taiwan: **J Wu**, L Lin, P Wang, T Cheng, Y Ling

1340h **B23C-0386 POSTER** Direct Experimental Assessment of Microbial Activity in North Pond Sediments: T G Ferdelman, **A Picard**, M Morando, W Ziebis

1340h **B23C-0387 POSTER** Microbial Metabolic Diversity Study of the Kuantzing Mud Hot Spring in the Southwestern Taiwan: **Y Lin**, P Wang, L Lin

1340h **B23C-0388 POSTER** Laboratory controls of precursor and temperature on the kinetics and isotopic fractionations of microbial methane for deep subsurface environments: **Y Ling**, L Lin, P Wang, C Sun

1340h **B23C-0389 POSTER** Novel DNA Extraction Method Unveiled the Ancient Hot Deep Biosphere Concealed in Terrestrial Sedimentary Rocks: **M Kouduka**, T Suko, K Okuzawa, A Fukuda, K Nanba, M Yamamoto, S Sakata, K Ito, Y Suzuki

1340h **B23C-0390 POSTER** Carbon and nitrogen cycling in thermally heated sediments: **D R Meyer-Dombard**, M Burton, S Vennelakanti, J R Havig, E Shock

1340h **B23C-0391 POSTER** A comparison of bacterial communities in deep terrestrial and deep sub-seafloor biospheres (*Invited*):

B M Toner, R Lesniewski, E C Alexander, J Gralnick, B Orcutt

1340h **B23C-0392 POSTER** Changes in microbial diversity along a geochemical gradient in the Edwards Aquifer, Texas: Possible implications for aquifer modification and ecosystem processes:

C Gray, A S Engel

1340h **B23C-0393 POSTER** Fluid Chemistry and Associated Biological Potential in Diverse Serpentinizing Systems of New Zealand's South Island: **D Cardace**, T Hoehler, A L Foster

1340h **B23C-0394 POSTER** Hydrogen in Rocks, an Inexhaustible Energy Source for the Deep Biosphere: **G Benjamin**, I G Kulahci, G G Cyr, R Dahlgren, F T Freund

1340h **B23C-0395 POSTER** Methane and sulfur cycling in terrestrial hydrocarbon seeps: **L Lin**, P Wang, T Cheng, Y Ling, C Sun, Y Chen, C Wang, J Wu, P Chu

1340h **B33C-0410 POSTER** Mineral-composition dependent microbial colonization patterns in sediments of the Eel River Basin, CA: **B K Harrison**, V Orphan

B23D Moscone South: Poster Hall Tuesday 1340h
Microbial Communities, Activity, and Processes Within
Surface and Subsurface Environments Posters (joint with V, H)

Presiding: **A M Smith**, University of Idaho; **D Scott**, Virginia Tech; **L M Kueppers**, University of California, Merced

1340h **B23D-0396 POSTER** Local electric and electro-chemical investigations of cyanobacteria films: **C Marlière**, M Ramonda, R De Wit

1340h **B23D-0397 POSTER** Investigating groundwater arsenic contamination using aquifer push-pull test: **A R Daigle**, Q Jin

1340h **B23D-0398 POSTER** Interactions between glycine derivatives and mineral surfaces: Implications for the origins of life on planetary surfaces: **K J Marshall-Bowman**, H J Cleaves, D A Sverjensky, R M Hazen

1340h **B23D-0399 POSTER** Geochemical and sulfur isotope signatures of microbial activity in acidic and sulfuric hot springs, northern Taiwan: **P Wang**, K Chen, T Cheng, H Hsieh, L Lin

1340h **B23D-0400 POSTER** Diverse metal reduction and nano-mineral formation by metal-reducing bacteria enriched from intertidal flat sediments: **Y Kim**, B Park, H Seo, Y Roh

1340h **B23D-0401 POSTER** Relationship between microbial sulfate reduction rates and sulfur isotopic fractionation: **F Matsu'ura**

1340h **B23D-0402 POSTER** Development of mathematical models for insitu bioremediation of Cr(VI) contaminated Aquifers: **S Vairavan**, L Philip, M S Bhallamudi

1340h **B23D-0403 WITHDRAWN**

1340h **B23D-0404 POSTER** Biosignatures in Spheroidal Iron Oxide-Rich Concretions from the Navajo Sandstone: **T L Spanbauer**, R M Kettler, D B Loope, K A Weber

1340h **B23D-0405 POSTER** Microbial reduction of structurally-coordinated iron in common clay minerals: **R R Gaines**, S Scott, E Crane, J Lackey

1340h **B23D-0406 POSTER** Adapting isostatic microbial growth parameters into non-isostatic models for use in dynamic ecosystems: **J Spangler**, C J Schulz, G W Childers

1340h **B23D-0407 POSTER** Microbial Community Structure and Physiological Status of Different Types of Biofilms in an Acid Mine Drainage Site Determined by Phospholipid Analysis: J Fang, **J Fang**

1340h **B23D-0408 POSTER** Using hydrothermal biofilm geochemical signatures to generate predictions of elemental behavior with implications for gene hunting, biogeochemical rate measurements, and novel biosignatures: **J R Havig**, E Shock
 1340h **B23D-0409 POSTER** Microbial communities of Hyper saline Lake Salda and Acigol, SW Turkey and Their effects on Biogeochemical cycles: **N Balci**, N G Karaguler, I Ece, C Romanek

B23E Moscone South: Poster Hall Tuesday 1340h
Trace Metal Bioavailability and Toxicity to Biota I Posters (joint with B)

Presiding: **M Croteau**, USGS; **A L Foster**, U.S. Geological Survey

1340h **B23E-0410 POSTER** Investigating Arsenic Mobilization Mechanisms as well as Complexation Between Arsenic and Polysulfides Associated With a Bangladeshi Rice Paddy: **T Lin**, R Kampalath, J Jay
 1340h **B23E-0411 POSTER** Assessing arsenic bioavailability through the use of bioassays: **E Diesel**, M Nadimpalli, M Hull, M E Schreiber, P Vikesland
 1340h **B23E-0412 POSTER** Phosphate-Based Mineralization of Arsenic in Contaminated Soil: A Potential Remediation Method for Soil and Groundwater: **G Neupane**, R J Donahoe
 1340h **B23E-0413 POSTER** Worldwide Diversity and Occurrence of Arsenite Transporter *acr3(2)* Suggests an Important and Overlooked Pathway: **B J Mailloux**, P Wagner, R Foster, J F Stolz, M Scholz, K Wovkulich, G A Freyer
 1340h **B23E-0414 POSTER** Spectroscopic characterization of co-precipitated arsenic- and iron-bearing sulfide phases at circum-neutral pH: **V Illera**, N A Rivera, P A O'Day
 1340h **B23E-0415 POSTER** Cultivable diversity of thermophilic arsenite/ferrous-oxidizing microorganisms in hot springs of Taiwan: **G Lu**, Y Lin, Y Chang, P Wang, L Lin
 1340h **B23E-0416 POSTER** Elevated concentrations of arsenic, predominance of thioarsenates, and orpiment precipitation on the seafloor at the marine shallow-water hydrothermal system off Milos Island, Greece: **R E Price**, B Planer-Friedrich, I P Savov, T Pichler
 1340h **B23E-0417 POSTER** Investigating the control of mercury volatilization from contaminated soil: **D A Steffy**, A Nichols
 1340h **B23E-0418 POSTER** Mercury speciation in the presence of polysulfides and dissolved organic matter with implications for bioavailability for mercury methylation: **M Ferreira**, J Jay
 1340h **B23E-0419 POSTER** Periphyton As A Source Of Bioavailable Cd and Cu To Invertebrate Benthic Grazers: **D Cain**, M Croteau, S N Luoma
 1340h **B23E-0420 POSTER** Does the organic matrix constrain the application of trace element proxies in bivalve shells?: **J Krause-Nehring**, G Nehrke, M Kriews, A Kluegel, T Brey
 1340h **B23E-0421 POSTER** Title: The validation of Cryogenic Laser Ablation ICP-MS (CLA-ICP-MS) methods by comparison to laser ablation (LA)-ICP-MS and solution based ICP-MS methods, for the analysis of metals in biological tissues: R Hannigan, **T H Darrah**, M Horton
 1340h **B23E-0422 POSTER** Impact of bioavailable Pb²⁺ on Fe²⁺ oxidation in the presence of a mixed culture of *Acidithiobacillus ferrooxidans*: **H WANG**, X Yang, L Gong, Z Jiang
 1340h **B23E-0423 POSTER** Comparison of heavy metal toxicity in continuous flow and batch reactors: **S S Sengor**, P Gikas, J G Moberly, B M Peyton, T R Ginn
 1340h **B23E-0424 POSTER** Characterization of Aluminum-Binding Ligands in *Pisolithus tinctorius*: **R L McCauley**, J Cumming

1340h **B23E-0425 POSTER** Soil microbial activity and structure in mineralized terranes of the Western US: **S W Blecker**, L L Stillings, N DeCrappeo, J Ippolito
 1340h **B23E-0426 POSTER** How fulvic acid affects heavy metal uptake on the muscovite (001) surface: **S Lee**, P Fenter, C Park, N C Sturchio, K Nagy

B23F Moscone West: 3018 Tuesday 1340h
Remote Characterization of Vegetation Structure: Including Research to Inform the Planned NASA DESDynI and European Space Agency BIOMASS Missions I (joint with C, ED, GC, NH, H, H, H)

Presiding: **A M Smith**, University of Idaho; **R Dubayah**, University of Maryland; **S S Saatchi**, CALTECH; **M J Falkowski**

1340h **B23F-01** Vegetation Products from ICESat: A database of GLAS (Geosciences Laser Altimeter System) waveforms and a global map of forest canopy height (*Invited*): **M A Lefsky**
 1355h **B23F-02** ESTIMATION OF TEMPERATE FOREST CANOPY STRUCTURE USING LIDAR REMOTE SENSING AT XIAOXINGANLING, CHINA: **Y Pang**, Z Li, M A Lefsky, G Sun, E Chen
 1410h **B23F-03** Developing a Fine Resolution Forest Height Map for Mississippi Using Landsat Time Series Observations and GLAS Lidar Data: **C Huang**, A Li, H Shi, G Sun, Z Zhu, S N Goward, J Masek
 1425h **B23F-04** Comparing the Accuracy of Aboveground Biomass Estimates and Forest Structure Metrics at Large Footprint Level: Satellite Waveform Lidar vs. Discrete-Return Airborne Lidar: **S C Popescu**, K Zhao, D Gatzliolis
 1440h **B23F-05** A Model-Data Framework for Linking Satellite-Based Data on Vegetation Structure with a Height Structured Ecosystem Model Over North America: **G C Hurtt**, R Dubayah, J Fisk, P R Moorcroft, M A Lefsky
 1455h **B23F-06** Using Lidar and Radar measurements to constrain predictions of forest ecosystem structure and function: **A S Antonarakis**, S S Saatchi, P R Moorcroft
 1510h **B23F-07** Vegetation community structure in a mixed-canopy dynamic global terrestrial ecosystem model: sensitivity of biosphere-atmosphere exchange to canopy vertical stratification and demography: **N Y Kiang**, W Yang, W Ni-Meister, P R Moorcroft, I D Aleinov
 1525h **B23F-08** Monitoring Forest Degradation from Lidar Waveform Data K. Jon Ranson, NASA Goddard Space Flight Center, Biospheric Sciences Branch, Greenbelt, MD 20771 USA G. Sun, University of Maryland, Department of Geography, College Park, MD 20742 USA: **J Ranson**

B23G Moscone West: 3016 Tuesday 1340h
Role of Climate, Carbon and Limiting Nutrient Cycles, and Human Activities in the Terrestrial Ecosystems II (joint with GC, PA)

Presiding: **A K Jain**, University of Illinois; **RR Nemani**, NASA; **X Yang**, University of Illinois; **W M Post**, Oak Ridge National Laboratory

1340h **B23G-01** Nitrogen deposition and forest carbon sequestration: a quantitative synthesis from plot to global scales: **C L Goodale**, R Q Thomas, F J Dentener, M Adams, J Baron, B Emmett, C B Evans, I J Fernandez, P Gundersen, F Hagedorn, A Kulmatiski, G M Lovett, S McNulty, A M Melvin, F Moldan, S V Ollinger, P Schleppi, M Weiss

1355h **B23G-02** Nitrogen Availability and Forest Canopy Albedo from Leaf to Regional Scales: **S V Ollinger**, L C Plourde, M Martin, H F Wicklein, D M Haddad, A D Richardson, D Hollinger

1410h **B23G-03** Nitrogen as a constraint on terrestrial carbon uptake: implications for the global carbon-climate feedback (*Invited*): **Y Wang**, B Z Houlton

1425h **B23G-04** Modeling of N₂O and NO emissions from soils in terrestrial ecosystems: **X Yang**, A Jain, V R Kotamarthi

1440h **B23G-05** A Conterminous China High Resolution Land Dataset for Regional Land Surface Modeling (*Invited*): **Y Dai**

1455h **B23G-06** Have Indirect Emissions from Biofuels Been Exaggerated?: **D W Kicklighter**, A Gurgel, J M Melillo, J M Reilly, T Cronin, B S Felzer, S Paltsev, C A Schlosser, A P Sokolov

1510h **B23G-07** Diagnosing and Assessing Uncertainties of the Carbon Cycle in Terrestrial Ecosystem Models from a Multi-Model Ensemble Experiment: **W Wang**, J L Dungan, H Hashimoto, A Michaelis, C Milesi, K Ichii, R R Nemani

1525h **B23G-08** An International Land-Biosphere Model Benchmarking Activity for the IPCC Fifth Assessment Report (AR5): **F M Hoffman**, J T Randerson, P E Thornton, G B Bonan, B J Brooks, D J Erickson, I Fung

Cryosphere

C23A Moscone South: Poster Hall Tuesday 1340h
Climatic Versus Internal Dynamical Forcing of Glacial Systems in the Past, Present, and Future I Posters (*joint with GC, H, PP*)

Presiding: **J Knight**, University of Exeter; **N F Glasser**, Aberystwyth University

1340h **C23A-0474 POSTER** Competing Positive and Negative Feedbacks on Glacier Response to Climatic Changes: **S Rupper**, C E Todd

1340h **C23A-0475 POSTER** Contribution of mountain glaciers and ice caps to sea-level rise: **R M Hock**, M de Woul, V Radic, M Dyurgerov

1340h **C23A-0476 POSTER** Improving Mass Balance Modeling of Benchmark Glaciers: **A E Van Beusekom**, R S March, S O'Neel

1340h **C23A-0477 POSTER** Modelling the northern hemisphere ice sheets at the Last glacial maximum and during the subsequent deglaciation: **P J Valdes**, L J Gregoire

1340h **C23A-0478 POSTER** Evolution of crystal fabric: Ice-Age ice versus Holocene ice: **J H Kennedy**, E C Pettit

1340h **C23A-0479 POSTER** Towards reducing uncertainty in modeling of the long-term response of the Greenland Ice Sheet to climate change: **A J Robinson**, R Calov, A Ganopolski

1340h **C23A-0480 POSTER** Pleistocene cooling event in a Central Alaskan ice wedge: Dansgaard-Oeschger cycle?: **C Y Griffing**, M S Lachniet, D E Lawson

1340h **C23A-0481 POSTER** Are Heinrich events triggered by the ocean? From a conceptual model to a 3D ice sheet model: **J Alvarez-Solas**, C Ritz, S Charbit, G Ramstein, D Paillard, C Dumas

1340h **C23A-0482 POSTER** Seismic Stratigraphy beneath Thunder Bay and the Isle Royale Trough: Implications for Glacial Lake Agassiz drainage at the beginning of the Younger Dryas: **E B Voytek**, S M Colman, N J Wattrus, J L Gary

1340h **C23A-0483 POSTER** Tree-ring based mass balance estimates along the North Pacific Rim: **N Malcomb**, G C Wiles

1340h **C23A-0484 POSTER** Glacier condition and variation studies in the Mongolian part of the Altai Mountains. (*Invited*): **T Ohata**, T Kadota, K Konya, H Yabuki, D Gombo

1340h **C23A-0485 POSTER** Subglacial hydro-mechanical interactions and till sedimentology revealed by wireless probe experiments: **J K Hart**, K Martinez

1340h **C23A-0486 POSTER** Medial moraines of glaciers of the Copper River Basin, Alaska: Discrete landslides dominate over other sources: **J S Kargel**, L Fischer, R Furfaro, C Huggel, O Korup, G J Leonard, M Uhlmann, R L Wessels, D F Wolfe

1340h **C23A-0487 POSTER** Assessing the Influence of Tributary Glaciers on Ice Properties and Flow Dynamics: **A M Quick**, S Rupper, J H McBride, S Ritter, D G Tingey, A McKean, E Parks

1340h **C23A-0488 POSTER** Glacial transport and local ice dynamics under the Keewatin Ice Divide of the Laurentide Ice Sheet, central Nunavut: **C Goulet**, M Roy, I McMartin

1340h **C23A-0489 POSTER** Holocene surge-history of the Eyjabakkajökull glacier inferred from varved lake sediments on eastern Iceland: **J Striberger**, S Bjorck, O Ingolfsson, K Kjaer, I Snowball, C B Uvo

1340h **C23A-0490 POSTER** Late Pleistocene ice margin fluctuations in the Nahanni National Park-UNESCO World Heritage Site and their impact on glacial lake formation and architecture of drainage systems across the Yukon-NWT continental divide: **A Duk-Rodkin**, R W Barendregt

1340h **C23A-0491 POSTER** Controls on subglacial patterns and depositional environments in western Ireland: **J Knight**

1340h **C23A-0492 POSTER** RESPONSE OF THE ROSS SEA ICE SHEET TO THE LAST DEGLACIATION: NEW EVIDENCE FROM TAYLOR VALLEY, ANTARCTICA: **M L Prentice**, S A Arccone, J L Horsman, E Medley, J D Toner, R Sletten, K Shoemaker

1340h **C23A-0493 POSTER** Controls on Glacial Facies Distribution in the AND-2A Core, Antarctica, Across the Middle Miocene Transition: **S Passchier**, C Falk, C R Fielding, F Florindo, D M Harwood, S F Pekar

1340h **C32A-03 POSTER** Spatial Variability of the Glaciological Record of a Mid-Latitude, High Elevation Glacier: San Valentin, Northern Patagonian Icefield, Chile: **N Patris**, P Ginot, J Herreros, J Taupin, F Vimeux

C23B Moscone South: Poster Hall Tuesday 1340h
Constraining and Improving Models of Glacier Dynamics Using Observations II Posters (*joint with G, GC, H*)

Presiding: **S F Price**, Los Alamos National Laboratory; **I M Howat**, The Ohio State University; **L A Stearns**, University of Kansas

1340h **C23B-0494 POSTER** Improved parameterization of marine ice dynamics and flow instabilities for simulation of the Austfonna ice cap using a large-scale ice sheet model: **T Dunse**, R Greve, T Schuler, J M Hagen, F Navarro, E Vasilenko, C Reijmer

1340h **C23B-0495 POSTER** A dynamic physical characterization of the receding Mendenhall Glacier lake front terminus Juneau, Alaska: **C L Connor**, D R Fatland, M Heavner, N Korzen, J Galbraith, D Sauer, E W Hood

1340h **C23B-0496 WITHDRAWN**

1340h **C23B-0497 POSTER** Modelling West Antarctic Ice Sheet ice flow dynamics using a higher order, high resolution ice sheet model: **A M Le Brocq**, A J Payne, S F Price, A Vieli

1340h **C23B-0498 POSTER** A viscoelastic spring-block model for investigating subglacial water pressure pulse generation: **J L Kavanaugh**

1340h **C23B-0499 POSTER** Similarities in basal sliding between Greenland and Alpine Glaciers: **W T Colgan**, T P Phillips, R S Anderson, H J Zwally, W Abdalati, H Rajaram, K Steffen

1340h **C23B-0500 POSTER** SeaRISE Greenland: On “spin-up” procedures using InSAR surface velocities: **A Aschwanden**, C Khroulev

1340h **C23B-0501 POSTER** A Kinematic Model of the Surface Velocity of Helheim Glacier, Greenland: **T A Petach**, J L Davis, M Nettles, P Elosegui, J de Juan, G S Hamilton, T Larsen, A P Ahlstrom, M L Andersen, G Ekstrom, R Forsberg, S A Khan, K M Schild, L A Stearns, L Stenseng

1340h **C23B-0502 POSTER** The best of prophets of the future is the past. Or is it the present? (*Invited*): **J V Johnson**, T Bocek, B Hand, G Granzow

1340h **C23B-0503 POSTER** Steady-state simulations of the Greenland ice sheet using a three-dimensional full-Stokes model: **H Seddik**, R Greve, T Zwinger, O Gagliardini

C23C Moscone South: Poster Hall Tuesday 1340h
Monitoring and Quantifying Glacier Dynamics III Posters (*joint with G, GC, S*)

Presiding: **S O’Neel**, USGS

1340h **C23C-0504 POSTER** Fjord floor landforms and processes at the termini of Kongsvegen and Kronebreen Glaciers, Svalbard: **L M Kehrl**, R L Hawley, R D Powell, J Brigham-Grette

1340h **C23C-0505 POSTER** Inferring Glacial Dynamics From Temperate Glacimarine Grounding-Line Deposits: **B A Willems**, R D Powell, E A Cowan, S P Gulick, L D Trusel

1340h **C23C-0506 POSTER** Geophysical Investigation of Lone Mountain Rock Glacier, Big Sky, Montana: **C E Florentine**, M L Skidmore, M A Speece, C A Link, C A Shaw, B Kaphammer, J Giskaas

1340h **C23C-0507 POSTER** Dynamic fluxes in two NW Svalbard glaciers estimated using mass balance and elevation change data: **C Nuth**, T Schuler, J Kohler, J M Hagen

1340h **C23C-0508 POSTER** Airborne Laser Altimetry Measurements of Glacier Wastage in Alaska and NW Canada: **C F Larsen**, R M Hock, A A Arendt, S L Zirnheld

1340h **C23C-0509 POSTER** Changes in Alaskan glacier surface velocities observed from SAR offset tracking: **E W Burgess**, R R Forster, D K Hall

1340h **C23C-0510 POSTER** Automated Glacier Surface Velocity using Multi-Image/Multi-Chip (MIMC) Feature Tracking: **Y Ahn**, I M Howat

1340h **C23C-0511 POSTER** Impact of glacier-dammed lake formation on the ice motion in Rhonegletscher, Switzerland: **S Tsutaki**, S Sugiyama

1340h **C23C-0512 POSTER** Velocity Fields on the Larsen C Ice Shelf, Antarctic Peninsula, Using Repeat MODIS and Landsat Data: **T Haug**, A Käab, P Skvarca

1340h **C23C-0513 POSTER** Quantifying Ice Marginal and Submarine Environments During Seasonal Advance and Retreat, Hubbard Glacier, Southeast Alaska USA: **D E Lawson**, D C Finnegan, T Waller, W Butler, P Gadowski

1340h **C23C-0514 POSTER** Investigating Tidewater Glacier Advance/Retreat Cycles Using a Multi-year Dataset Hubbard Glacier, Southeast Alaska: **P Gadowski**, D C Finnegan, D E Lawson, G Hanlon

1340h **C23C-0515 POSTER** Using Passive Seismicity to Characterize and Quantify Tidewater Glacier Dynamics: **D Kluskiewicz**, S O’Neel, C F Larsen, M E West, F Walter

1340h **C23C-0516 POSTER** Seismic signatures of advancing and retreating tidewater glaciers: **S O’Neel**, F Walter, D Kluskiewicz, W T Pfeffer, C F Larsen, M E West, D E McNamara

1340h **C23C-0517 POSTER** Using Seismic Anisotropy to Detect Mean Ice Crystal Orientation in the Jakobshavn Glacier: **J A Velez-Gonzalez**, G P Tsoflis, S Anandakrishnan

1340h **C23C-0518 POSTER** Application of Ground Penetrating Radar and Geodetics to the Selection of an Ice Core Drill Site on the Kahiltna Glacier of Mount McKinley, Alaska: **S W Campbell**, K J Kreutz, C P Wake, E C Osterberg, S A Arcone, K Volkening, M Lurie

1340h **C23C-0519 POSTER** Englacial stress and velocity fields: Comparison of finite-element approximations to exact solutions: **S Adhikari**, S J Marshall

C23D Moscone West: 3014 Tuesday 1340h
Innovations in Modeling of the Seasonal Snowpack and Interactions Between Vegetation and Snow I (*joint with H*)

Presiding: **M Kumar**, Pennstate University; **M L Reba**, USDA-ARS-NWRC; **T E Link**, University of Idaho

1340h **C23D-01** Climate sensitivity of snow regimes simulated by physically based snow models (*Invited*): **J W Pomeroy**, X Fang, A Sabourin, C R Ellis

1355h **C23D-02** Trends in Sierra Nevada snowmelt based on 10 years of MODIS fractional snow covered area data: the apparent and the missing (*Invited*): **R C Bales**, R Rice, K E Rittger, T H Painter

1410h **C23D-03** Using High-Resolution Atmospheric and Snow Modeling Tools to Define Spatially and Temporally Variable Snow Distributions (*Invited*): **G E Liston**, C A Hiemstra

1425h **C23D-04** Hydrologic Modeling in Snow-Melt Dominated Mountainous Watersheds: **M Kumar**, M L Reba, D G Marks, J Dozier

1440h **C23D-05** Evaluating the Coupling of a Snow Cover Energy and Mass Balance (Isnobal) Model to a Fully Integrated Hydrology Model (PIHM) over a Semi-arid Mountain Catchment: **M L Reba**, M Kumar, D G Marks

1455h **C23D-06** Accounting for canopy shading and emissivity in simulated radiation fields over a complex mountainous region (*Invited*): **D G Marks**, R Essery, T E Link, A H Winstral, M L Reba, J W Pomeroy

1510h **C23D-07** A mechanistic approach for estimating snowpack dynamics in a conifer forest: **K N Musselman**, N P Molotch, S A Margulis, P B Kirchner, R C Bales

1525h **C23D-08** Multi-scale observations and modeling of the snowpack in a forested Sierra Nevada catchment: **P B Kirchner**, R C Bales, K N Musselman, N P Molotch

Education and Human Resources

ED23A Moscone South: Poster Hall Tuesday 1340h
Education and Human Resources General Contributions Posters

Presiding: **S M Buhr**, University of Colorado; **M S McCaffrey**, University of Colorado at Boulder

1340h **ED23A-0520 POSTER** Extraordinary Matter: Visualizing Space Plasmas and Particles: **B Barbier**, L M Bartolone, E R Christian, T E Eastman, E Lewis, J R Thiemann

1340h **ED23A-0521 POSTER** Evaluating Scientific Misconceptions and Scientific Literacy in a General Science Course: **A M Courtier**, T J Scott

1340h **ED23A-0522 POSTER** Contributions to Public Understanding of Science by the Lamont-Doherty Earth Observatory (I): Programs and Workshops: **M J Passow**, M Turrin, T C Kenna, R Newton, B Buckley

- 1340h **ED23A-0523** *POSTER* Contributions to Public Understanding of Science by the Lamont-Doherty Earth Observatory (II): Web-Based Projects for Teachers and Students: **M J Passow**, K A Kastens, A M Goodwillie, C Brenner
- 1340h **ED23A-0524** *POSTER* Future Directions for The Math You Need, When You Need It: Adaptation and Implementation of Online Student-Centered Tutorials that Remediate Introductory Geoscience-Related Mathematical Skills: **J M Wenner**, H Burn, E M Baer
- 1340h **ED23A-0525** *POSTER* Requesting use of NSF facilities for education: **J G Meitín**, B G Baeuerle
- 1340h **ED23A-0526** *POSTER* Virtual Laboratories to Achieve Higher-Order Learning in Fluid Mechanics: **A S Ward**, M N Gooseff, R Toto
- 1340h **ED23A-0527** *POSTER* Pedagogies in Action: A Community Resource Linking Teaching Methods to Examples of their Use: **C A Manduca**, S P Fox, E A Iverson, K Kirk, C J Ormand
- 1340h **ED23A-0528** *POSTER* The "O3E" Project : Raising awareness on natural hazards at school: **J BERENGUER**, F Courbouloux, E Baroux, R Cremonini, G Ferretti, C Eva, D Giardini, F Haslinger, J Leputh, M Ponzzone, S Solarino, A Sornette
- 1340h **ED23A-0529** *POSTER* Teaching Sustainable Water Resources and Low Impact Development: A Project Centered Course for First-Year Undergraduates: **C M Cianfrani**
- 1340h **ED23A-0530** *POSTER* Identifying College Students' Conceptions of the Atmosphere: **L J Shellito**
- 1340h **ED23A-0531** *POSTER* The Andean Geotrail (2): An educational project: **O Galland**, C Sassier, M Vial, P Thiberge
- 1340h **ED23A-0532** *POSTER* DEVELOPMENT OF HYDROLOGICAL EDUCATION IN UKRAINE: **V Manukalo**
- 1340h **ED23A-0533** *POSTER* A campus-based course in field geology: **G A Richard**, G N Hanson
- 1340h **ED23A-0534** *POSTER* The Impact of Stereo Display on Student Understanding of Phases of the Moon: **X C Cid**, R E Lopez
- 1340h **ED23A-0535** *POSTER* Incorporating Inquiry into Upper-Level Homework Assignments: The Mini-Journal: **A G Whittington**, A K Speck, S B Witzig, S K Abell
- 1340h **ED23A-0536** *POSTER* Moment Tensor Catalogue of Important Earthquakes in Turkey and Surrounding Regions: **D KALAFAT**, K Kekovali, M Ocal, L Gülen
- 1340h **ED23A-0537** *POSTER* Hands-on, online, and workshop-based K-12 weather and climate education resources from the Center for Multi-scale Modeling of Atmospheric Processes: **S Q Foster**, R M Johnson, D A Randall, A Denning, M A Burt, L Gardiner, J Genyuk, B Hatheway, B Jones, M L La Grave, R M Russell
- 1340h **ED23A-0538** *POSTER* Classroom management at the university level: lessons from a former high school earth science teacher: **C Lazar**
- 1340h **ED23A-0539** *POSTER* Marine Educational and Research Cruise in Taiwan: **C Lee**, S Lallemand, F T Wu
- 1340h **ED23A-0540** *POSTER* Using Off-the-Shelf Gaming Controllers For Computer Control in the K-12 Classroom: **N L Bourgoin**, J Withee, M Segee, S D Birkel, E Albee, P O Koons, Y Zhu, B Segee
- 1340h **ED23A-0541** *POSTER* Curricular Reform: Systems Modeling and Sustainability in Civil and Environmental Engineering at the University of Vermont: **D M Rizzo**, N J Hayden, M Dewoolkar, M Neumann, S Lathem
- 1340h **ED23A-0542** *POSTER* Overview of the Education and Public Outreach (EPO) program of the Caltech Tectonics Observatory: **L Kovalenko**, K Jain, J Maloney
- 1340h **ED23A-0543** *POSTER* Reducing Plate Tectonic Misconceptions with Lecture Tutorials: **K M Kortz**, J M Smay, A V Mattera, S K Clark
- 1340h **ED23A-0544** *POSTER* Oceanography in Second Life: Use of a Virtual Reality to Enhance Undergraduate Education in Marine Science: **T A Villareal**, L Jarmon, R Triggs
- 1340h **ED23A-0545** *POSTER* Middle-School Understanding of the Greenhouse Effect using a NetLogo Computer Model: **L Schultz**, P O Koons, M Schauffler
- 1340h **ED23A-0546** *POSTER* PhET: The Best Education Software You Can't Buy: M Dubson, **D K Duncan**
- 1340h **ED23A-0547** *POSTER* Swath Measurements of Ice Sheet Bottom Topography and Radar Reflectivity: **A Freeman**, P S Gogineni, K C Jezek, E Rodriguez, X Wu
- 1340h **ED23A-0548** *POSTER* Five Years of Questions About Space Physics from Participants of the CISM Space Weather Summer School: R E Lopez, **N A Gross**, W Hughes
- 1340h **ED23A-0549** *POSTER* Natural Resources and Watershed Science Field Camps at Colorado State University's Pingree Park Mountain Campus: **S R Fassnacht**, M Laituri, S K Kampf, W E Sanford, R Coleman, P Layden
- 1340h **ED23A-0550** *POSTER* Challenging the Non-Science Majors with Inquiry-based Laboratory Environmental Geoscience Courses: **R R Humphreys**, C Hall, M W Colgan
- 1340h **ED23A-0551** *POSTER* Interdisciplinary Research on Climate Change: Past Trends and Challenges for the Future: **J R Marlon**, R Mitchell
- 1340h **ED23A-0552** *POSTER* Scientists in the Classroom: **J Lundin**
- 1340h **ED23A-0553** *POSTER* Subsurface Imaging and Sensing of Charge Carrier Movements in the Earth's Crust: **R Dahlgren**, F T Freund, M Lazarus, J S Wang, D Rekenhaller, R D Peters, G Duma
- 1340h **ED23A-0554** *POSTER* "Discoveries in Planetary Sciences": Slide Sets Highlighting New Advances for Astronomy Educators: **D A Brain**, N M Schneider
- 1340h **ED23A-0555** *POSTER* Residential learning communities as a tool for increasing interest in the Earth and Environmental Sciences: **L K Rademacher**, K C Burmeister, K Colafrancesco, C Brodie, S Jacobson
- 1340h **ED23A-0556** *POSTER* Journal of Geophysical Research Publications: Community Characteristics: **S L Pfirman**, A Porter
- 1340h **ED23A-0557** *POSTER* Educational Outreach for Astrobiology: **M Kadooka**, K Meech
- 1340h **ED23A-0558** *POSTER* New Heights with High-Altitude Balloon Launches for Effective Student Learning and Environmental Awareness: **H D Voss**, J F Dailey, D Takehara, J M Krueger

ED23B Moscone West: 3020 Tuesday 1340h
Designing Effective Research Experiences for Undergraduates II

Presiding: **K M Campbell**, University of Minnesota; **D M Dalbotten**, University of Minnesota

1340h **ED23B-01** Designing Effective Research Experiences for Undergraduates (*Invited*): **P Jones Whyte**, D M Dalbotten

1355h **ED23B-02** Virtual cohorts and face-to-face recruitment: Strategies for cultivating the next generation of the IRIS Community: **M Hubenthal**, M E Wyssession, R C Aster

1410h **ED23B-03** An Analysis of NSF Geosciences 2009 Research Experience for Undergraduate Site Programs: **S C Sanchez**, L C Patino, E L Rom, S C Weiler

1425h **ED23B-04** Summer Internship Program at the Monterey Bay Aquarium Research Institute: **G I Matsumoto**

1440h **ED23B-05** Astrobiology Research Experience for Undergraduates: An Interdisciplinary REU Program at the SETI Institute: **C B Phillips**, E K DeVore

1455h **ED23B-06** Research Experience for Undergraduates (REU) on River and Coastal Restoration—a Center Approach to Creating a Unique Research Experience for Undergraduates: D M Dalbotten, **K M Campbell**, K M Hill, C Podolak, A Bevington, G O Holm, P Wilcock, R Twilley

1510h **ED23B-07** The University of Minnesota Morris – N.S.F. REU Program: Twenty years of encouraging women to participate in the Geological Sciences: **J F Cotter**

1525h **ED23B-08** Undergraduate Studies in Earthquake Information Technology (UseIT): Preparing Students for the Twenty-First Century Work Force via a Multidisciplinary and Collaborative Learning Experience: **R M DeGroot**, T H Jordan, M L Benthien, M Ihrig, R Berti

Earth and Planetary Surface Processes

EP23A Moscone South: Poster Hall Tuesday 1340h
Spatial Analyses of Multiscalar Abiotic-Faunal Interactions in River Networks Posters (*joint with H*)

Presiding: **J A McKean**, US Forest Service; **D Tonina**; **D Isaak**, USFS

1340h **EP23A-0620** *POSTER* Making Riverscapes Real (*Invited*): **A Marcus**, P Carbonneau, M A Fonstad, S C Walther

1340h **EP23A-0621** *POSTER* Relative impacts of the fragmentation and spatial structure of habitats on freshwater fish distributions: application on French watersheds (*Invited*): **C Le Pichon**, J Belliard, E Talès, G Gorges, F Clément

1340h **EP23A-0622** *POSTER* Can remote high-resolution mapping help individual-based fish population models go up-scale? (*Invited*): **B Harvey**, S Railsback

1340h **EP23A-0623** WITHDRAWN

1340h **EP23A-0624** *POSTER* The Persistence of Potential Refugia Mapped from Gravel Tracers: **J K Haschenburger**

1340h **EP23A-0625** *POSTER* Implications of Geomorphic Change on Salmonid Habitat Using a Narrow-Beam Terrestrial-Aquatic Lidar and DEM Uncertainty Accounting: **J M Wheaton**, J A McKean, D Tonina, C Garrard

1340h **EP23A-0626** *POSTER* Effects of uncertain topographic input data on two-dimensional modeling of flow hydraulics, habitat suitability, and bed mobility: **C J Legleiter**, R McDonald, P C Kyriakidis, J M Nelson

EP23B Moscone South: Poster Hall Tuesday 1340h
Turbulence and Coherent Structure in Geophysical Flows at Earth's Surface: Measuring, Modeling, and Prediction II Posters (*joint with B, H, H, OS, H, H*)

Presiding: **J Best**, University of Illinois; **R J Hardy**, Durham University; **J G Venditti**, Simon Fraser University

1340h **EP23B-0627** *POSTER* On the effect of dynamic bed topography on turbulent flow structure in a gravel-bed river: **A Singh**, F Porte-Agel, E Foufoula-Georgiou

1340h **EP23B-0628** *POSTER* Effects of sand addition on turbulent flow over an immobile gravel bed: **D G Wren**, E Langendoen, R A Kuhnle

1340h **EP23B-0629** *POSTER* Macroturbulent coherent structures and helical cell motions in an ice-covered meander bend: **T K Buffin-Belanger**, S Demers, A G Roy

1340h **EP23B-0630** *POSTER* Intensive aDcp Survey of a Gravel-Bed River Confluence: **J Gaskin**, C D Rennie, M A Church

1340h **EP23B-0631** *POSTER* THE EFFECT OF CHANNEL WIDTH ON LARGE-SCALE FLOW STRUCTURE OVER A MACRO-BEDFORM: **J Best**, B J MacVicar

1340h **EP23B-0632** *POSTER* Evaluation of 3-D flow structure and corresponding scour holes in the vicinity of a submerged wing dike in a large sand bed river: **E C Jamieson**, C D Rennie, R B Jacobson

1340h **EP23B-0633** *POSTER* The dynamics of coherent flow structures within a submerged permeable bed: **G Blois**, J Best, G Sambrook Smith, R J Hardy, J Lead

1340h **EP23B-0634** *POSTER* The Structure of Flow over Interacting Barchan Dunes: **J A Palmer**, J Best, K T Christensen, R Mejia-Alvarez

1340h **EP23B-0635** WITHDRAWN

1340h **EP23B-0636** *POSTER* Morphodynamics of superimposed bedforms in a cellular automaton dune model: **D Zhang**, C Narteau, O Rozier

1340h **EP23B-0637** *POSTER* Flow Structures, Shear-Generated Turbulence, and Fluid Mixing at River Confluences: The Influence of Channel Scale?: R Szupiany, **D R Parsons**, M L Amsler, J Best

1340h **EP23B-0638** *POSTER* MICROTURBULENCE IN GRAVEL BED STREAMS: **T Papanicolaou**, A G Tsakiris, C M Kramer

1340h **EP23B-0639** *POSTER* A combined Lagrangian-Eulerian approach to understand the kinematic and dynamic properties of coherent flow structures over a gravel bed: **R J Hardy**, J Best, D R Parsons, G Keevil, N Rosser

1340h **EP23B-0640** *POSTER* Exploring the impact of flow surface waves on turbulence and bedload transport rates in gravel-bed rivers: **G A Marquis**, A G Roy, S P Rice

1340h **EP23B-0641** *POSTER* Geomorphology of Late Quaternary Mass Movement Deposits using a Decimetre-Resolution 3D Seismic Volume: Case Studies from Windermere, UK, and Trondheimsfjorden, Norway: **M E Vardy**, J K Dix, T Henstock, J M Bull, L Pinson, J L'Heureux, O Longva, L Hansen, S Chand, M Gutowski

EP23C Moscone South: Poster Hall Tuesday 1340h
Vegetation and Fluvial Processes: Research and Application in Fluvial Geomorphology II Posters (*joint with H*)

Presiding: **N M Czarnomski**, Oregon State University; **N L Bankhead**, USDA-ARS National Sedimentation Laboratory

1340h **EP23C-0642** *POSTER* Hydraulic and Geomorphic Effects of Large Woody Debris Additions in the Narraguagus Watershed, Coastal Maine: **E Johnson**, N P Snyder

1340h **EP23C-0643** *POSTER* Restoring an Entrenched Mountain Meadow Stream by Emulating Natural Processes: **P DeVries**, K Fetherston, S Madsen, A Vitale

1340h **EP23C-0644** *POSTER* A laboratory flume characterization of log jams at bridge piers: **P Salandin**, M Camporese

1340h **EP23C-0645** WITHDRAWN

1340h **EP23C-0646** *POSTER* Channel Narrowing and Channel Reset: Effects of a Large Flood on the Vegetated, Narrowing Rio Grande: **D J Dean**, J C Schmidt

1340h **EP23C-0647** *POSTER* The dynamic feedbacks between channel changes in the Colorado River Basin and the rapid invasion of Tamarisk: **R Manners**, J C Schmidt

1340h **EP23C-0648 POSTER** Incipient vegetation recovery in the braidplain nearly two decades after the eruption of Mount Pinatubo, Philippines: **K B Gran, E Dunn, M Tal**

1340h **EP23C-0649 POSTER** Spatial Extent, Timing, and Causes of Channel Incision, Black Vermillion Watershed, Northeastern Kansas: **R A Marston, B K Meade, M A Gossard**

1340h **EP23C-0650 POSTER** Influence of vegetation density and frontal area on streambank hydraulics: **N M Czarnomski, D Tullos, A Simon, R E Thomas**

1340h **EP23C-0651 POSTER** Quantifying and Comparing the Relative Effects of Riparian Root Networks on the Geotechnical, Hydrologic and Hydraulic Processes Acting on a Streambank: **N L Bankhead, A Simon**

1340h **EP23C-0652 POSTER** Field and modeling studies on the effects of forest devastation on flooding and environmental issues: **Y Onda, T Gomi, S Mizugaki**

1340h **EP23C-0653 POSTER** Preliminary Analysis of Bankfull Width and Its Relationship to Drainage Area and Precipitation: **D R Kandel, G V Wilkerson, W E Dietrich, P Wilcock**

EP23D Moscone West: 2008 Tuesday 1340h
Aeolian Dust: Transport Processes, Anthropogenic Forces, and Biogeochemical Cycling I (*joint with B, A, GC*)

Presiding: **J C Ballantine**, University of Connecticut; **S Porder**, Brown University

1345h **EP23D-01** Preferential dust sources in global aerosol models: a new classification based on geomorphology. (*Invited*): **J E Bullard**, S P Harrison, N Drake, T E Gill, Q Working Group on Dust

1405h **EP23D-02** Inverse modeling analysis of soil dust emissions over East Asia: **B Ku, R Park**

1420h **EP23D-03** Spatio-temporal distribution of Saharan dust source activations inferred from 15-minute MSG-SEVIRI observations and its links to meteorological processes (*Invited*): **K Schepanski, I Tegen**

1440h **EP23D-04** Compositional Changes In Atmospheric Dust In Western United States During The Past 150 Years: **R L Reynolds, H Goldstein, M Ketterer, K Moser, J Neff, M C Reheis, J G Rosenbaum**

1455h **EP23D-05** Regional and Climatic Controls on Dust Flux in the Southwestern U.S.: **M C Reheis, F E Urban**

1510h **EP23D-06** Deposition of N, P and Fe to Terrestrial and Marine Ecosystems (*Invited*): **G S Okin, N M Mahowald, A R Baker, J N Galloway**

1525h **EP23D-07** Dust-derived phosphorus in tropical forests of the Luquillo Mountains, Puerto Rico (*Invited*): **J C Pett-Ridge**

Geodesy

G23A Moscone South: Poster Hall Tuesday 1340h
Advances in Geodetic Imaging of the Earthquake Cycle and Land Surface Processes I Posters (*joint with IN, GC, EP, S, NH, T*)

Presiding: **E J Fielding**, Jet Propulsion Lab Caltech; **R L Shrestha**

1340h **G23A-0654 POSTER** Efficient Swath Mapping Laser Altimetry Demonstration: **A W Yu, M A Krainak, D J Harding, J B Abshire, X Sun, A Betin, T Hastings, D M Filgas, R D Stultz, J Wang, S Bailey, M Jack**

1340h **G23A-0655 POSTER** Vegetation Feature Extraction from ALSM Measurements for Evaluation of GPS Signal Strength in Forested Area: **P Liu, H Lee, K C Slatton**

1340h **G23A-0656 POSTER** Application of High-resolution Aerial LiDAR Data in Calibration of a Two-dimensional Urban Flood Simulation: **J Piotrowski, R Goska, B Chen, W F Krajewski, N Young, L Weber**

1340h **G23A-0657 POSTER** Airborne Laser Swath Mapping: Improved Penetration of Dense Vegetation Opens New Applications: **W E Carter, R L Shrestha, K C Slatton**

1340h **G23A-0658 POSTER** High Resolution, LiDAR-based Monitoring of Terrain Change in an Experimental Watershed: **M J Starek, H Mitasova**

1340h **G23A-0659 POSTER** Calibration Parameter Estimation for Airborne Laser Scanning (ALS) System Using Bounded Geometric Shapes: **P Kumari, R L Shrestha, W E Carter**

1340h **G23A-0660 POSTER** The Slope Imaging Multi-polarization Photon-counting Lidar: an Advanced Technology Airborne Laser Altimeter: **P Dabney, D J Harding, T Huss, S Valett, A W Yu, Y Zheng**

1340h **G23A-0661 POSTER** LSNR Airborne LIDAR Mapping System Design and Early Results (*Invited*): **K Shrestha, W E Carter, K C Slatton**

1340h **G23A-0662 POSTER** Rapid Determination of Near-Fault Earthquake Deformation using LIDAR: **A A Borsa, J H Minster**

1340h **G23A-0663 POSTER** Ionospheric artifacts in simultaneous L-band InSAR and GPS observations: **H A Zebker, J Chen, A C Chen**

1340h **G23A-0664 POSTER** Numerical Weather Models and Mitigating Atmospheric Artifacts in InSAR: **J H Foster, T Cherubini, D V Manjunath, M Murphy, B A Brooks, S Businger, S C Albers, Z Lu, M P Poland, S Chen, C Mass**

1340h **G23A-0665 POSTER** Accounting for atmospheric delays in InSAR data; looking for low amplitude long wavelength deformation in South America: **T Fournier, M E Pritchard, N J Finnegan**

1340h **G23A-0666 POSTER** Effects of the troposphere on GPS and InSAR point target analysis for measurement of crustal deformation and vertical motion near Yucca Mountain, Nevada: **W C Hammond, G Blewitt, H Plag, C W Kreemer, Z Li**

1340h **G23A-0667 POSTER** GPS Carrier Range: A New Geodetic Data Type from Ambizap3 for Improved High-Rate Global Positioning and Seismo-Tectonic Applications: **G Blewitt, W Bertiger, J P Weiss**

1340h **G23A-0668 POSTER** Completing the gaps in Kilauea's Father's Day InSAR displacement signature with ScanSAR: **A Bertran Ortiz, A Pepe, R Lanari, P Lundgren, P A Rosen**

1340h **G23A-0669 POSTER** Multiple Aperture InSAR (MAI) Processor: ALOS, Envisat and ERS implementation; Potential Implications for InSAR Time Series: **N Bechor Ben Dov, T Herring**

1340h **G23A-0670 POSTER** TerraSAR InSAR Investigation of Active Crustal Deformation: **L Lei, R Burgmann**

1340h **G23A-0671 POSTER** Strain accumulation along the 1908 earthquake normal fault in the Strait of Messina, measured by means of SBAS analysis of ERS/ENVISAT time series: **C Tolomei, S Atzori, S Salvi**

1340h **G23A-0672 POSTER** An Attempt to Detect Secular Deformation Associated with the Subduction of the Philippine Sea Plate with ALOS/PALSAR: **M Hashimoto, Y Fukushima**

1340h **G23A-0673 POSTER** Co-seismic deformation due to the 20 March 2008 Yutian earthquake (M7.2) in Tibet and its Fault Model: **M Furuya, T Yasuda, B Fu**

1340h **G23A-0674 POSTER** Source characteristics of Yutian earthquake in 2008 inversed from co-seismic deformation field mapped by InSAR: **X Shan, C Qu, G Zhang, C Wang, X Song, G Zhang**

1340h **G23A-0675** *POSTER* Postseismic deformation modeling of the 2001 Mw7.8 Kokoxili, western China earthquake constrained using InSAR time-series data: **L Xue**, J Sun, M Wang, W Tao, Y Wan, Z Shen

1340h **G23A-0676** *POSTER* Crustal Deformation Caused by an M8.1 Earthquake in the Solomon Islands, Detected by ALOS/PALSAR: **Y Miyagi**, T Ozawa, M Shimada

1340h **G23A-0677** *POSTER* InSAR analysis of the 2008 M 4.7 Reno-Mogul, Nevada earthquake: Evidence for co-seismic and post-seismic ground deformation associated with smaller magnitude earthquakes in the Basin and Range: **J W Bell**, F Amelung

1340h **G23A-0678** *WITHDRAWN*

1340h **G23A-0679** *POSTER* Monitoring of the Long Valley Caldera Inflation Episode from a Principal Component Analysis-based Inversion Method applied to InSAR and EDM Data: **Y N Lin**, A Kositsky, J Avouac

1340h **G23A-0680** *POSTER* Probabilistic estimation of earthquake source parameters from surface deformation data: P Lashgari, **M Motagh**, M Sharifi, S Samsonov, R J Beavan

1340h **G23A-0681** *POSTER* Surface subsidence induced by the Crandall Mine (Utah) collapse: InSAR observations and anelastic modeling: **C Plattner**, S Wdowinski, T H Dixon, R M Govers

1340h **G23A-0682** *POSTER* Study of surface displacement near Itoiz reservoir, Navarra, Spain, using an advanced DInSAR technique: **J Fernandez**, A Arjona, J F Prieto, M A Santoyo, A Seco, D Monells, J L Pallero, E Prieto, F Luzón, J J Mallorquí

1340h **G23A-0683** *POSTER* Independent Validation and Intercomparison of Time-series InSAR Results: A Case study of the San Francisco Bay Area: **P S Agram**, F Casu, H A Zebker, R Lanari

G23B Moscone South: Poster Hall Tuesday 1340h
Geodetic Studies of Strike-Slip Fault Systems: Results in Light of EarthScope I Posters (*joint with T, S, NH*)

Presiding: **J R Murray-Moraleda**, U.S. Geological Survey;
I A Johanson, UC Berkeley

1340h **G23B-0684** *POSTER* Interseismic deformation of the Central Tibetan Plateau measured using InSAR: **M C Garthwaite**, T J Wright

1340h **G23B-0685** *POSTER* Time series analysis of strain accumulation across the Haiyuan fault, Gansu, China, over the 2003-2009 period from ENVISAT InSAR data: **R Jolivet**, C Lasserre, M Doin, S Guillaso, O Cavalie, G Peltzer, J Sun, Z Shen

1340h **G23B-0686** *POSTER* InSAR and GPS integration for the study of Strike Slip fault system: N Houlie, **N Gourmelen**, F Amelung

1340h **G23B-0687** *POSTER* Western Basin and Range province: Surface deformation in the Central Nevada Seismic Belt, observed by Satellite Radar Interferometry: **F Greene**, F Amelung, N Gourmelen

1340h **G23B-0688** *POSTER* Where is the true transform boundary in California?: **J P Platt**, T W Becker

1340h **G23B-0689** *POSTER* Earthquake cycle on the Ballenas Fault, Central Gulf of California, MX: **R Malservisi**, C Plattner, M Hackl, J J Gonzalez-Garcia, F Suarez Vidal, F Amelung, T H Dixon

1340h **G23B-0690** *POSTER* Stress Accumulation and Interseismic Deformation of the Death Valley Fault Zone: **C Del Pardo**, B R Smith-Konter, L F Serpa

1340h **G23B-0691** *POSTER* Present-day loading rate of southern San Andreas and eastern California shear zone faults from GPS: **J C Spinler**, R A Bennett, M L Anderson, S Hreinsdottir

1340h **G23B-0692** *POSTER* Geodetic evidence for creep along the Rodgers Creek and Maacama fault zones, northern California: **MA Floyd**, G J Funning, B Lipovsky

1340h **G23B-0693** *POSTER* Variable Creep on the Concord fault from PS-InSAR and SBAS: **I A Johanson**, R Burgmann, A Ferretti, F Novali

1340h **G23B-0694** *POSTER* Investigating fault coupling: Creep and microseismicity on the Hayward fault: **E L Evans**, J P Loveless, B J Meade, R Burgmann

1340h **G23B-0695** *POSTER* Developing a Methodology for Observing Fault-Zone Frictional Properties from Repeating Earthquakes at Depth: Application to Postseismic Deformation Following the 2004 Parkfield Earthquake: P Statz-Boyer, **T Taira**, R M Nadeau, D S Dreger

1340h **G23B-0696** *POSTER* Automated Fault Discretization for use in Inversions of Coseismic Deformation from Geodetic Observations: **W D Barnhart**, R B Lohman

1340h **G23B-0697** *POSTER* Surface Co-seismic Displacements Caused by Dislocations in a 3-D Heterogeneous, Spherically Earth Model: **G Fu**, W Sun, Y Fukuda

G23C Moscone South: Poster Hall Tuesday 1340h
The Global Geodetic Observing System: Scientific Requirements and Applications I Posters (*joint with A, C, GC, PA, OS, H*)

Presiding: **R S Gross**, Jet Propulsion Laboratory; **H Plag**; **C Shum**, Ohio State University

1340h **G23C-0698** *POSTER* World Gravity Map (WGM) Project: Objectives and Status: **S Bonvalot**, A Briais, A Peyrefitte, R Biancale, G Gabalda, G Moreaux, M Sarraillh, T Fayard

1340h **G23C-0699** *POSTER* A preliminary geodetic data model for geographic information systems: **K M Kelly**

1340h **G23C-0700** *POSTER* New Geodetic Infrastructure for Australia: The NCRIS / AuScope Geospatial Component: P Tregoning, **C S Watson**, R Coleman, G Johnston, J Lovell, J Dickey, W E Featherstone, C Rizos, M Higgins, R Priebebenow

1340h **G23C-0701** *POSTER* Evaluation of a New Prototype Geodetic Astrolabe for Measuring Deflections of the Vertical: **J A Slater**, N Thompson, L E Angell, M S Belenkii, D G Bruns, D O Johnson

1340h **G23C-0702** *POSTER* New attempt to retrieve weak signal with simultaneous SLR observation by adjacent stations: **J Jo**, W Lee

1340h **G23C-0703** *POSTER* VLBI2010 PROOF-OF-CONCEPT GEODETIC VLBI SYSTEM: **C Beaudoin**, A E Niell

1340h **G23C-0704** *POSTER* Estimation of hydrological loading effects to correct VLBI analysis: **G Estermann**, P Tregoning, J Baek

1340h **G23C-0705** *POSTER* Observation of gravity changes associated with variations of ground water table: **J Eom**, K Seo, M Koo, G Lee, B Kwon

1340h **G23C-0706** *POSTER* Geodetic methods for monitoring water overexploitation: Results from geometric and gravimetric observation techniques: **F Seitz**, M Motagh

1340h **G23C-0707** *POSTER* How well can we estimate large scale water storage at the Earth surface?: **O de Viron**, M J Van Camp, J Cretaux, M Diamant

1340h **G23C-0708** *POSTER* GPS measurements applied to the leveling of hydrological stations in the Amazon basin: **D M Moreira**, S Calmant, F Perosanz, A Souza, S Melachroinos, O Rotunno, A Monteiro

1340h **G23C-0709** *POSTER* Study of hydrometeorological processes over West Africa using permanent GPS stations: **S Nahmani**, O Bock, M Bouin, A Santamaria, G Wöppelmann, J Boy

1340h **G23C-0710** *POSTER* Nontectonic Signals in Reprocessed Continuous GPS Position Time Series of CMONOC: **Y Tian**, Z Shen

G23D Moscone West: 3022 Tuesday 1340h
Plate Motion and Plate Boundaries II (*joint with GP, T, NH, S*)

Presiding: R M Fernandes, UBI, CGUL, IDL; D Argus, Jet Propulsion Laboratory; J T Freymueller, University of Alaska Fairbanks

1340h **G23D-01** Quantifying on- and off-fault deformation in Tibet with geometric moment rates (*Invited*): B J Meade, J P Loveless

1355h **G23D-02** Post-seismic deformation of the 2004 Sumatra-Andaman earthquake and strain accumulation along the Sumatran fault in 2005-2008: F Kimata, E Gunuwan, T Ito, A Agustan, T Tabei, I Meilano, S Didik, I Irwandi

1410h **G23D-03** Kinematics of transition from subduction to strike-slip: an example from the New Zealand plate boundary (*Invited*): L M Wallace, P Barnes, R J Beavan, R Van Dissen, N Pondard, N J Litchfield, G Lamarche, T A Little

1425h **G23D-04** Imprint of the Bering Plate in Chukotka, East Siberia, from Regional GPS Observations: M G Kogan, D I Frolov, G M Steblov, Y V Gabsatov, I S Vladimirova, J T Freymueller

1440h **G23D-05** Deformation Styles Along the Southern Alaska Margin Constrained by GPS: J Elliott, J T Freymueller, C F Larsen

1455h **G23D-06** Geodetic Constraints on the Rigidity and Eastern Boundary of the Sierra Nevada Micro-Plate, from Mohawk Valley to Southern Walker Lane: C W Kreemer, W C Hammond, G Blewitt

1510h **G23D-07** New GPS Constraints On Owens Valley Fault Slip Rates: S Jha, W C Hammond, C W Kreemer, G Blewitt

1525h **G23D-08** Paleoseismic displacement history, Coachella Valley segment, San Andreas fault: P L Williams

Global Environmental Change

GC23A Moscone South: Poster Hall Tuesday 1340h
Desertification III Posters (*joint with H, PA*)

Presiding: B J Orr, University of Arizona

1340h **GC23A-0741 POSTER** Integrated Assessment of Prevention and Restoration Actions to Combat Desertification: S Bautista, B J Orr, R Vallejo

1340h **GC23A-0742 POSTER** Land Desertification and it's Control in Gonghe Basin of Qinghai Plateau, China: D Zhang, S Gao, R Lu

1340h **GC23A-0743 POSTER** Desertification patterns induced by coupled geomorphic and vegetation interactions: the case of biological invasions: S Ravi, T E Huxman

1340h **GC23A-0744 POSTER** Simulated climate effects of land degradation near Urumqi, China: N J Moore, J Qi

1340h **GC23A-0745 POSTER** Understanding Coupled Human-Ecological Systems in Global Drylands: Their Key Role in Desertification Research, Dryland Development, and Achieving Sustainable Management Policies: J F Reynolds, C Hutchinson

1340h **GC23A-0746 POSTER** Variability of Primary Production and Surface Albedo along Desert-steppe Ecotone based on Satellite Observation: G Jia, H Wang, Y Zhou

1340h **GC23A-0747 POSTER** Mineral mapping of tropical soils in land degradation areas through ASTER thermal infrared data: L E Vicente, C R Souza Filho

1340h **GC23A-0748 POSTER** Surface temperature-controlling factors during transaction of Mexican monsoon in the Sonoran Desert, North-West Mexico: I Tereshchenko, A Zolotokrilin, T Titkova, L Brito, C Monzon

1340h **GC23A-0749 POSTER** Estimation of Net Primary Production (NPP) of Inner Mongolia in China: J Park, Y KWAK, Y Yasuda

1340h **GC23A-0750 POSTER** Linking Regional Satellite Observations with Coupled Human-Ecological Systems in Global Drylands: C Hutchinson, J F Reynolds

1340h **GC23A-0751 POSTER** Regional & National Scale Assessment of the Impact of the US Livestock Footprint on Dryland Productive Capacity: R W Kulawardhana, R A Washington-Allen, J E Mitchell, M C Reeves

1340h **GC23A-0752 POSTER** A Protocol for Retrospective Remote-Sensing-based Ecological Monitoring of Rangelands: R A Washington-Allen, N E West, R D Ramsey, R A Efroymson

GC23B Moscone West: 3001 Tuesday 1340h
U.S. Global Change Research Program Global Climate Change Impacts in the United States 2009 Report (*joint with PA, A, B, C, OS, NH, H*)

Presiding: T Owen, NOAA/NCDC; S A Lloyd, NASA Goddard Space Flight Ctr; J A Kaye, NASA HQ

1340h **GC23B-01** U.S. Global Climate Change Impacts Overview: T R Karl

1355h **GC23B-02** U.S. Global Climate Change Impacts Report, Global Climate Change: B Santer

1405h **GC23B-03** U.S. Global Climate Change Impacts Report, National Climate Change: M F Wehner

1415h **GC23B-04** U.S. Global Climate Change Impacts Report, Adaptation: R Pulwarty

1425h **GC23B-05** U.S. Global Climate Change Impacts Report, Water Sector: B Udall, R Pulwarty

1435h **GC23B-06** U.S. Global Climate Change Impacts Report, Overview of Sectors: D Wuebbles

1445h **GC23B-07** U.S. Global Climate Change Impacts Report, Alaska Region: D McGuire

1455h **GC23B-08** U.S. Global Climate Change Impacts Report, Overview of Regions: J Walsh

1505h **GC23B-09** An Agenda for Climate Impacts Science: J A Kaye

Geomagnetism and Paleomagnetism

GP23A Moscone South: Poster Hall Tuesday 1340h
Subannual to Billion-Year Geomagnetic Field Variations: Observations, Modeling, and Interpretation I Posters (*joint with DI*)

Presiding: C Constable, IGPP; M C Korte, Helmholtz Centre Potsdam GFZ German Research Center for Geosciences

1340h **GP23A-0775 POSTER** Biases in Time-Averaged Field and Paleosecular Variation Studies: C L Johnson, C Constable

1340h **GP23A-0776 POSTER** Expanding Spatial Coverage of Geomagnetic Field Models Using Submarine Basaltic Glass: L M Schoeller, J A Bowles, B Dreyer, D A Clague

1340h **GP23A-0777 POSTER** Reconstructing the Geomagnetic Field of the Past 10 kys: M C Korte, C Constable, R Holme, F Donadini, U Frank

1340h **GP23A-0778 POSTER** Episodic Recurrence of the South Atlantic Magnetic Anomaly?: C Constable, M C Korte, F Donadini

1340h **GP23A-0779 POSTER** Geophysical Insights from Archaeomagnetic Dating: R Holme, A Lodge, N Suttie, J Shaw, M J Hill, P Linford

1340h **GP23A-0780 POSTER** Geomagnetic intensity spike recorded in high resolution slag deposit in southern Jordan: E Ben-Yosef, L Tauxe, T E Levy, R Shaar, H Ron, M Najjar

1340h **GP23A-0781 POSTER** A North Pacific View of Holocene Paleomagnetic Secular Variation: **M H Davies**, J S Stoner, A C Mix, J R Southon, J M Jaeger, G P Rosen, J E Channell

1340h **GP23A-0782 POSTER** Geomagnetic field variations during magnetochron C33r time: evidence from magnetic wiggles in the Atlantic, Pacific and Indian Oceans: **S A Hall**

1340h **GP23A-0783 POSTER** Reversal Frequency, Core-Mantle Conditions, and the SCOR-field Hypothesis: **K A Hoffman**

1340h **GP23A-0785 POSTER** On relation between information of data and determinacy of solution in inversion processes from geomagnetic field data with ABIC: **T Hatakeyama**

GP23B Moscone South: Poster Hall Tuesday 1340h
Tuning the Geologic Timescale II Posters (joint with PP)

Presiding: **G Acton**, UC Davis; **J W Geissman**, Univ New Mexico

1340h **GP23B-0786 POSTER** 40Ar/39Ar Age of the Thorsmörk ignimbrite, Iceland and correlation with North Atlantic Z2 ash: Cross-calibration of ~60,000 counted annual layers in the Greenland ice cores: **M Storey**, O Stecher

1340h **GP23B-0787 POSTER** Estimation of Power-Law Scaling in Time-Uncertain Series of Data With Application to GISP2: **A Rhines**, P Huybers

1340h **GP23B-0788 POSTER** Magnetostratigraphy of the Plio-Pleistocene global stratotype section at Vrica (Italy): magnetic iron sulphides and complex magnetic polarity patterns: **A P Roberts**, F Florindo, J C Larrasoana, M A O'Regan, X Zhao, A Negri

1340h **GP23B-0789 POSTER** Determining the Ages and Eruption Rates of the Columbia River Basalt Group Magnetozone: **N A Jarboe**, R S Coe, P R Renne, J M Glen

1340h **GP23B-0790 POSTER** Heterogeneity and Cyclicity in the Physical Property Measurements of Cenozoic Sediments (IODP Expedition 320/321): **P Fitch**, S J Davies, M Lovell, L M Anderson, S Assous, C Hopper

1340h **GP23B-0791 POSTER** High Precision U/Pb Geochronology of Eocene-Miocene South American Land Mammal Ages at Gran Barranca, Argentina: **R E Dunn**, M J Kohn, R H Madden, C E Strömberg, A A Carlini

1340h **GP23B-0792 POSTER** Calibrating the Lower Cretaceous Time Scale with U-Pb Zircon Ages from the Great Valley Group: **A Shimokawa**, D S Coleman, T J Bralower

1340h **GP23B-0793 POSTER** Buntsandstein-Muschelkalk magnetostratigraphy from Central Germany: detailed correlation with the Middle Triassic geomagnetic polarity timescale: **M Szurlies**

1340h **GP23B-0794 POSTER** High-resolution correlation of the late Triassic (Raetian) to the early Jurassic (Toarcian) between Pelagic sequence of Panthalassa and terrestrial sequence of Pangea using Milankovitch cycles: **M Ikeda**, R Tada, H Sakuma

1340h **GP23B-0795 POSTER** Precise Re-Os age and low initial ¹⁸⁷Os/¹⁸⁸Os for latest Permian black shales from the mid-Norwegian shelf herald the Permo-Triassic extinction: **S Georgiev**, H J Stein, J L Hannah, B Bingen, G Xu, G Yang, A Zimmerman, H M Weiss

1340h **GP23B-0796 POSTER** Calibrating the Cryogenian: **F A Macdonald**, M D Schmitz, J L Crowley, E Haam, P Huybers, P A Cohen, D T Johnston

GP23C Moscone West: 2002 Tuesday 1340h
Geomagnetic Field of the Polar Regions: Insights and Impacts Assessed From Observations and Modeling II (joint with AE, SM, DI)

Presiding: **J S Stoner**, Oregon State University; **G St-Onge**, ISMER and GEOTOP

1340h **GP23C-01** Paleomagnetic signature of the tangent cylinder (Invited): **D Gubbins**

1355h **GP23C-02** North versus South: magnetic poles and their wandering (Invited): **M Mandeau**, M C Korte

1410h **GP23C-03** The Character of Brunhes-Chron Paleomagnetic Secular Variation at High Latitudes: Results from IODP Expedition 323-Bering Sea (Invited): **S P Lund**, M Okada, C Ravelo, K Takahashi

1425h **GP23C-04** Origin of apparent magnetic excursions in deep-sea sediments from Mendeleev Ridge and Alpha Ridge (Arctic Ocean) (Invited): **J E Channell**, **C Xuan**

GP23D Moscone West: 2002 Tuesday 1440h
Global Magnetic Anomalies; Definition, Compilation, and Use II (joint with T, DI, OS)

Presiding: **J V Korhonen**, Geologian tutkimuskeskus

1440h **GP23D-01** Line Leveling of Global Marine Magnetic Anomaly Data Set in Two Phases (Invited): **T Ishihara**, M Catalan, Y Quesnel

1455h **GP23D-02** Magnetic surveys in equatorial oceanic regions: new methods, new data, and reprocessed old data (Invited): **U Barckhausen**, M Engels

1510h **GP23D-03** Marine Magnetic Anomaly Compilations in the Indian Ocean for Plate Tectonics and Beyond (Invited): **J Dymant**, G C Bhattacharya, Y Vadakkeyakath, D Bissessur, J Jacob, K R Kattoju, T Ramprasad, J Royer, P Patriat, A K Chaubey, K Srinivas, Y Choi

1525h **GP23D-04** World Digital Magnetic Anomaly Map, development towards the Second Edition. (Invited): **J V Korhonen**

Hydrology

H23A Moscone South: Poster Hall Tuesday 1340h
Advances in the Determination of Water Age and Application to the Hydrological Sciences II Posters

Presiding: **C Daughney**, GNS Science; **U Morgenstern**, GNS Science; **P Maloszewski**

1340h **H23A-0919 POSTER** Stream water residence time in a small gneiss watershed with a thick weathered layer: **N Kabeya**, A Shimizu, Y Tsuboyama, T Nobuhiro, J Zhang

1340h **H23A-0920 POSTER** Modeling ³H-³He Gas-Liquid Phase Transport for Interpretation of Groundwater Age: **S F Carle**, B Esser, J E Moran

1340h **H23A-0921 POSTER** Noble gas determined excess air and radiogenic helium-4 as indicators of groundwater recharge, flow rates and residence times in the Lower Rhine Embayment, Germany: **L P Gumm**, P Dennis, V Bense, N Cremer, K M Hiscock

1340h **H23A-0922 POSTER** On the Relationship Between Soil Depth and Mean Water Transit Time in Zero-order Catchments: **I Heidebuechel**, P A Troch, J D Pelletier, C Rasmussen, S W Lyon

1340h **H23A-0923 POSTER** Transient 120,000-year response of the large regional flow system at Yucca Mountain, Nevada to complex cyclical variability in paleoclimate: **Y Park**, F W Schwartz, E A Sudicky, R G McLaren, M Huber, M Apted

1340h **H23A-0924 POSTER** Using GSFLOW and Hydrologic Tracers to Assess Surface and Groundwater Interactions, Residence Times, and Flowpaths in Two Lake Tahoe Watersheds: **J L Huntington**, R G Niswonger, S Markstrom, R Regan, G Pohl

1340h **H23A-0925** POSTER Shallow Groundwater Dating by $3\text{H}+3\text{He}$ method in the Saijo Basin, Affected by Mantle Helium, in the Shikoku Island, Japan: **Y Mahara**, T Ohta, T Nakano, M Tokumasu

1340h **H23A-0926** POSTER Uncertainty in ^{14}C model ages of groundwater: The influence of soil gas in terranes dominated by C3 plants: **S Nelson**, R Hart, D Eggett

1340h **H23A-0927** POSTER Kr-81 and Kr-85 analysis for the determination of water/ice age: **Z Lu**, K Bailey, C Cheng, A M Davis, Y Ding, R W Dunford, S Hu, W Jiang, P Mueller, T P O'Connor, R Purtschert, N C Sturchio, Y R Sun, R Yokochi, L Young, W Williams

1340h **H23A-0928** POSTER Quantification of the Dedolomitization Rate for Correction of Groundwater ^{14}C Ages in Aquifers of the Sacramento Mountains, New Mexico: **J T Morse**, F M Phillips, L A Land

1340h **H23A-0929** POSTER Mathematical results new and revisited on the distribution of groundwater age: **T R Ginn**, A Massoudieh, L Foglia

H23B Moscone South: Poster Hall Tuesday 1340h
Groundwater Inputs to Rivers, Lakes, and Oceans II Posters
(joint with B, OS, EP)

Presiding: **Y A Kontar**, University of Illinois at Urbana-Champaign

1340h **H23B-0930** WITHDRAWN

1340h **H23B-0931** POSTER Influence of Groundwater Seepage on Water Quality and Ecological Health of the Ria Formosa Lagoon, Southern Portugal *(Invited)*: **A Y Kontar**, A Newton

1340h **H23B-0932** POSTER Study of the Impact of Submarine Groundwater Discharge on the Bio-Geochemical Parameters of Coastal Waters off Southern Portugal: **A Y Kontar**, A Newton

1340h **H23B-0933** POSTER Geologic and Anthropogenic Controls on Selenium and Nitrate Loading to Southern California Streams: **B J Hibbs**, A S Ellis

1340h **H23B-0934** POSTER Time Scale Dependent SGD due to the Sea Level Change: K Lee, **E Lee**, Y Hyun

1340h **H23B-0935** POSTER Using Radium Isotopes to Characterize Coastal Mixing Processes: A Sensitivity Analysis: **K Knee**, E Garcia-Solsona, J Garcia-Orellana, P Masque, A Paytan

1340h **H23B-0936** POSTER Impact of Groundwater-Lake Interaction on Levels of *E. coli* in Near-Shore Swimming Waters at Beaches of the Great Lakes: **A S Crowe**

1340h **H23B-0937** POSTER Seepage between a Regional Aquifer and a Flow-through Lake in a Melt Water Outwash Plain: Evidence of off-shore exchange: **J Kidmose**, P K Engesgaard, B Nilsson, M C Looms, L Boldreel

1340h **H23B-0938** POSTER WHAT WE LEARNED ABOUT THE HYDROLOGICAL REGIME OF THE LARGEST SUBMARINE SPRING SYSTEM IN FLORIDA USING SALINITY AND RADON: A TWO-YEAR INVESTIGATION ON SPRING CREEK SPRINGS: **N T Dimova**, W C Burnett, J Chanton, R N Peterson

1340h **H23B-0939** POSTER Uncertainties Associated With Model-Estimated Nitrogen Fluxes to Coastal Waters, Cape Cod, Massachusetts: **D A Walter**

1340h **H23B-0940** POSTER Getting the Most from Temperature Measurements in Groundwater-Surface Water Interaction Studies: **G A Ferguson**, M E Henley, V Bense

1340h **H23B-0941** POSTER Temporal evolution of the freshwater-saltwater interface: **A Abdollahi Nasab**, H Li, M C Boufadel

1340h **H23B-0942** POSTER The fluxes and transport mechanisms of groundwater and surface water contaminants (Cd, Zn, Pb, As, and Cr) into a fluvial system: Palmerton, PA: **J Blake**, S C Peters

1340h **H23B-0943** POSTER The Role of Dissolved Loads Partitioned Between Surface and Ground Waters in the Chemical Weathering Rates of Tropical Islands Under Varied Climates: A Preliminary Assessment from Oahu, Hawaii, USA: **M J LeMaistre**, S Nelson, D G Tingey

1340h **H23B-0944** POSTER Understanding the Effects of Multiscale Groundwater-Surface Water Interactions on Scott River Baseflow and Stream Temperature in Support of Beneficial Salmon Habitat: **R Hines**, T Harter

1340h **H23B-0945** POSTER Groundwater Level Prediction Using Gray System Theory: **S Huang**, J Wen, K Chen, Z Huang

1340h **H23B-0946** POSTER Investigation on the Relationship of River Stage and Groundwater Level along Hsin-Hu-Wei Stream: **C Yu**, C Wu, J Wen

1340h **H23B-0947** POSTER Estimation of nutrient supply by groundwater in a tidal river, Seto Inland Sea region, Japan, using ^{222}Rn : **Y Kato**, S Onodera, Y Shimizu, H Oyagi, M Saito, K Kitaoka, Y Moriyama

1340h **H23B-0948** POSTER Anomalous Seasonal Heat Budget of Shallow East Anglian Lake Explained by Groundwater Input: **A Kettle**, C Hughes

1340h **H23B-0949** POSTER Numerical Modeling of Groundwater Seepages to River/Estuary Systems: **G Yeh**, J Lee, G Hu, D Sun

1340h **H23B-0950** POSTER Analysis of transient saltwater intrusion in coastal aquifers: **Y Chang**, H Yeh

1340h **H23B-0951** POSTER An Integrated Approach to Quantify Groundwater - Surface Water Interactions: the Norman Research Site, Oklahoma: **I Mendoza-Sanchez**, M S Phanikumar, J Masoner, I Cozzarelli, J T McGuire

1340h **H23B-0952** POSTER Estimation of submarine groundwater discharge to Osaka Bay, Japan by numerical simulation: **J Yasumoto**, S Nakaya, M Mitamura, M Takahashi, S Onodera, M Taniguchi

1340h **H23B-0953** POSTER Statistical Distribution of Streambed Vertical Hydraulic Conductivity along the Platte River, Nebraska: **C Cheng**, J Song, X Chen, D Wang

1340h **H23B-0954** POSTER Simulating Lake-Groundwater Interactions During Decadal Climate Cycles: Accounting For Variable Lake Area In The Watershed: **M L Virdi**, T M Lee

1340h **H23B-0955** POSTER The effect of bank storage on baseflow temperatures in urbanized streams: **R E Storniolo**, W P Anderson

1340h **H23B-0956** POSTER Characterizing groundwater-stream interaction at catchment scale: **S Karan**, P K Engesgaard, M C Looms, T Laier

1340h **H23B-0957** POSTER Stream Temperature Variability as an Indicator of Groundwater-Surface Water Interactions in Two Groundwater-Fed Streams: **M Middleton**, D M Allen

1340h **H23B-0958** POSTER GROUNDWATER-SURFACE WATER INTERACTIONS ACROSS A SALINITY GRADIENT IN A COASTAL WETLAND: TAYLOR SLOUGH, EVERGLADES NATIONAL PARK, FLORIDA: **X Zapata**, R Price

H23C Moscone South: Poster Hall Tuesday 1340h
Managing Water Resources Risks and Innovating Adaptation Strategies in a World of Change I Posters
(joint with GC, PA)

Presiding: **C M Brown**, University of Massachusetts - Amherst; **D E Rosenberg**, Utah State University; **R Olsen**, USACE-IWR

1340h **H23C-0959** WITHDRAWN

1340h **H23C-0960** *POSTER* Impacts of Landuse Management and Climate Change on Landslides Susceptibility over the Olympic Peninsula of Washington State: **M G Barik**, J C Adam

1340h **H23C-0961** *POSTER* Preliminary Investigation of Climate Change Impact on the New York City Water Supply: **A H Matonse**, A Frei, D C Pierson, M S Zion

1340h **H23C-0962** *POSTER* Hydrologic Modeling of Conservation Farming Practices on the Palouse: **J Van Wie**, J C Adam, J Ullman

1340h **H23C-0963** *POSTER* Risk Analysis of Extreme Rainfall Effects on the Shihmen Reservoir: **Y Ho**, W Lien, C Tung

1340h **H23C-0964** *POSTER* Effects of Water Rights and Other Factors on Water Management by Farmers: **S Andriyas**, M McKee, T B Hardy

1340h **H23C-0965** *POSTER* A Modeling Tool for Evaluating Climate Change Impacts on Water Supply System: **L Chuang**, C Tung, T Liu

1340h **H23C-0966** *POSTER* Sensitivity-Informed De Novo Programming for Many-Objective Water Portfolio Planning Under Uncertainty: **J R Kasprzyk**, P M Reed, B R Kirsch, G W Characklis

1340h **H23C-0967** *POSTER* Future Management and Control of the Lower Mississippi River: **C S Willson**, E Karadogan

1340h **H23C-0968** *POSTER* A Water Grid for the UK: **A Leathard**, H J Fowler, C G Kilsby

1340h **H23C-0969** *POSTER* Application of a Genetic Algorithm in a Collaborative Process to Resolve Hydrology and Physical Reality with Both Western and Maori Cultural Values: **D Sheer**, A Sheer, S Lebherz

1340h **H23C-0970** *POSTER* Multiobjective Optimization Combining BMP Technology and Land Preservation for Watershed-based Stormwater Management: **A E McGarity**

1340h **H23C-0971** *POSTER* An objective approach to marginal benefit functions for environmental flows: an example for fluvial systems: **P Perona**, P Burlando

1340h **H23C-0972** *POSTER* Multi-Objective Optimization with Function Approximation Including Application to Computationally Expensive Groundwater Remediation Design: **T Akhtar**, C A Shoemaker

1340h **H23C-0973** *POSTER* What is safe and clean water in rural Bolivian communities? A preliminary investigation of heavy metal contamination in rural community water systems in the Bolivian Altiplano: **M Borella**, Z Guido, P Borella, T Ketron

1340h **H23C-0974** *POSTER* Integrating Evolution Algorithms with Linear Programming to the Conjunctive Use of Surface and Subsurface Water: **L Chang**, Y Chen, C Pan

1340h **H23C-0975** *POSTER* Daily Time Step Refinement of Optimized Flood Control Rule Curves for a Global Warming Scenario: **S LEE**, C Fitzgerald, A F Hamlet, S J Burges

1340h **H23C-0976** *POSTER* Stochastic Optimization of Water Resources Management under Climatic and Anthropogenic Uncertainties: R M Suribhatla, **C M Mok**, M Zhang, N Wanakule

H23D Moscone South: Poster Hall Tuesday 1340h **Particle Tracking in Hydrologic Modeling Posters**

Presiding: **E M LaBolle**; **Y Zhang**, Desert Research Institute;
A F Tompson, Lawrence Livermore National Laboratory

1340h **H23D-0977** *POSTER* Particle Tracking Model of Bimolecular Reactive Transport in Porous Media (*Invited*): **B Berkowitz**, Y Edery, H Scher

1340h **H23D-0978** WITHDRAWN

1340h **H23D-0979** *POSTER* Lattice Boltzmann Model Interpretation of Scale-Dependent Contaminant Desorption Rates in Sediments: **C Liu**

1340h **H23D-0980** *POSTER* Applying Dispersive Changes to Lagrangian Particles in Groundwater Transport Models:

L F Konikow

1340h **H23D-0981** *POSTER* Adaptive particle-based pore-level modeling of incompressible fluid flow in porous media: a direct and parallel approach: **S Ovaysi**, M Piri

1340h **H23D-0982** *POSTER* Mapping and Upscaling Techniques for Efficient Simulation of Flow and Transport on a Two-Dimensional Fracture Continuum: **R Parashar**, D M Reeves

1340h **H23D-0983** *POSTER* Multi-GPU, Multi-core, Multi-phase Lattice-Boltzmann Simulations of Fluid Flow for the Geosciences: **S D Walsh**, J Myre, M O Saar, D Lilja

1340h **H23D-0984** *POSTER* Particle Tracking-Based Strategies For Simulating Transport in a Transient Groundwater Flow Field at Yucca Flat, Nevada Test Site, USA: **E H Keating**, G Srinivasan, Q Kang, C Li, Z Dash, E M Kwicklis

1340h **H23D-0985** *POSTER* Influence of the Fracture-Network Structure on Contaminant Transport in Fractured Porous Media: **D Roubinet**, H Liu, Q Zhou, J De Dreuzy

1340h **H23D-0986** *POSTER* Simulating Three-Dimensional Shallow Water Flow using Multilayer Lattice Boltzmann Method Accelerated by Graphics Processing Units (GPUs): **K Tubbs**, F T Tsai

1340h **H23D-0987** *POSTER* Interplay Between Nonlinear and Memory Effects in Variably Saturated Porous Media: a Continuous Time Random Walk Approach: A Zoia, **A Cortis**, M N'eele

1340h **H23D-0988** *POSTER* Modeling temperature within the hyperheic zone: **A Marzadri**, D Tonina, A Bellin

1340h **H23D-0989** *POSTER* Pore-Scale Simulation and Upscaling of Solute Transport in Groundwater Incorporating Intra-Grain Mass Transfer Processes: **T D Scheibe**, A M Tartakovsky, B J Palmer

1340h **H23D-0990** *POSTER* A New Approach to Model Solute Mixing in Porous Media: P A Herrera, **R D Beckie**

1340h **H23D-0991** *POSTER* Simulation of Particle Transport in Open-Channel Flow: **M L Beninati**, B Chiu, E Paterson

1340h **H23D-0992** *POSTER* Probabilistic Analysis of Particle Deposition and Resuspension in Open Channel Flows: **J OH**, C W Tsai

H23E Moscone South: Poster Hall Tuesday 1340h **Rocks, Fractures, Fluids, and Life: Insights From Subsurface Observatories II Posters**

Presiding: **L C Murdoch**, Clemson University; **D Elsworth**, Pennsylvania State University; **T C Onstott**, Princeton Univ.;
W M Roggenthen, SD School of Mines-Tech

1340h **H23E-0993** *POSTER* DUSEL CO₂: A deep underground laboratory for geologic carbon sequestration studies: **C A Peters**, P F Dobson, C M Oldenburg, G Scherer, T C Onstott, J T Birkholzer, B M Freifeld, M A Celia, J S Wang, J Prevost

1340h **H23E-0994** *POSTER* Hydraulic conductivity change of a shear deforming rock fracture: **H KIM**, E Park, J Inoue

1340h **H23E-0995** *POSTER* A Thermal Technique of Fault Nucleation, Growth, and Slip: D Garagash, **L N Germanovich**, L C Murdoch, S J Martel, Z Reches, D Elsworth, T C Onstott

1340h **H23E-0996** *POSTER* Scientific Basis for a Coupled Thermal-Hydrological-Mechanical-Chemical-Biological Experimental Facility at DUSEL Homestake: **E L Sonnenthal**, D Elsworth, R P Lowell, K Maher, B J Mailloux, N Uzunlar, B M Freifeld, A R Keimowitz, J S Wang

1340h **H23E-0997** POSTER The Boulby Geoscience Project Underground Research Laboratory: Initial Results of a Rock Mechanics Laboratory Testing Programme: **M J Brain**, D N Petley, N Rosser, M Lim, M Sapsford, J Barlow, E Norman, A Williams, D Pybus

1340h **H23E-0998** POSTER Fiber-Optic Strain and Temperature Monitoring System for DUSEL: **H F Wang**, M MacLaughlin, D Fratta, L C Murdoch

1340h **H23E-0999** WITHDRAWN

1340h **H23E-1000** POSTER Ecohydrology of Deep Fractured Rocks at Homestake DUSEL: **T L Kieft**, D F Boutt, L C Murdoch, H F Wang

1340h **H23E-1001** POSTER DFNModeler: an efficient discrete fracture network modeler and its application to fracture characterization in Black Warrior basin, Alabama: **G Jin**, J C Pashin

1340h **H23E-1002** POSTER Hydrostatic Water Level Systems At Homestake DUSEL: **L D Stetler**, J T Volk

1340h **H23E-1003** POSTER Fiber Optic Strain Gage Installation at the DUSEL Site: **M MacLaughlin**, N Noni, A Turner, J Gage, H F Wang

1340h **H23E-1004** WITHDRAWN

1340h **H23E-1005** POSTER Mountain-Block Recharge in the Santo Tomas Valley, Baja California, Mexico: **W M Thomas**, T Kretzschmar

1340h **H23E-1006** POSTER Development of Hydrologic Characterization Methodology of Faults: Outline of the Project in Berkeley, California: **J Goto**, T Miwa, H Tsuchi, K Karasaki

1340h **H23E-1007** POSTER Development of an advanced support system for site investigations: **T Mizuno**, K Hama, T Iwatsuki, T Semba

1340h **H23E-1008** POSTER From Seismic Characterization to Coupled Process Testing Along Drifts at LSBB as an Example of Establishing an International Facility for a Worldwide Network of Underground Research Laboratories: **S GAFFET**, J S Wang

1340h **H23E-1009** POSTER A Conceptual Hydrogeologic Model of the Vicinity of DUSEL Homestake: **L C Murdoch**, L N Germanovich, D F Boutt, T L Kieft, H F Wang, T C Onstott

1340h **H23E-1010** POSTER Evaluation of the applicability of optical fiber strain sensors for monitoring rock deformation caused by ocean tide –a case study at the Aburatsubo site, Japan:- H Matsui, **Y Kashiwai**, O Sano, T Tokunaga, Z He, K Mogi, H F Wang

1340h **H23E-1011** POSTER Hydrogeological characterization based on the results of long term monitoring in the Mizunami Underground Research Laboratory Project: **R Takeuchi**, T Ohyama, T Matsuoka, H Saegusa, S Takeuchi

1340h **H23E-1012** POSTER Unique Approach to Hydraulic Characterization at an Underground Lab: **T L Jones**, J S Wang

1340h **H23E-1013** POSTER Structural characterization of a karstified limestone formation using GPR: **D Rousset**, G Sénéchal, S GAFFET

1340h **H21J-06** POSTER Hydromechanical Imaging of Fractured-Porous Rocks Properties and Coupled Processes: Y Guglielmi, **F Cappa**, J Rutqvist, J S Wang

H23F Moscone South: Poster Hall Tuesday 1340h
Seals, Reservoirs, or Both? The Coupled Multiphysics of Mudrocks Posters (*joint with T*)

Presiding: **T A Dewers**, Sandia National Laboratories; **J E Heath**, New Mexico Tech

1340h **H23F-1014** POSTER Microporosity in tight rocks: clues from neutron scattering experiments (*Invited*): **A Navarre-Sitchler**, J P Kaszuba, J W Carey

1340h **H23F-1015** WITHDRAWN

1340h **H23F-1016** POSTER Morphology of the pore space in claystones - evidence from BIB/FIB ion beam sectioning and cryo-SEM observations: **G Desbois**, J L Urai, P A Kukla

1340h **H23F-1017** WITHDRAWN

1340h **H23F-1018** POSTER Pore-scale studies of unconventional reservoir rocks: **D Silin**, J B Ajo Franklin, S Cabrini, T J Kneafsey, A MacDowell, P S Nico, L Tomutsa

1340h **H23F-1019** POSTER The Effect of Contact Area on the Fluid Flow-Fracture Specific Stiffness Relationship: **C Petrovitch**, L J Pyrak-Nolte, D D Nolte

1340h **H23F-1020** POSTER The Maximum Seal Capacity Concept as Applied to Neogene Sedimentary Rocks in Horonobe, Hokkaido, Japan: **K Okazaki**, T Shimamoto, S Uehara

1340h **H23F-1021** POSTER Structure and permeabilities of partially desaturated compact clays from microtomographic measurements: A Pazdniakou, J Thovert, J Matray, M Dymitrowska, **P M Adler**

1340h **H23F-1022** POSTER Multi-Scale Transport Properties of Fine-Grained Rocks: A Case Study of the Kirtland Formation, San Juan Basin, USA: **J E Heath**, T A Dewers, B J McPherson, T H Wilson, T Flach

1340h **H23F-1023** POSTER JOINTS AND SYN-SEDIMENTARY FAULTS NETWORKS IN MARINE CLAYS AND MUDSTONES. Importance for Radwaste storage: **M Arnould**

1340h **H23F-1024** POSTER Experimentally Derived Mechanical and Flow Properties of Fine-grained Soil Mixtures: **J Schneider**, C S Peets, P B Flemings, R J Day-Stirrat, J T Germaine

1340h **H23F-1025** POSTER Swelling of clay-sulfate rocks and groundwater flow in tunnel engineering: **C Butscher**, P Huggenberger

1340h **H23F-1026** POSTER A two-factor model of soil suction from capillarity, shrinkage, adsorbed film, and intra-aggregate structure: **V Y Chertkov**

1340h **H23F-1027** POSTER Sensitivity Screening the van Genuchten/Mualem Soil Hydraulic Parameters: **J C Seaman**, J H Singer, D E Radcliffe

1340h **H23F-1028** POSTER Helium production and transport in low permeability formations: The case of the Toarcian argillites at Tournemire (France): **F Bensenouci**, J Michelot, J Matray, N Waber, S Savoye

1340h **H23F-1029** POSTER Polypropylene Fiber Amendments to Alleviate Initiation and Evolution of Desiccation Cracks in Bentonite Liners: **M Tuller**, T B Gebrenegus

1340h **H23F-1030** POSTER Role of wetting and drying cycles in formation and growth of soil aggregates: T A Ghezzehei, **J P Lopez**

1340h **H23F-1031** POSTER Application of a Benchtop MicroCT Scanner to Determine Soil Pore Size and Aggregate Distributions at Different Scales and Resolutions: **C M Vaz**, P O Lasso, I C de Maria, P P Iassonov, M Tuller

H23G Moscone South: Poster Hall Tuesday 1340h
Sources and Fate of Contaminants of Emerging Concern in Surface Waters Posters

Presiding: **P M Bradley**, USGS; **P Phillips**, US Geological Survey

1340h **H23G-1032** POSTER Biodegradation of 17 β -Estradiol, Estrone and Testosterone in Stream Sediments: P M Bradley, F H Chapelle, L B Barber, P B McMahon, J L Gray, D W Kolpin

1340h **H23G-1033** POSTER Combined Sewer Overflows as a Source of Hormones to Surface Water: **P Phillips**, A Chalmers, J L Gray, W Foreman, D W Kolpin, G Wall, K Esposito

1340h **H23G-1034** POSTER Occurrence, fate, and ecosystem implications of endocrine active compounds in select rivers of Minnesota: **J Writer**, S Keefe, L B Barber, G Brown, H Schoenfuss, R Kiesling, J L Gray

1340h **H23G-1035** POSTER The environmental occurrence and effect of alkylphenol polyethoxylates and their metabolites in Taiwan: **W Ding**

1340h **H23G-1036** POSTER Rainfall Driven Sorting of Soils and Manure in Beef Feedlot Pens, Implications for Steroid Hormone Transport: **R Bryson**, T Harter

1340h **H23G-1037** POSTER Tracking the Sources of Indium to the Environment: **S O White**, H Hemond

1340h **H23G-1038** POSTER As Leaching into Fresh Water from Highly Contaminated Hawaiian Soils: **N J Niklis**, K H Rubin, A I El-Kadi

H23H Moscone West: 3009 Tuesday 1340h
Environmental Remediation and Confirmatory Monitoring III
(joint with PA)

Presiding: **T J Nicholson**, U.S. Nuclear Regulatory Commission;
H Monken-Fernandes, International Atomic Energy Agency

1340h **H23H-01** Investigating In-Situ Mass Transfer Processes in a Groundwater U Plume Influenced by Groundwater-River Hydrologic and Geochemical Coupling (*Invited*): **J M Zachara**

1400h **H23H-02** Monitoring and evaluation of plant and hydrological controls on arsenic transport across the water sediment interface: **P R Jaffe**, L H MacDonald, J Paull

1415h **H23H-03** Comparison of biogeochemical models to simulate uranium (VI) bio-reduction under sulfate reduction conditions (*Invited*): F Zhang, W Wu, J Parker, T Mehlhorn, S Kelly, K M Kemner, G Zhang, C W Schadt, S C Brooks, C Criddle, D B Watson, **P Jardine**

1435h **H23H-04** Environmental Problems Associated with Decommissioning of Chernobyl Power Plant Cooling Pond: T Q Foley, B Y Oskolkov, M D Bondarkov, S P Gashchak, A M Maksymenko, V M Maksymenko, V I Martynenko, **G T Jannik**, E B Farfan, J C Marra

1450h **H23H-05** Radionuclide Sensors and Systems for Monitoring Technetium-99 and Strontium-90 in Groundwater at the Hanford Site: **J W Grate**, M J O'Hara, O B Egorov, S R Burge

1505h **H23H-06** Monitored Natural Attenuation as a Remediation Strategy for Nuclear Power Plant Applications: **K Kim**, S Bushart

1520h **H23H-07** Characterization, Modeling, Monitoring and Remediation of Radionuclides in the Subsurface: **T J Nicholson**, R Cady

H23I Moscone West: 3007 Tuesday 1340h
Hydrology in Changing Climates: Matching Scales and Understanding Secondary Effects II (joint with A)

Presiding: **U Lall**, Columbia Univ; **J S Kobor**, DHI

1340h **H23I-01** Anatomy of a climate impact study: The alarming case of the Colorado River System Tim P. Barnett* David W. Pierce* *Scripps Inst. Oceanography, La Jolla, CA 92093 (*Invited*): T P Barnett, **D W Pierce**

1358h **H23I-02** Physical Scales of Runoff Production in the Upper Colorado River Basin: Implications for Response to Climate Change (*Invited*): **M Hoerling**, J Eischeid

1416h **H23I-03** Simulated potential evapotranspiration over the Pacific Northwest and implications for forests in a changing climate: **M M Elsner**, J S Littell, A F Hamlet

1430h **H23I-04** Evapotranspiration-Temperature Relationships Under Climate Change: Energy Flux vs. Energy Pulling Up a Chair: **B M Lofgren**, A Ruberg

1444h **H23I-05** Combining a Water Balance Model for Streamflow Simulations with Long Tree-Ring Records to Improve Estimation of Water Resource Variability: **L Saito**, F Biondi, J Salas, S Strachan

1458h **H23I-06** Climate Change, Glaciers, and Water Management in the Rio Santa Watershed, Peru: **D R Purkey**, M Escobar

1512h **H23I-07** Projected Changes In The Water Cycle Of The Extratropical Western Andes Under Climate Change Scenarios: J P McPhee, **E A Rubio**, A Ayala, R Meza, S Vicuna, R Garreaud, X Vargas

1526h **H23I-08** Simulating the Spatial Distribution of Hydrological Connectivity Under Possible Future Climates - Impacts on River Flow Dynamics and Non-Point Source Pollution: **S M Reaney**, S N Lane, L Heathwaite

H23J Moscone West: 3011 Tuesday 1340h
Precipitation Processes and Observations for Atmospheric, Land Surface, and Hydrological Modeling I

Presiding: **C S Pathak**, South Florida Water Management;
RS Teegavarapu, Florida Atlantic University; **C De Michele**, Politecnico di Milano

1340h **H23J-01** Rainfall is a Transient - Shattering Bubbles and Other Myths, or the Importance of Comprehensive Observations and Synthesis from the Laboratory to the Storm Environment (*Invited*): **A P Barros**, O P Prat

1355h **H23J-02** The Climatology of Extreme Rainfall in the Eastern US (*Invited*): **J A Smith**, M L Baeck, J K Yeung, G Villarini, W F Krajewski

1410h **H23J-03** Radar-based Flood Warning System for Houston, Texas and Its Performance Evaluation: **N Fang**, P Bedient

1425h **H23J-04** The Discovery of Partially Coherent Backscatter in Radar Observations of Precipitation and Its Potential Impact on Radar Hydrometeorology: **A R Jameson**, A Kostinski

1440h **H23J-05** Measuring Precipitation over U.S.: Where Are We Today?: **Y Tian**, C D Peters-Lidard

1455h **H23J-06** Rainfall Organization and Atmospheric Conditions of Heavy Precipitation in the Northeastern United States: **S Jessup**, S J Colucci

1510h **H31D-0815** Downscaling and disaggregation of temporal rainfall: scaling vs. non-scaling approaches (*Invited*): **M Marani**, M Boni, S Zanetti

1525h **H23J-08** Verification Techniques for QPE with Blended Ensemble Model Predictions and Observations (*Invited*): **E I Tollerud**

H23K Moscone South: 102 Tuesday 1340h
Progress in Hydrologic Science Since the Blue Book: NSF Hydrologic Sciences I

Presiding: **P Kumar**; **E Foufoula-Georgiou**, University of Minnesota

1340h **H23K-01** A Little History (*Invited*): **P S Eagleson**

1355h **H23K-02** Hydrology: No Longer the Forgotten Science: **R L Bras**

1410h **H23K-03** The Grand Challenge of Scale in Scientific Hydrology: Some Personal Reflections: **V K Gupta**

1425h **H23K-04** The Extensive View of Hydrologic Science Taken in the NSF Program: Interfaces with Geochemistry and Biology: **G M Hornberger**

1440h **H23K-05** The Role of the Global Energy and Water Cycle EXperiment (GEWEX) in Advancing Hydrologic Sciences: **S Sorooshian**, M T Chahine, T P Ackerman, R G Lawford, P D Try, P J van Oevelen

1455h **H23K-06** Hydrologic Data: We've Come Far, We Have a Long Way to Go: **J Dozier**

1510h **H23K-07** The influence of "Opportunities in the Hydrologic Sciences" on hydrologic research and hydrologic practice: **S J Burges**

1525h **H23K-08** Challenges and Opportunities for Hydrology Education - The Blue Book, Now and the Future: **T Wagener**, B L McGlynn, M N Gooseff, K J McGuire, T Meixner, M Weiler, L A Marshall

H23L Moscone West: 3004 Tuesday 1340h
Reconciling Models With Data and Complexity: Evaluation, Diagnosis, and Correction of Model Structural Errors I

Presiding: **S PANDE**, Center for World Food Studies; **N Bulygina**, Imperial College

1340h **H23L-01** Topography driven conceptual modelling (*Invited*): **H Savenije**

1355h **H23L-02** Quantifying Complexity and Data Needs for Coupled Models of Hydrological and Carbon Flux Processes: **D S Mackay**, A R Desai, S Samanta, M M Loranty, B E Ewers

1407h **H23L-03** Matching Model Complexity with Project Requirements and Data Availability: **C W Downer**

1419h **H23L-04** Error and Uncertainty in the Structure of a Model: A Philosophical Perspective (*Invited*): **B Beck**, Z Lin

1434h **H23L-05** Improving Model Identification: Reconciling Theory with Observations & The Problem of Sufficient Statistics (*Invited*): **H V Gupta**

1449h **H23L-06** Assessing Timing Errors in Hydrologic Predictions Using the Cross Wavelet Transform Technique: **Y Liu**, J D Brown, J Demargne, D Seo

1501h **H23L-07** Error and Uncertainty in the Structure of a Model: Propagating into Forecasts: **Z Lin**, B Beck

1513h **H23L-08** Model structures, parameters and data as hypotheses: a diagnostic framework within the extended GLUE methodology: **J E Freer**, T Krueger

1525h **H23L-09** Should the landscape or the modeler define hydrological model structure? (*Invited*): **M Weiler**

Earth and Space Science Informatics

IN23A Moscone South: Poster Hall Tuesday 1340h
Data Stewardship in the 21st Century I Posters

Presiding: **R E Duerr**, National Snow and Ice Data Center; **R G Raskin**, Jet Propulsion Laboratory

1340h **IN23A-1058 POSTER** On the Structure of Earth Science Data Collections: **B R Barkstrom**

1340h **IN23A-1059 POSTER** Initial Progress in Developing the New ICSU World Data System: **J H Minster**, N Capitaine, D M Clark, M Mokrane

1340h **IN23A-1060 POSTER** Levels of Service and Data Accessioning at the National Snow and Ice Data Center: **R L Weaver**, R E Duerr

1340h **IN23A-1061 POSTER** Building the Next Generation Data Management and Archive System: **T Huang**, S Hardman, A W Bingham, A Takagi, Q T Chau, M E Gangl

1340h **IN23A-1062 POSTER** NASA Earth Science Data Stewardship: **J F Moses**, H K Ramaprian

1340h **IN23A-1063 POSTER** The Planetary Data System (PDS) and Cassini's Historic Data Set: **C J Alexander**, R F Beebe, R T Pappalardo

1340h **IN23A-1064 POSTER** Considerations for Future Climate Data Stewardship: **M Halem**, P T Nguyen, D R Chapman

1340h **IN23A-1065 POSTER** KDMI Interdisciplinary Data Management for Marine Sciences at Kiel University, Germany: **C Schirnack**, D Fleischer, H Mehrstens, P Springer

IN23B Moscone South: Poster Hall Tuesday 1340h
Fostering Multidisciplinary Research via Interoperable Data Systems Based on International Geospatial Standards for Earth and Space Sciences I Posters (*joint with A, B, C, ED, H, H, H, GC, OS, NH*)

Presiding: **B Domenico**, UCAR; **D K Arctur**, Open Geospatial Consortium, Inc.; **S Nativi**, CNR & Univ. Florence

1340h **IN23B-1066 POSTER** NOAA's Global Earth Observation - Integrated Data Environment (GEO-IDE) in Action: Integration of Gridded Datasets: **L McCulloch**, K R McDonald, S C Hankin, T Habermann

1340h **IN23B-1067 POSTER** A document centric metadata registration tool constructing earth environmental data infrastructure: **M Ichino**, **H Kinutani**, M Ono, T Shimizu, M Yoshikawa, K Masuda, K Fukuda, H Kawamoto

1340h **IN23B-1068 POSTER** EO Clearinghouse for GEO: **M Yapur**, Y Enloe

1340h **IN23B-1069 POSTER** Enhanced Access to Earth Science Data through Standards-based Web Services and Applications: **S H Hiatt**, H Hashimoto, F S Melton, A Michaelis, C Milesi, R R Nemani, P Votava, W Wang

IN23C Moscone South: Poster Hall Tuesday 1340h
Sensing, Networking, and Fusing the Data II Posters (*joint with C*)

Presiding: **K Martinez**, University of Southampton

1340h **IN23C-1070 POSTER** ACCESSING HDF DATA VIA OPENDAP: **M Yang**, H Lee, M J Folk

1340h **IN23C-1071 POSTER** A Prototype Land Information Sensor Web: Design, Implementation and Implication for the SMAP Mission: **H Su**, P Houser, Y Tian, J K Geiger, S V Kumar, L Gates

1340h **IN23C-1072 POSTER** SensorKit: A Flexible and Extensible System for In-Situ Data Acquisition: **F Silva**, A DeSchon, J Chang, S Westrich, Y H Cho, S Gullapalli, T Benz, E A Graham

1340h **IN23C-1073 POSTER** Expanding the Usefulness of Existing Data-Collection Infrastructure with Wireless Sensor Networks: **J Kennedy**

1340h **IN23C-1074 POSTER** Development of a Distributed In Situ Instrument for Snowpack Monitoring: **C Skalka**, J Frolik, M J Walker, C D Moeser

Nonlinear Geophysics

NG23A Moscone South: Poster Hall Tuesday 1340h
Active Monitoring in Solid Earth Geophysics Posters (*joint with S*)

Presiding: **V A Korneev**, Lawrence Berkeley National Laboratory; **M S Zhdanov**, University of Utah

1340h **NG23A-1075 POSTER** Reflection and scattering of Stoneley guided waves at the tips of fluid-filled fractures: **M Frehner**, S M Schmalholz

- 1340h **NG23A-1076 POSTER** Large-scale 3D inversion of marine controlled source electromagnetic data using the integral equation method: **M S Zhdanov**, M Cuma, N Black, G A Wilson
- 1340h **NG23A-1077 POSTER** Reservoir monitoring of enhanced oil recovery using marine CSEM methods: **N Black**, G A Wilson, M S Zhdanov
- 1340h **NG23A-1078 POSTER** Three-dimensional electromagnetic modeling in complex geoelectrical structures with multiple inhomogeneous domains: **M ENDO**, M Cuma, M S Zhdanov
- 1340h **NG23A-1079 POSTER** Monitoring CO₂ response on surface seismic data; a rock physics and seismic modeling feasibility study at the CO₂ sequestration site, Ketzin, Germany: **S Kazemeini**, C Juhlin, S Fomel
- 1340h **NG23A-1080 POSTER** The effect of source's shape for seismic wave propagation: **S Tanaka**, H Mikada, T Goto, J Takekawa, K Onishi, J Kasahara, T Kuroda
- 1340h **NG23A-1081 POSTER** Relation between coda-Q and stress loaded to an elastic body ~ state parameters derived by stochastic measurement ~: **K Okamoto**, H Mikada, T Goto, J Takekawa
- 1340h **NG23A-1082 POSTER** Development of Vertical Cable Seismic System for Hydrothermal Deposit Survey: **E Asakawa**, Y Sekino, T Okamoto, F Murakami, H Mikada, J Takekawa, T Shimura, Y Watanabe, K Asakawa
- 1340h **NG23A-1083 POSTER** Preliminary Results of Lightning Based Subsurface Conductivity Imaging: **D Strauss**, I Linscott, U S Inan
- 1340h **NG23A-1084 POSTER** Vibroseismic Monitoring of Mud Volcanoes in Taman Province, Experiments and Mathematical Modeling: **V Kovalevsky**, B Glinsky, V Martinov, D Karavaev

NG23B Moscone South: Poster Hall Tuesday 1340h
Statistics of Earthquakes on Complex Fault Systems Posters
(joint with S)

Presiding: **D L Turcotte**, University of California, Davis; **J B Rundle**, University of California

- 1340h **NG23B-1085 POSTER** A Simple Declustering Method for Seismicity: **N Cho**, K F Tiampo, W Klein
- 1340h **NG23B-1086 POSTER** Non-linear dynamics of singular long-period long-lasting volcanic earthquakes observed at Mt. Asama: **M Takeo**
- 1340h **NG23B-1087 POSTER** Scaling in a Model of Material Damage with Healing: **J D Gran**
- 1340h **NG23B-1088 POSTER** Effects of dynamic triggering on patterns of seismicity in Virtual California earthquake simulation: **M B Yikilmaz**, D L Turcotte, G Yakovlev, J B Rundle, L H Kellogg
- 1340h **NG23B-1089 POSTER** Record-Breaking Earthquake Intervals in a Global Catalog and an Aftershock Sequence: **M R Yoder**, J Rundle, D L Turcotte
- 1340h **NG23B-1090 POSTER** Temporal evolution of earthquake sequences (swarms) in the Central Volcanic Region, New Zealand: **K M Jacobs**, E G Smith, M K Savage
- 1340h **NG23B-1091 POSTER** Statistics of Long Paleoearthquake Records: Comparison of San Andreas Fault and Dead Sea Fault Behavior: **K M Scharer**, G P Biasi, R J Weldon, T Fumal
- 1340h **NG23B-1092 POSTER** Application of a multiply coupled Rayleigh oscillator model to seismicity simulations: **Y Abe**
- 1340h **NG23B-1093 POSTER** Estimating maximum earthquake magnitude for exponentially distributed seismicity in the central and eastern United States: **O S Boyd**

NG23C Moscone South: Poster Hall Tuesday 1340h
Stochastic and Geostatistical Characterization of the Solid Earth Posters *(joint with S)*

Presiding: **Y Ogata**, Institute of Statistical Mathematics

- 1340h **NG23C-1094 POSTER** Geo-statistical Splitting of a Seismic Wide Angle Profile: **W Weinzierl**, H Kopp
- 1340h **NG23C-1095 POSTER** Fractional Gaussian model in global optimization: **V P Dimri**, R P Srivastava
- 1340h **NG23C-1096 POSTER** Shape simulation and parameterization of model space using Voronoi tessellation: Implications in inversion: **R P Srivastava**, N Vedanti, V P Dimri

NG23D Moscone West: 3002 Tuesday 1340h
Nonlinear Dynamics, Stochasticity, and Scaling in Hydroclimatic Extremes *(joint with H)*

Presiding: **U Lall**, Columbia Univ; **D J Schertzer**, U. Paris-Est, Ecole des Ponts ParisTech

- 1340h **NG23D-01** What do we know about the nature of ENSO? *(Invited):* **M A Cane**
- 1400h **NG23D-02** The El Niño/Southern Oscillation: A hierarchical modeling approach *(Invited):* **M Ghil**
- 1420h **NG23D-03** Bifurcations and hysteresis in simple and complex models of a convective cloud feedback mechanism for warm climates *(Invited):* E Tziperman, **D S Abbot**
- 1440h **NG23D-04** WITHDRAWN
- 1455h **NG23D-05** Beyond Statistical Extrapolation: Stochastic Rainfall Generators and Extreme Values *(Invited):* **I Tchiguirinskaia**, P Arnaud, D J Schertzer, J Lavabre
- 1510h **NG23D-06** A Flexible Nonlinear Modelling Framework for Nonstationary Generalized Extreme Value Analysis in Hydrology and Climatology: **A J Cannon**
- 1525h **NG23D-07** HOW DOES THE INTERDECADAL PACIFIC OSCILLATION AFFECT DESIGN FLOODS IN EASTERN AUSTRALIA?: **A Pui**, A Sharma

Near Surface Geophysics

NS23A Moscone South: Poster Hall Tuesday 1340h
Near-Surface Geophysics General Contributions I Posters
(joint with GP, H, S)

Presiding: **J T Nolan**, Rutgers University; **M E Everett**, Texas A&M

- 1340h **NS23A-1097 POSTER** Numerical simulation of sediment transport, wave motion and its interaction with groundwater flow in coastal aquifers: **R Bakhtyar**, A Brovelli, D A Barry
- 1340h **NS23A-1098 POSTER** ESTIMATION OF NEAR SUBSURFACE COAL FIRE GAS EMISSIONS BASED ON GEOPHYSICAL INVESTIGATIONS: D Chen-Brauchler, **U Meyer**, S Schlömer, J Kus, V Gundelach, M Wuttke, C Fischer, H Rueter
- 1340h **NS23A-1099 POSTER** Lithostratigraphy of Nigeria An Overview: **K A Shitta**, O K Odunpade
- 1340h **NS23A-1100 POSTER** Studying the Variation in Gas Permeability of Porous Building Substrates: L Townsend, C R Savidge, L Hu, **D M Rizzo**, N J Hayden, M Dewoolkar
- 1340h **NS23A-1101 POSTER** An Integrated Geophysical Analysis of the Western High Atlas/Rif Region of Morocco: **C Worthington**, G R Keller, W Beauchamp

1340h **NS23A-1102 POSTER** Geological Carbon Sequestration in the Ohio River Valley: An Evaluation of Possible Target Formations: **T A Dalton**, J J Daniels

1340h **NS23A-1103 POSTER** GPR Detection and Geophysical Characteristics of Burials in an 19th Century Cemetery: **A R Bobbyarchick**, C Brooks, M Flowers, B Johnson

1340h **NS23A-1104 POSTER** Ground-Penetrating Radar (GPR) Examination at the Fanta Stream Site, Central Ethiopia: **P M Lanzazone**

1340h **NS23A-1105 POSTER** Ground Penetrating Radar Investigations of Shallow Active Faults along the Southern Dead Sea Transform in Aqaba, Jordan: **A A Abueladas**

1340h **NS23A-1106 POSTER** Ground Penetrating Radar as a Means of Studying Palaeofault Scarps in a Deeply Weathered Terrain, Southwestern Western Australia: **M C Dentith**, A O'Neill, D Clark

1340h **NS23A-1107 POSTER** Imaging Pyroclastic and Lahar Deposits on Montserrat: A Feasibility Test of Airborne Ground Penetrating Radar: R Gaffney, **L D Brown**

1340h **NS23A-1108 POSTER** Distribution of ice- and soil wedges in Kapp Linné, Svalbard, mapped by two- and three-dimensional ground-penetrating radar: **T Watanabe**, N Matsuoka, H Christiansen

1340h **NS23A-1109 POSTER** GPR RESPONSE TO DIFFERENT CONFIGURATIONS OF ANTENNAS: **A Villela y Mendoza**, J M Romo

1340h **NS23A-1110 POSTER** GPR amplitude reflection coefficient estimates from reflected amplitude obtained from Common Mid-Point surveys: A A Kana, **J L West**, R Clark

1340h **NS23A-1111 POSTER** DISCOVERING NEW GEOPHYSICAL KNOWLEDGE WITH THE GROWING HIERARCHICAL SELF-ORGANIZING MAP: AN EXAMPLE FROM 3D GPR: **D S Sassen**

1340h **NS23A-1112 POSTER** Experimental seismic investigations for porous media characterization: P Senechal, **C Bordes**, J Barrière, S Garambois, D Brito

1340h **NS23A-1113 POSTER** 3D imaging of geological structures by R-VSP utilizing vibrations caused by shaft excavations at the Mizunami Underground Research Laboratory in Japan: **T Matsuoka**, Y Hodotsuka, K Ishigaki, C Lee

1340h **NS23A-1114 POSTER** Crustal Seismic Velocities and Anisotropy in the Chile Ridge Subduction Region from Seismic Noise Cross-Correlation analysis: **A Gallego**, R M Russo, D Comte, V I Mocanu, R E Murdie, J C VanDecar

1340h **NS23A-1115 POSTER** Passive monitoring for near surface void detection using traffic as a seismic source: **Y Zhao**, H A Kuzma, J Rector, S Nazari

1340h **NS23A-1116 POSTER** Multimode surface-wave analysis of near-surface data: M Cara, **Z Duputel**, L A Rivera, G Herquel

1340h **NS23A-1117 POSTER** A High-resolution Seismic Reflection Survey at the Hanford Nuclear Site Using a Land Streamer: **E R Hyde**, M A Speece, C A Link, T Repasky, M Thompson, S Miller, G Cummins

1340h **NS23A-1118 POSTER** Delineating the Rattlesnake Springs, New Mexico Watershed Using Precision Gravity Techniques: **D I Doser**, N D Boykov, M R Baker, G M Kaip, R P Langford

1340h **NS23A-1119 POSTER** Separation of potential data as regional and residuals by geostatistical filtering techniques: **H Rim**

1340h **NS23A-1120 POSTER** Azimuthal Resistivity Investigation of an Unconfined Aquifer at the Hanford Integrated Field Research Challenge Site: **W J Greenwood**, A L Ward, R J Versteeg, T C Johnson, K Draper

1340h **NS23A-1121 POSTER** Resistivity and Conductivity Studies of the Rattlesnake Springs, New Mexico Watershed: **C Santiago**, D I Doser

1340h **NS23A-1122 POSTER** The Effectiveness of Resistivity Imaging for Monitoring Infiltration in Agricultural Soils: **A Lampousis**, P M Kenyon

1340h **NS23A-1123 POSTER** Thaw bulb dimensions determined using electrical imaging across thermokarst lakes, Seward Peninsula, Alaska: **J T Nolan**, L D Slater, A Parsekian, L J Plug, G Grosse, K M Walter Anthony

1340h **NS23A-1124 POSTER** How is the ERI affected by the removal of the data related to one electrode?: **T Lecocq**, K Vanneste

1340h **NS23A-1125 POSTER** Spatial & Temporal Geophysical Monitoring of Microbial Growth and Biofilm Formation: C A Davis, L J Pyrak-Nolte, E A Atekwana, **D D Werkema**, M E Haugen

1340h **NS23A-1126 POSTER** Constraints on Hydrothermal Fluid Flow Geometry From Resistivity Measurements: **A G Snyder**, J S McClain

1340h **NS23A-1127 POSTER** THE GERMAN NORTH SEA COAST IN FOCUS OF AIRBORNE GEOPHYSICAL INVESTIGATIONS: A Steuer, B Siemon, G Schaumann, H Wiederhold, **U Meyer**, F Binot, K Kühne

1340h **NS23A-1128 POSTER** Feasibility study of subsurface electromagnetic exploration using longwave radio-clock time-signal: **S Yamazaki**, J Takekawa, H Mikada, T Goto, K Onishi, N Konishi

1340h **NS23A-1129 POSTER** Magnetic, Electromagnetic, and Bathymetric Survey of the Lake of the Arbuckles, South-Central Oklahoma: **D S Scheirer**, D V Smith, R Coffee, J Cason

1340h **NS23A-1130 POSTER** MULTI-FOLD, SEISMIC-STYLE TDEM INDUCTION OFFSET PROFILING AT KENTLAND FARMS, VA: **E M Kazlauskas**, C J Weiss

1340h **NS23A-1131 POSTER** Using the Time-lapse 3D Electrical Resistivity Tomography Technique for Monitoring the Wushangting Mud Volcanoes in Southwestern Taiwan: **P Chang**

1340h **NS23A-1132 POSTER** Preliminary Geophysical Characterization of a CO₂-Driven Geyser in the Rio Grande Rift, New Mexico: **D W Feucht**, K J Jensen, C Kelly, J C Ryan, H Ferriz, N Kanjorski, J F Ferguson, D K McPhee, L Pellerin

1340h **NS23A-1133 POSTER** Broadband Geoelectrical Signatures of Water-Ethanol Solutions in Ottawa Sand: **R Henderson**, D D Werkema, R Horton, J W Lane

1340h **NS23A-1134 POSTER** Numerical modeling for transient electromagnetic responses on a 2.5-dimension model: **Y Chang**, M Xiao

1340h **NS23A-1135 POSTER** Retrieving the impulse response of the Earth due to random electromagnetic forcing: **S Shamsalsadati**, C J Weiss

1340h **NS23A-1136 POSTER** A Fractal Interpretation of Controlled-Source Helicopter Electromagnetic Survey Data: Seco Creek, Edwards Aquifer, TX: **K T Decker**, M E Everrett

1340h **NS23A-1137 POSTER** A free lunch in linearized experimental design?: **D Coles**, A Curtis

Ocean Sciences

OS23A Moscone South: Poster Hall Tuesday 1340h
Ocean Sciences General Contributions: Biological/Chemical Oceanography Posters

Presiding: E A Canuel, Virginia Inst Marine Sciences

1340h **OS23A-1162 POSTER** Air-sea Exchange of Dimethylsulfide (DMS) – Separation of the Transfer Velocity to Buoyancy, Turbulence, and Wave Driven Components: **M Yang**, B Blomquist, B J Huebert, C W Fairall

1340h **OS23A-1163 POSTER** Vertical observation of molecular hydrogen and carbon monoxide: Implication for non-photochemical H₂ production at ocean surface and subsurface: **S Kawagucci**, T Narita, H Obata, H Ogawa, T Gamo

1340h **OS23A-1164 POSTER** Controls of sub-surface dissolved oxygen in Massachusetts Bay USA: **A Hyde**, D C Vandemark, J Salisbury

1340h **OS23A-1165 POSTER** Stable Oxygen and Carbon Isotopes of Hypoxic Waters: Indicators of Fresh Water Sources and Benthic Respiration on the Texas-Louisiana shelf: **J Strauss**, E L Grossman, S F Dimarco

1340h **OS23A-1166 POSTER** Trace Carbonyl Compounds in Coastal and Open North Atlantic Waters- A Survey Using Solid-Phase Microextraction (SPME): **E D Hudson**, P Ariya

1340h **OS23A-1167 POSTER** The response of phytoplankton carbon and nitrogen processes to elevated carbon dioxide in the Point Reyes, CA upwelling: **R C Dugdale**, F P Wilkerson, J R Fuller, A E Parker, A Marchi

1340h **OS23A-1168 POSTER** The penetration of the bomb tritium and radiocarbon transients into the Pacific Ocean: **W J Jenkins**, A P McNichol, K Elder, R M Key

1340h **OS23A-1169 POSTER** Application of a Fluorescence-based Aggregation Index to Understanding Summer Diatom Bloom Dynamics in the Central N. Pacific Gyre: **T A Villareal**, C Wilson, L Adornato, M A Brzezinski

1340h **OS23A-1170 POSTER** Characterization Of Dissolved Organic Matter In The Florida Keys Ecosystem: **D G Adams**, G C Shank

1340h **OS23A-1171 POSTER** Biogeochemistry of Nutrients, DOC, and Po-210 in the East/Japan Sea: **T Kim**, G Kim

1340h **OS23A-1172 POSTER** Diurnal Variability of Organic Carbon Distributions and Phytoplankton in Chesapeake Bay: **O De Meo**, A Mannino

1340h **OS23A-1173 POSTER** The north Sulu Sea productivity: **Z Xiao**

1340h **OS23A-1174 POSTER** Characteristic distribution and structure of planktonic archaea in the Arctic Ocean: **C Sato**, Y Kuroki, C Gang, M Uchida, M Utsumi

1340h **OS23A-1175 POSTER** Low pH Springs - A Natural Laboratory for Ocean Acidification: **E Derse**, M Rebolledo-Vieyra, D C Potts, A Paytan

1340h **OS23A-1176 POSTER** Development of in situ respirometers for ocean acidification studies: **M A Risi**, J P Barry, K R Buck, C M Okuda, K R Reisenbichler, B H Robison

1340h **OS23A-1177 POSTER** Characterization of Colloidal Iron-binding Organic Matter in Marine Waters: **B Stolpe**, L Guo, A M Shiller

1340h **OS23A-1178 POSTER** Ectoenzyme activity in coastal marine waters: response to temperature and metal ion availability: **J K Wiedenbeck**, V Neino, S D Allison, A Martiny

1340h **OS23A-1179 POSTER** Silver in the Gulf of Alaska: **C Gallon**, A Flegal

1340h **OS23A-1180 POSTER** Determination of ⁸⁷Sr/⁸⁶Sr* - ⁸⁸/⁸⁶Sr Values of the Oceans Sr Sources and Sinks to Balance the Global Sr Cycle: A Eisenhauer, A Krabbenhoef, F Boehm, H Vollstaedt, N Augustin, J Fietzke, V Liebetrau, B Peucker-Ehrenbrink, C Horn, B Hansen, N Nolte

1340h **OS23A-1181 POSTER** Submarine Groundwater Discharge as a Main Source of Nd in the Coastal Ocean: **I Kim**, G Kim

1340h **OS23A-1182 POSTER** Sr in estuaries: Impact of Submarine Ground Water Discharge: **W Rahaman**, S K Singh

1340h **OS23A-1183 POSTER** Signature of Mekong River plume in the western South China Sea revealed from ²²⁸Ra and ²²⁶Ra: **W Chen**, M Dai, Q Liu, C Huh, Y Miao

1340h **OS23A-1184 POSTER** Evaluating the accuracy of core incubations to determine benthic fluxes of ²²²Rn, ²²⁸Ra, and ²²⁴Ra, measured in core incubations: **C I Wolfe**, D E Hammond, R J Schwartz

1340h **OS23A-1185 POSTER** Microbes mediate carbon and nitrogen retention in shallow photic sediments: A Hardison, I Anderson, **E A Canuel**, C Tobias, B Veuger

1340h **OS23A-1186 POSTER** Evaluation of the diagenetic role of iron as a sulfide buffer at Cape Lookout Bight, North Carolina (USA): **B He**, S R Meyers, M Alperin

1340h **OS23A-1187 POSTER** Contribution of offshore petroleum deposits to marine food chain: **S Mori**

1340h **OS23A-1188 POSTER** Distributions and contents of the organic carbon and major heavy metals in aquatic environment surrounding the active submarine hydrothermal vent in the Northwestern Pacific: **S Lee**, K Iizasa, G Shimoda

1340h **B11A-0476 POSTER** Analysis of ³⁴S in Individual Organic Compounds by Coupled GC-ICP-MS: **A L Sessions**, A Amrani, J F Adkins

OS23B Moscone West: 3003 Tuesday 1340h
Gas Hydrates: Results of Recent Field Investigations I (*joint with PP*)

Presiding: **T S Collett**, US Geological Survey; **R M Boswell**, US Dept of Energy

1340h **OS23B-01** Preliminary Results from the Methane In The Arctic Shelf (MITAS) Project on the Alaskan Beaufort Sea Shelf – Shallow Sediment Porewater Geochemical Profiles: **R B Coffin**, L J Hamdan, J P Smith, R Plummer, J Greinert, K Rose, M A De Batist, W Wood

1355h **OS23B-02** Constraints on Methane Distribution from Acoustic Profiles of Shallow Sediments Across the Alaska Shelf: **W T Wood**, P E Hart, J Greinert, M A De Batist, K Rose, R B Coffin

1410h **OS23B-03** HYFLUX: Satellite Inventory and Sea-Truth for Gulf of Mexico Gas Hydrate System: **I R MacDonald**, O G Garcia-Pineda, J Chanton, M Kastner, E A Solomon, I Leifer, T H Naehr, S A Yvon-Lewis, J D Kessler

1425h **OS23B-04** Air-sea flux of methane from selected marine hydrate/seep sites in the northern Gulf of Mexico during HYFLUX: **L Hu**, S A Yvon-Lewis, J D Kessler, I MacDonald

1440h **OS23B-05** SEAFLOOR MANIFESTATIONS OF GAS VENTING AND NEAR SEAFLOOR GAS HYDRATE OCCURRENCES: **C K Paull**, W Ussler, D W Caress, H Thomas, E Lundsten, M Riedel, L Lapham

1455h **OS23B-06** Geochemistry of Methane and Gas-Hydrate-Rich Shallow Sediments Associated with Active Seafloor Mounds: **W Ussler**, C K Paull, L Lapham, M Riedel, D W Caress

1510h **OS23B-07** Rapid, episodic gas migration into the South Hydrate Ridge gas hydrate field inferred from 4D seismic imaging: **N L Bangs**, M Hornbach, C Berndt

1525h **OS23B-08** Subseafloor Macroscopic Biofilms Involved in Anaerobic Oxidation of Methane: **B R Briggs**, J Hieter, J Pohlman, M E Torres, M Riedel, K Rose, C Joseph, F S Colwell

Planetary Sciences

P23A Moscone South: Poster Hall Tuesday 1340h Mars Posters

Presiding: N T Bridges, Applied Physics Laboratory

1340h **P23A-1227 POSTER** Orbital and Ground Observations of Martian Dust Devils: **C A Verba**, P E Geissler, T N Titus, D A Waller

1340h **P23A-1228 POSTER** Summer-Fall Seasonal Ices at the Mars Phoenix Landing Site: Results from CRISM Observations: **S Cull**, R E Arvidson, R V Morris, M J Wolff, M T Mellon, M T Lemmon

1340h **P23A-1229 POSTER** Variations in soil properties at the Phoenix Landing Site: **A Shaw**, R E Arvidson, M T Mellon

1340h **P23A-1230 POSTER** Investigating the Deliquescence Relative Humidity of Perchlorate Salts as a Function of Temperature: Implications for Mars: **R V Gough**, K J Baustian, M E Wise, M A Tolbert

1340h **P23A-1231 POSTER** SPECTRAL SMILE CORRECTION IN CRISM HYPERSPECTRAL IMAGES: **X Ceamanos**, S Doute

1340h **P23A-1232 POSTER** Midinfrared Multi-technique Spectroscopy of Synthetic Olivines (Forsterite to Fayalite): **M D Lane**, T D Glotch, M D Dyar, C M Pieters, R Klima, T Hiroi, J L Bishop, J M Sunshine

1340h **P23A-1233 POSTER** Characterization of Sulfate and Clay Mixtures Using Visible/Near-Infrared Spectroscopy: **C Che**, T D Glotch

1340h **P23A-1234 POSTER** CRISM Hyperspectral Data Filtering with Application to MSL Landing Site Selection: **F P Seelos**, M Parente, T Clark, F Morgan, O S Barnouin-Jha, A McGovern, S L Murchie, H Taylor

1340h **P23A-1235 POSTER** Exploring Variability in Acidic Saline Playa Lakes in WA with HyMAP Hyperspectral Data: **A M Baldridge**, S J Hook, C R Souza Filho, B J Thomson, N T Bridges, J K Crowley

1340h **P23A-1236 POSTER** Volcano/Ice Interaction Origin of Thermally Distinct Craters in Hrad Vallis, Elysium Planitia, Mars: **A R Morris**

1340h **P23A-1237 POSTER** Precision Topography of Pluvial Features in Nevada as Analogs for Possible Pluvial Landforms on Mars: **J R Zimbelman**, W B Garry, R P Irwin

1340h **P23A-1238 POSTER** Structural Analysis of Lineation Patterns in the Martian Magnetic Field: **D Kobayashi**, K F Sprenke

1340h **P23A-1239 POSTER** Wavelength of Reticulate Bedforms on the Tharsis Montes, Mars: Spacing Control by Atmospheric Density: **N T Bridges**, A Rosenthal, R D Lorenz

1340h **P23A-1240 POSTER** Assessing the precision on the determination of the Martian CO₂ seasonal mass budget from time-variable gravity observations: **P Rosenblatt**, J Marty, S Le Maistre, V M Dehant, O Karatekin

1340h **P23A-1241 POSTER** Analysis of the influence of water and higher atmospheric pressure levels on the Martian radiation environment - implications for Martian habitability in the Noachian era: **B Ehresmann**, R F Wimmer-Schweingruber, S Burmeister, J Köhler, O Kortmann, T Moeller

1340h **P23A-1242 POSTER** Studies of Martian ionospheric conductivities undertaken using Mars Global Surveyor and Mars Express data: **R S Dhillon**, L Rosenqvist, H J Opgenoorth, P Withers, D A Brain, M Lester

1340h **P23A-1243 POSTER** Secondary Craters as Stratigraphic Markers: GIS-Based Program Development and Performance Testing Using the Secondaries of Zunil Crater, Mars: **R A Nava**, J A Skinner

1340h **P23A-1244 POSTER** An Examination of the Origin(s) of Phyllosilicates, Clorites, and Kaolinite in an Impact Crater in Syrtis Major, Mars: **S Wheelock**, J Dohm, G Marzo, A F Davila, O Abramov

1340h **P23A-1245 POSTER** Recent Results from the Mars Exploration Rover Rock Abrasion Tool: **J Cohen**, G Paulsen, K Davis, S Gorevan, K Zacny

P23B Moscone South: Poster Hall Tuesday 1340h Mineralogy of the Lunar Crust: Results From the Moon Mineralogy Mapper I Posters (joint with MR, V)

Presiding: R L Klima, Brown University; L A Taylor, University of Tennessee

1340h **P23B-1246 POSTER** The Moon Mineralogy Mapper Imaging Spectrometer: Instrument Description, Calibration, and On-Orbit Validation of the Spectral, Radiometric, Spatial and Uniformity Characteristics (*Invited*): **R O Green**, C M Pieters, J W Boardman, M Eastwood, S Geier, S Lundeen, T B McCord, P Mouroulis, G Sellar, P Varanasi, M White

1340h **P23B-1247 POSTER** LUNAR SURFACE COMPOSITIONAL UNITS DETERMINED BY SPECTRAL MIXING ANALYSIS OF IMAGES FROM THE MOON MINERALOGY MAPPER (M³): **J Combe**, G Y Kramer, T B McCord, L A Taylor, N E Petro, C M Pieters, J W Boardman, J F Mustard, J M Sunshine, S Tompkins

1340h **P23B-1248 POSTER** Remote Compositional Analyses of Lunar Olivine-Bearing Lithologies: **P Isaacson**, R N Clark, J W Head, R Klima, N E Petro, C M Pieters, M Staid, J M Sunshine, L A Taylor, K G Thaisen, S Tompkins

1340h **P23B-1249 POSTER** Distribution and Character of Lunar Low-Ca and Mg-Rich Pyroxenes: **R L Klima**, J W Head, P Isaacson, N E Petro, C M Pieters, M Staid, J M Sunshine, L A Taylor

1340h **P23B-1250 POSTER** The Mineralogy of Late-Stage Lunar Volcanism as Observed by the Moon Mineralogy Mapper on Chandrayaan-1: **M Staid**, C M Pieters, J M Sunshine, J W Head, L A Taylor, G Y Kramer, P Isaacson, R L Klima

1340h **P23B-1251 POSTER** Distribution of Anorthositic and Noritic Material in the Apollo Basin: **N E Petro**, S Tompkins, J M Sunshine, S Besse, C M Pieters, J W Head, R L Klima, P Isaacson, L A Taylor

1340h **P23B-1252 POSTER** Insights into Lunar Far-side Highlands Crustal Development from the Moscoviense Basin and the Moon Mineralogy Mapper onboard Chandrayaan-1: **K G Thaisen**, L A Taylor, J W Head, C M Pieters, G Y Kramer, T B McCord, M Staid, N E Petro, P Isaacson

1340h **P23B-1253 POSTER** Orientale Impact Basin: New Insights into Formation and Evolution from Chandrayaan-1 Moon Mineralogy Mapper: **J W Nettles**, J W Head, C M Pieters, J F Mustard, M Staid, L A Taylor, T B McCord, N E Petro, P Isaacson, R Klima, J Dickson, C Fassett

P23C Moscone South: Poster Hall Tuesday 1340h Return to the Moon: Latest Science Results I Posters (joint with SH, V)

Presiding: A R Hendrix, JPL/Caltech; T J Stubbs, University of Maryland, Baltimore County

1340h **P23C-1254 POSTER** Program of the Colorado Center for Lunar Dust and Atmospheric Sciences: **T Munsat**, E Gruen, M Horanyi, S H Robertson, R Srama, Z Sternovsky, X Wang

1340h **P23C-1255 POSTER** The Dust Accelerator Facility at CCLDAS: **A J Shu**, E Gruen, M Horanyi, S LeBlanc, T Munsat, S H Robertson, R Srama, Z Sternovsky, E Thomas, M Wagner, T Wingfield

1340h **P23C-1256 POSTER** Lunar Photoemission Studies with a Xe Excimer UV Lamp: **S Dickson**, A Dove, M Horanyi, T Munsat, S H Robertson, Z Sternovsky, X Wang

1340h **P23C-1257 POSTER** Particle-in-cell Simulations of the Lunar Photoelectron Sheath: **A R Poppe**, M Horanyi

1340h **P23C-1258 POSTER** Interaction between terrestrial plasma sheet electrons and the lunar surface: Kaguya (SELENE) observations: **Y Harada**, S Machida, Y Saito, S Yokota, K Asamura, M N Nishino, T Tanaka, H Tsunakawa, H Shibuya, F Takahashi, M Matsushima, H Shimizu

1340h **P23C-1259 POSTER** Plasma and Field Measurements by the Lunar Dust Transport Package: **S H Robertson**, M Horanyi, T Munsat, Z Sternovsky, X Wang

1340h **P23C-1260 WITHDRAWN**

1340h **P23C-1261 POSTER** Mitigation of Lunar Dust Adhesion by Surface Treatment: **A Dove**, X Wang, S H Robertson, M Horanyi, J Devaud, M Crowder, A Lawitzke

1340h **P23C-1262 POSTER** The effect of UV reflected back from the lunar surface on the detection of dust particles by the LDEX (Lunar Dust EXperiment) instrument: **J Xie**, Z Sternovsky, M Horanyi, D Crotser

1340h **P23C-1263 POSTER** The Electrostatic Lunar Dust Analyzer (ELDA) Instrument: **N A Duncan**, E Gruen, S Auer, J Xie, Z Sternovsky, K Drake, M Horanyi, S H Robertson

1340h **P23C-1264 POSTER** A Reanalysis of Apollo Light Scattering Observations, and Implications for the Distribution of Lunar Exospheric Dust: **D A Glenar**, T J Stubbs, R Vondrak

1340h **P23C-1265 POSTER** On the Role of Dust in the Lunar Exo-Ionosphere: **T J Stubbs**, D A Glenar, M R Collier, W M Farrell, J S Halekas, G T Delory, R R Vondrak

1340h **P23C-1266 POSTER** Lunar Neutral Exosphere Properties from Pickup Ion Analysis: **RE Hartle**, M Sarantos, R M Killen, E C Sittler, J S Halekas, S Yokota, Y Saito, W Farrell

1340h **P23C-1267 POSTER** Kinetic modeling of neutral and ionized components of the lunar exosphere: **V Tenishev**, K C Hansen, M R Combi

1340h **P23C-1268 POSTER** Mapping Natural and Man-made Radio Interference at the Moon: Wind Waves RAD2 Data: **R J MacDowall**, R A Hess, M L Kaiser, W M Farrell

1340h **P23C-1269 POSTER** Preliminary global mapping of lunar magnetic anomalies at nominal and low altitudes by MAP-LMAG onboard SELENE (KAGUYA): **H Tsunakawa**, H Shibuya, F Takahashi, H Shimizu, M Matsushima, A Matsuoaka, S Nakazawa, H Otake, Y Iijima

1340h **P23C-1270 POSTER** Quantitative comparison of lunar magnetic field observed by Kaguya and Lunar Prospector missions: **A HAYASHIDA**, H Shibuya, H Tsunakawa, F Takahashi, H Shimizu, M Matsushima

1340h **P23C-1271 POSTER** Surface magnetic field mapping on high albedo marking areas of the moon: **H Shibuya**, K Aikawa, H Tsunakawa, F Takahashi, H Shimizu, M Matsushima

1340h **P23C-1272 POSTER** Spectral and Magnetic Studies of Lesser-Known Lunar Magnetic and Albedo Anomalies: **B R Hawke**, D T Blewett, E I Coman, M E Purucker, J J Gillis-Davis

1340h **P23C-1273 POSTER** A Simple Physical Model for Deep Moonquakes: **R C Weber**, B G Bills, C L Johnson

1340h **P23C-1274 POSTER** Updated Lunar Gravity Results From Kaguya (SELENE) and Historical Tracking Data: **S J Goossens**, K Matsumoto, Y Ishihara, Q Liu, F Kikuchi, H Noda, N Namiki, T Iwata, H Hanada

1340h **P23C-1275 POSTER** The Spatial Distribution of Lunar Polar Hydrogen Deposits After SELENE/Kaguya: **L F Teodoro**, V R Eke, R C Elphic, A Colaprete

1340h **P23C-1276 POSTER** Lunar Radar Scattering from Near-Surface Buried Crater Ejecta: **T W Thompson**, E A Ustinov, E Heggy

1340h **P23C-1277 POSTER** Lunar pyroclastic deposits as seen by the Mini-SAR on Chandrayaan-1: **B J Thomson**, P Spudis, B Bussey, C Neisch

1340h **P23C-1278 POSTER** Observations of the lunar surface and subsurface features by Lunar Radar Sounder (LRS) onboard the Kaguya (SELENE) spacecraft: **A Kumamoto**, T Ono, S Oshigami, T Kobayashi, H Nakagawa, Y Yamaguchi, A Yamaji, Y Kasahara, H Oya

1340h **P23C-1279 POSTER** LUNETTE – A Discovery Class Mission to the Moon to Establish a Geophysical Network: **C R Neal**, W B Banerdt, L Alkalai

1340h **P23C-1280 POSTER** Exploring the Moon at the Microscale: Analysis of Apollo Samples with the Multispectral Microscopic Imager (MMI): **J I Nunez**, J D Farmer, R G Sellar, C Allen

1340h **P23C-1281 POSTER** Percussive and Proboscis Based Lunar Heat Flow Probes: E Mumm, **K Zacny**, N Kumar

1340h **P23C-1282 POSTER** Heat Flow Probe for Lunar and Planetary Missions: **C S Fish**, H Ban, S Sellers, J White, A Wouden, D Allen

1340h **P23C-1283 POSTER** Lunar surface reflectance by LALT aboard KAGUYA: **H Noda**, H Araki, Y Ishihara, S Tazawa, S Sasaki, N Kawano

1340h **P23C-1284 POSTER** Effects of incidence angle on observations of equilibrium crater diameter: **LR Ostrach**, B W Denevi, A Hastings, S Koeber, M S Robinson, P C Thomas, T N Tran

1340h **P23C-1285 POSTER** Impact Melt Deposit Morphology and Distribution on the Moon and Mars: V J Bray, **L L Tornabene**, C Caudill, B R Hawke, T Giguere, A McEwen, M S Robinson, L R Ostrach, E P Turtle

1340h **P23C-1286 POSTER** Lunar Sinuous Rilles: Analysis of Morphology, Topography, and Mineralogy, and Implications for a Thermal Erosion Origin: **D M Hurwitz**, J W Head, L Wilson

1340h **P23C-1287 POSTER** Surveying the Newly Digitized Apollo Metric Images for Highland Fault Scarps on the Moon: **N R Williams**, M E Pritchard, J F Bell, T R Watters, M S Robinson, S Lawrence

1340h **P23C-1288 POSTER** The Case for a Geocentric rather than Heliocentric Origin of the Late Stage Heavy Bombardment (LHB) of the Moon and Tidal Evolution of its Orbit: **P M Davis**, F D Stacey

1340h **P23C-1289 POSTER** Thermal Weathering on Airless Planetary Surfaces: **N G Pochat**, S Vance, G C Collins

1340h **P23C-1290 POSTER** The preservation of ancient solar wind particles buried beneath lunar basalt flows as determined through heat transfer modeling: **M E Rumpf**, S A Fagents, I A Crawford, K H Joy

1340h **P23C-1291 POSTER** On the formation process of Vallis Schröteri: **C Honda**, J Haruyama, M Ohtake, T Matsunaga, T Morota, Y Yokota, Y Ogawa, H Demura, N Hirata, N Asada

P23D Moscone South: 307 Tuesday 1340h
MESSENGER's Third Flyby of Mercury II (joint with GP, SM)

Presiding: S C Solomon, Carnegie Inst of Washington; **L M Prockter**

1340h **P23D-01** Mercury after the Third MESSENGER Flyby: **S C Solomon**, R L McNutt, P D Bedini, B J Anderson, L G Evans, R E Gold, J W Head, S M Krimigis, S L Murchie, L Nittler, R J Phillips, J A Slavin, M T Zuber

1355h **P23D-02** Geophysics of Mercury: The MESSENGER View (*Invited*): **R J Phillips**, M T Zuber, D E Smith, S C Solomon, G A Neumann, F G Lemoine, S J Peale, J Margot, C L Johnson, S A Hauck, T R Watters, G T Farmer, M E Perry

1410h **P23D-03** MESSENGER multispectral observations of Mercury (*Invited*): **B W Denevi**, M S Robinson, S C Solomon, S L Murchie, D T Blewett, D L Domingue, T J McCoy, C M Ernst, J W Head, T R Watters, N L Chabot

1425h **P23D-04** The crustal stratigraphy of Mercury from impact craters: **C M Ernst**, S L Murchie, O S Barnouin-Jha, M S Robinson, B W Denevi, D T Blewett, J W Head, N R Izenberg

1440h **P23D-05** TARGETED SPECTRAL OBSERVATIONS OF MERCURY DURING THE THIRD MESSENGER FLYBY: **N R Izenberg**, G M Holsclaw, W E McClintock, A L Sprague, F Vilas, D L Domingue, J Helbert, J J Gillis-Davis, D T Blewett, H K Kang, M C Kuchte, S C Solomon

1455h **P23D-06** Resolved Ultraviolet Reflectance Spectra of Mercury from the Third MESSENGER Flyby: **G M Holsclaw**, W E McClintock, D T Blewett, B W Denevi, D L Domingue, N R Izenberg, E A Jensen, M S Robinson, S C Solomon, A L Sprague, F Vilas

1510h **P23D-07** Combining MESSENGER Neutron Spectrometer Data from Mercury Flybys 1 and 3: Estimates of the Global Concentration of Neutron-absorbing Elements on Mercury's Surface: **D J Lawrence**, W C Feldman, J O Goldsten, L G Evans, N R Izenberg, L Nittler, E A Rhodes, S C Solomon

1525h **P23D-08** Iron on the Surface of Mercury: From Contradiction to Convergence? (*Invited*): **D T Blewett**, M S Robinson, B W Denevi, A L Sprague, D J Lawrence, W E McClintock, G M Holsclaw, J J Gillis-Davis, D L Domingue, W V Boynton, W C Feldman, L G Evans, E A Rhodes, T J McCoy, L Nittler, F Vilas, N R Izenberg, S L Murchie, S C Solomon

P23E Moscone South: 309 Tuesday 1340h
Physics and Chemistry of Ices: From the Laboratory to the Planetary Scale II (*joint with MR, EP*)

Presiding: **M Choukroun**, Jet Propulsion Laboratory; **O GRASSET**, Nantes University

1340h **P23E-01** To other worlds via the laboratory (*Invited*): **R D Lorenz**

1355h **P23E-02** FROM INTERSTELLAR TO COMETARY ICES: SOME EXPERIMENTAL ASPECTS (*Invited*): **E Quirico**

1410h **P23E-03** Crystallization Kinetics of Amorphous Solid Water: R A Baragiola, **D J Burke**, M A Fama

1425h **P23E-04** Experimental study of IR-signature of water ices between 1 and 2.5 μm : a thermal probe for icy moons: C Taffin, O GRASSET, E Le Menn, S Le Mouéléc

1440h **P23E-05** Oxidant Loading of Icy Surfaces via Re-deposition of Sputtered Molecular Fragments: Laboratory Simulations (*Invited*): **P D Cooper**, N Do, L M Ammann

1455h **P23E-06** Experimental investigation of the temperature dependence of polycrystalline ice strength and resistance to low-velocity impacts with application to Titan: **P J Polito**, K Litwin, B R Zygielbaum, L S Sklar, G C Collins

1510h **P23E-07** Shock and Post-Shock Temperatures in an Ice-Quartz Mixture: Implications for Melting During Planetary Impact Events: **S T Stewart**, R G Kraus, A Seifert, A W Obst

1525h **P23E-08** Internal Structure and Dynamics of Icy Satellites (*Invited*): **T Spohn**

Paleoceanography and Paleoclimatology

PP23A Moscone South: Poster Hall Tuesday 1340h
Changing Terrestrial Fluxes to the Oceans: Investigating Controls on Weathering and Sediment Fluxes Through Time Using Geochemical Proxies II Posters (*joint with OS*)

Presiding: **J C Pett-Ridge**, Oregon State University; **C Siebert**, University of Oxford; **K W Burton**, Earth Sciences - Oxford

1340h **PP23A-1358 POSTER** Diagenetic formation of gypsum and dolomite in a cold-water coral mound in the Porcupine Seabight, off Ireland: **H Pirlet**, L Wehrmann, B Brunner, N Frank, J Dewanckele, D Van Rooij, A Foubert, R Swennen, L Naudts, M Boone, V Cnudde, J Henriët

1340h **PP23A-1359 POSTER** Terrestrial P and Reactive N and Marine Productivity in the Late Devonian Appalachian Basin: M L Tuite, **S A Macko**

1340h **PP23A-1360 POSTER** Insight to the coupling of terrestrial and ocean systems under rapid climate change and high CO₂ conditions: **A Schneider Mor**, G J Bowen

1340h **PP23A-1361 POSTER** Model of vertical distribution of organic carbon in the bottom deposits, and its role in the global carbon budget: **N Zimov**, S A Zimov

1340h **PP23A-1362 POSTER** Minerals fractionate and modulate the dissolved organic carbon flux out of marine sediments: **K M Lalonde**, Y Gelinis, A Mucci, M Lehman, R J Panetta, A Ouellet

1340h **PP23A-1363 POSTER** Source and transport of detrital fine-grained sediments in the northeastern South China Sea: **Z Liu**, C Colin, Q Wu, C You, X Li, Y Zhao, S Tuo, H Lin, K Huang, Z Chen, F P Siringan, J T Liu, C Huang

1340h **PP23A-1364 POSTER** Paleoceanographic change associated with the Early Aptian Oceanic Anoxic Event in the western Tethys: **S Westermann**, V Matera, N Fiet, A Thierry, K B Follmi

1340h **PP23A-1365 POSTER** Driftwood dropstones in mid-Miocene shallow marine strata (Calvert Cliffs, Maryland Coastal Plain): An erratic lithic pebble does not necessarily a cold paleoclimate make: **P R Vogt**, M Parrish

1340h **PP23A-1366 POSTER** Late Holocene Paleosalinity, Groundwater Discharge, and Regional Climate Change at Celestun Estuary, Yucatan Peninsula, Mexico: **S Davis**, J H Street, J Herrera-Silveira, A Paytan

1340h **PP23A-1367 POSTER** Decay series radioisotope disequilibria in estuarine sediments and their environmental implications: **Y Wu**, S Luo, W Chu

1340h **PP23A-1368 POSTER** Responses to Rapid Climate Change: Osmium Isotopic Evidence for Changing Weathering Fluxes in Response to the Paleocene-Eocene Hyperthermal Event: **R Wiczeorek**, M S Fantle, L R Kump, G E Ravizza

1340h **PP23A-1369 POSTER** Controls on the Flux, Age, and Composition of Terrestrial Organic Carbon Exported by Rivers to the Ocean: **B Peucker-Ehrenbrink**, T I Eglinton, R M Holmes, V Galy, S Soule, S J Goetz, N T Laporte, W M Wollheim

1340h **PP23A-1370 POSTER** A Plio-Pleistocene Os Isotope Record From The Eastern Equatorial Pacific, ODP Site 849; No Evidence Of Diminished Glacial Os Flux In The 41 Kyr World: **G E Ravizza**, D VonderHaar

1340h **PP23A-1371 POSTER** Li isotope composition in coral skeleton as a potential proxy for the silicate weathering intensity: **K Huang**, C You, P Lin, R Wang, C Chung

1340h **PP23A-1372 POSTER** Weathering, atmosphere and sea-ice: The cycling of aluminium in coastal Antarctica: **K R Hendry**, M P Meredith, C I Measures, D Carson, R E Rickaby

1340h **PP23A-1373 POSTER** STREAM GEOCHEMISTRY, CHEMICAL WEATHERING AND CO₂ CONSUMPTION POTENTIAL OF ANDESITIC TERRAINS, DOMINICA, LESSER ANTILLES: **S T Goldsmith**, A E Carey, B M Johnson, S A Welch, W Lyons, W H McDowell, J S Pigott

1340h **PP23A-1374 POSTER** ⁴⁰K-⁴⁰Ca isotopic constraints on the oceanic Calcium cycle: **G Caro**, D A Papanastassiou

1340h **PP23A-1375 POSTER** Glacial/Interglacial Variability in Terrigenous Input and Paleoproductivity in the North Atlantic During the Middle Pleistocene (MIS 19 to MIS 31): I H Almeida, F J Sierro, **G M Filippelli**, J Flores

1340h **PP23A-1376 POSTER** Multi-Proxy Approach to Terrestrial Input and Shifts in Circulation in the Eastern Equatorial Pacific from LGM to Present: Foraminiferal Mn/Ca, Sr/Ca and Mg/Ca: **G P Klinkhammer**, A C Mix, B A Haley

1340h **PP23A-1377 POSTER** Complex Molybdenum Isotope Behavior During Weathering and Erosional Transport: **C Siebert**, J C Pett-Ridge, K Burton, A N Halliday

1340h **PP23A-1378 POSTER** Strontium stable isotope behaviour in foraminiferal calcite and the retrieval of marine records: **E Stevenson**, K Burton, R Rickaby, I J Parkinson, P Anand, E Hathorne

1340h **PP23A-1379 POSTER** Multi-isotopic approach to assess the role of soil weathering processes on rivers draining a basaltic catchment: **S Opfergelt**, R B Georg, K Burton, S R Gislason, B Sigfusson, A N Halliday

1340h **PP23A-1380 POSTER** Chromium Isotopes Record Fluctuations in Precambrian Biospheric Oxygenation: **R Frei**, C Gaucher, S W Poulton, D E Canfield

1340h **PP23A-1381 POSTER** Isotopic composition of dissolved iron in the Equatorial Pacific and the Southern oceans: **A Radic**, F Lacan, C Jeandel, F Poitrasson, G Sarthou

PP23B Moscone South: Poster Hall Tuesday 1340h
High-Resolution Paleoclimate Modeling and Proxy Records II Posters

Presiding: **B W Bird**, The Ohio State University; **K Proemmel**, FU Berlin, Institute for Meteorology; **S Wagner**, FU Berlin; **N Stansell**, The Ohio State University

1340h **PP23B-1382 POSTER** High-Resolution Clay Mineral Records in the Northern South China Sea during the Last Climatic Cycle: Implications for Upper Ocean Circulation and Kuroshio Intrusion: **X Li**, Z Liu, C Colin, H Ge

1340h **PP23B-1383 POSTER** Pseudo-proxy analysis of the pre-observational mean (POM) temperature model in borehole climatology: **M B Stevens**, J E Smerdon, H Beltrami, G A Ferguson

1340h **PP23B-1384 POSTER** Modelled and observed continental surface heat fluxes: H Beltrami, **A H MacDougall**, F J Gonzalez-Rouco, M B Stevens, E Bourlon

1340h **PP23B-1385 POSTER** Propagation of linear surface air temperature trends into the terrestrial subsurface: **M B Lesperance**, H Beltrami, J E Smerdon

1340h **PP23B-1386 POSTER** Common Deficiencies in Existing Methods for Reconstructing High-Resolution Temperature Fields During the Last Millennium: **J E Smerdon**, A Kaplan, E Zorita, F J Gonzalez-Rouco, M N Evans

1340h **PP23B-1387 POSTER** Intercomparison of 20th century tropical climate model hindcasts and coral $\delta^{18}\text{O}$ data using a forward proxy model: D M Thompson, M N Evans, T R Ault, J E Cole, J Emile-Geay

1340h **PP23B-1388 POSTER** Simulation of $\delta^{18}\text{O}$ in Svalbard precipitation by the regional circulation model REMO_{iso}: a comparison with GNIP and ice core data: D Divine, J Sjolte, E D Isaksson, H A Meijer, R Van de Wal, T Martma, V A Pohjola, F Godtliebsen

1340h **PP23B-1389 POSTER** Simulation of the Greenland Ice Sheet Surface Mass Balance during the Eemian Using a Regional Atmospheric Climate Model: **W van de Berg**, M R van den Broeke, J Ettema, F Kaspar, E van Meijgaard

1340h **PP23B-1390 POSTER** Downscaling a transient simulation of the Holocene with a time-slice technique: **J Körper**, S Wagner, U Cubasch

1340h **PP23B-1391 POSTER** Speleothem Records of Climate Variability from Abaco Island, Bahamas: A New Archive: **M M Arienzo**, P K Swart, K Broad, A C Clement, A Eisenhauer, B Kakuk

1340h **PP23B-1392 POSTER** A 1200-Year Record of Rapid Climate Changes Across the Tropical Americas Identified from Lake Sediments (*Invited*): **M Abbott**, D T Rodbell, N Stansell, B W Bird, M Vuille

1340h **PP23B-1393 POSTER** Proglacial hydrology in the tropical Andes: lessons from the Cordillera Blanca, Peru (*Invited*): **J M McKenzie**, B G Mark, M Baraer

1340h **PP23B-1394 POSTER** Assessing the El Niño/Southern Oscillation proxy potential of the sediment record from Genovesa Crater Lake, Galápagos: **J Conroy**, J T Overpeck, J E Cole, A Collins, M B Bush, M Steinitz-Kannan

1340h **PP23B-1395 POSTER** South American summer monsoon variability during the Holocene: Evidence for precipitation partitioning between the Andes and the Amazon basin: **B W Bird**, M Abbott, M Vuille, D T Rodbell

1340h **PP23B-1396 POSTER** Were humid intervals in northern South America always warm in the North Atlantic?: **C Gonzalez**

1340h **PP23B-1397 POSTER** The Role of Insolation and the Equatorial Pacific in South American Climate during the Holocene: A Paleoclimate Record from Laguna Blanca, Venezuela: **P J Polissar**, M Abbott, A P Wolfe, M Bezada, M Vuille

1340h **PP23B-1398 POSTER** Late Quaternary Glacial Advances in the Central Peruvian Andes (10°-11°S) Suggest a Link to Heinrich Events: **J A Smith**, D T Rodbell

1340h **PP23B-1399 POSTER** New constraints on Late Glacial pluvial events on the Southern Bolivian Altiplano: **C J Placzek**, J Quade, P J Patchett

1340h **PP23B-1400 POSTER** Neoglaciation and climate change recorded in sediments from Lake Lutacocha in the Cordillera Raura, Peru: **N Stansell**, M Abbott, D T Rodbell

1340h **PP23B-1401 POSTER** Heinrich I and Younger Dryas Glaciation in the Central Andes: **J Zech**, R Zech, J May, P W Kubik, H Veit

1340h **PP23B-1402 POSTER** A tight link between SST minima in the Tropical Atlantic and cold-wet events in the Central Altiplano during the last deglaciation (18-12 ka BP): **P Blard**, J Lave, K A Farley

1340h **PP23B-1403 POSTER** A New Perspective on the Hydroclimatic Variability of Northern South America during the Little Ice Age: **J M Reuter**, L D Stott, A Sinha, R Edwards, H Cheng

1340h **PP23B-1404 POSTER** CARBON ACCUMULATION IN THE LAGO COMPRIDO, AN AMAZONIAN FLOODPLAIN LAKE: **L Moreira**, P Moreira-Turcq, R C Cordeiro, B Turcq

PP23C Moscone South: Poster Hall Tuesday 1340h
Holocene Climate Variability: Changes in the Ocean-Atmosphere System and Their Impacts on Marine and Terrestrial Ecosystems III Posters (joint with B, OS)

Presiding: **G Marino**, Univ. Autònoma de Barcelona; **M Sánchez Goñi**, Ecole Pratique des Hautes Etudes; **P Ziveri**, Universitat Autònoma de Barcelona

1340h **PP23C-1405 POSTER** A comparison of Late Holocene palaeoclimatic records from around the Labrador Sea region incorporating both oceanic and atmospheric indicators: **C A Jessen**, C S Andresen, S Solignac

1340h **PP23C-1406 POSTER** Interaction between subsurface ocean waters and calving of Jakobshavn Isbrae during the late Holocene: **C S Andresen**, A Kuijpers, J Lloyd

1340h **PP23C-1407 POSTER** Holocene history of land cover and land use in northwestern Europe: a new approach in pollen-based reconstruction of regional landscape: **S Sugita**, M Gaillard, A Trondman, F Mazier, A B Nielsen, R Fyfe

1340h **PP23C-1408 POSTER** Holocene Vegetation and Marine Environment Variability in the Central Mediterranean: A Marine Pollen Record off Tunisia: **S Desprat**, N Combourieu Nebout, L Essallami, I Rouis Zargouni, M Sicre, J Turon, N Kallel, F Dewilde

1340h **PP23C-1409 POSTER** Calcareous Nannofossil Assemblages from the Central Mediterranean over the Last Four Centuries: **A Incarbona**, P Ziveri, E Di Stefano, F Lirer, G Tranchida, M Vallefucio, G Mortyn, B Patti, R Sprovieri, A Bonanno, P Censi, L Ferraro, S Mazzola, M Sprovieri

1340h **PP23C-1410 POSTER** Biogeochemical changes in the eastern Mediterranean Sea during the early Holocene: **R Grimm**, E H Maier-Reimer

1340h **PP23C-1411 POSTER** Interplay Between High And Low Latitude Climate Variability: New Records From The Aegean Sea: **G Marino**, E J Rohling, F Sangiorgi, A Hayes, J L Casford, A F Lotter, M Kucera, H Brinkhuis

1340h **PP23C-1412 POSTER** Seasonal evolution of the diatom and foraminifer fluxes in the Northwest Mediterranean based on the study of a 12-year-long sediment trap record: **A Rigual Hernandez**, M Barcena Pernia, F J Sierro, J Flores, S Heussner

1340h **PP23C-1413 POSTER** Climatic variability over western Sahel related to the latitudinal migration of the tropical rainbelt through the late Holocene: Evidence from palynology: **I Bouimetarhan**, L M Dupont, E Schefuss, G Mollenhauer, S Mulitza, K A Zonneveld

1340h **PP23C-1414 POSTER** Holocene summer-temperature variation in Alaska: Quantitative reconstruction and possible solar forcing: **B F Clegg**, G Clarke, K Wolfe, W Tinner, I Walker, F Hu

1340h **PP23C-1415 POSTER** Trace metal proxies in the Oregon coastal zone- identifying Holocene hypoxic events: **A M Erhardt**, A Paytan

1340h **PP23C-1416 WITHDRAWN**

1340h **PP23C-1417 POSTER** Millennial- and centennial-scale vegetation and climate changes during the late Pleistocene and Holocene in northern Colorado (USA): **G Jimenez-Moreno**, R S Anderson

1340h **PP23C-1418 POSTER** Holocene hydroclimate variability in the Uinta Mountains, Utah inferred from tree-rings and diatoms: **A Tingstad**, G M MacDonald, K A Moser, J S Munroe, D Koerner, C Zuhlsdorf

1340h **PP23C-1419 POSTER** A 7000-year Lacustrine Record from Angel Lake, Nevada: **J S Munroe**, B J Laabs

1340h **PP23C-1420 POSTER** Initial Results from a Sediment Core from Zaca Lake, Santa Barbara County, CA, Reveal Patterns of Late-Holocene Hydrologic Variability: **M I Cheetham**, S Feakins, M E Kirby

1340h **PP23C-1421 POSTER** Comparing microfossil shell weight from two locations on the California coast to understand controls on bottom water carbonate chemistry over the past 14 ka: **S C Downing**, T M Hill, S C Flores, S Myhre

1340h **PP23C-1422 POSTER** Holocene Paleoeecology of a California Estuary – A Window into Ecosystem Responses to Natural and Anthropogenic Perturbations in Water Chemistry: **N B Quintana Krupinski**, E B Watson, J H Street, A Paytan

1340h **PP23C-1423 POSTER** Terrestrial proxy records of subtropical atmospheric dynamics during the early to mid-Holocene from the interior southeastern United States: **J J Kocis**

1340h **PP23C-1424 POSTER** Holocene Decadal to Multidecadal Hydrologic Variability in the Everglades: Climate and Implications for Ecosystem Management: **C S Moses**, W T Anderson, C Saunders, C Rebenack

1340h **PP23C-1425 POSTER** Early Holocene Centennial-Scale Sea Surface Temperature and Salinity Variability in the Florida Straits: **W A Weinlein**, M W Schmidt, J M Lynch-Stieglitz

1340h **PP23C-1426 POSTER** 13000 cal years upwelling variation in southwestern Atlantic (Brazil): continental paleoclimate implications: **A Albuquerque**

1340h **PP23C-1427 POSTER** Interplay between Amazonia Tropical Rain Forest Fires (Mesoscale distribution) and global carbon cycle: **R C Cordeiro**, B Turcq, A Sifeddine

1340h **PP23C-1428 POSTER** Asynchronicity of the Mid-Holocene Climatic Optimum across the Mongolian Plateau: **Z Feng**, Y Ma

1340h **PP23C-1429 POSTER** Hydrological variability for the last two millennia: palynological and organic proxies extracted from lacustrine sediments of Lake Dahu, northeastern subtropical Taiwan: **T Yang**, F Zeng, L Wang, C Huh, T Lee, Y Chan, P A Meyers, M Lee, S Chen, J Wu, K Wei, Y Chen

1340h **PP23C-1430 POSTER** Stalagmite-inferred late Holocene precipitation evolution in the tropical western Pacific from Tine cave, Negros Occidental, Philippines: **M Hori**, C Shen, F P Siringan, H Mii, C Wu, A Kano

1340h **PP23C-1431 POSTER** Holocene temperature change in the northern East China Sea; Application of TEX86 paleothermometry: **T Nakanishi**, M Yamamoto, T Okino, T Irino, H Oda, Y Yokoyama, H Matsuzaki, R Tada

1340h **PP23C-1432 POSTER** Thermal and hydrological variability in the southern South China Sea over the past 11,600 years: **J Huang**, K Wei, C Shen, L Lo, C Huang

1340h **PP23C-1433 POSTER** The Asian Monsoon Variability during the Early Holocene: **Y Lin**, C Chang, Y Chen, C Shen, L D Doan

1340h **PP23C-1434 POSTER** Westerly Wind Variability in New Zealand Fjords: Signals of Marine and Terrestrial Sedimentation: **K P Knudson**, I L Hendy, H Neil

1340h **PP23C-1435 POSTER** Late Holocene climate dynamics: A high-resolution sediment core from Maxwell Bay, South Shetland Islands, Antarctica: **H C Hass**, G Kuhn, P Monien, H Brumsack

1340h **PP23C-1436 POSTER** Response of carbon fluxes and climate to orbital forcing changes in the Community Climate System Model: **M Jochum**, S Peacock, J K Moore, K T Lindsay

PP23D Moscone West: 2006 Tuesday 1340h
Deglaciation of the Northern Hemisphere: Timings and Forcings II (*joint with A*)

Presiding: D M Peteet, NASA/Goddard Institute for Space Studies; J J Clague, Simon Fraser University

1340h **PP23D-01** The DATED Chronology and Reconstruction of the Deglaciation of the Eurasian Ice Sheets (*Invited*): R Gyllencreutz, J Mangerud, J Svendsen, O S Lohne

1355h **PP23D-02** Pattern and timing of retreat of the last British-Irish Ice Sheet: C D Clark, A L Hughes, S L Greenwood

1410h **PP23D-03** Last deglaciation of the North Sea region: H P Sejrup, A Nygård, H Haflidason, B Hjelstuen, C Zuhlsdorff, G R Bigg, A Hall, C D Clark

1425h **PP23D-04** Ice Sheet Oscillations During the Last Deglaciation in Western Norway: O S Lohne, J Mangerud, J Svendsen, R Gyllencreutz

1440h **PP23D-05** The chronology and rate of ice-sheet margin retreat in the major fjords of Western Norway during the Early Holocene: J Mangerud, O S Lohne, B M Goehring, J Svendsen, R Gyllencreutz, J M Schaefer

1455h **PP23D-06** The last deglaciation of the Svalbard archipelago, mainly a eustatically driven process?: J Y Landvik

1510h **PP23D-07** Collapse of a North Atlantic ice sheet – the last deglaciation of Iceland: O Ingolfsson, H Norddahl

1525h **PP23D-08** RESPONSE OF JAKOBHAVN ISBRÆ, WEST GREENLAND, TO HOLOCENE CLIMATE FORCING: N E Young, J P Briner, Y Axford

PP23E Moscone West: 2004 Tuesday 1340h
Loess 2.0: Milestones and Recent Advances in the Study of Loess, Dust, and Other Aeolian Sediment Archives II (*joint with A, GP, GC, EP*)

Presiding: Z Lai, Qinghai Institute of Salt Lakes, Chinese Academy of Sciences; B Machalet, Humboldt-University of Berlin; H M Roberts, Aberystwyth University; E A Oches

1340h **PP23E-01** On the paleoclimate interpretation of Chinese loess Gerard Roe (*Invited*): G Roe

1355h **PP23E-02** Long term seasonality changes and abrupt climate oscillations recorded in highly resolved dust/loess sequences in SE Europe and Central Asia: B Machalet, E A Oches, S B Markovic, W Endlicher

1410h **PP23E-03** Three exceptionally strong East-Asian summer monsoon events during glacial times in the past 470 kyr: D Rousseau, N Wu, Y Pei, F Li

1425h **PP23E-04** WITHDRAWN

1440h **PP23E-05** Dust in Antarctica: the perspective from Pb isotopes. (*Invited*): P Vallelonga

1455h **PP23E-06** The Contribution of Different Parameters to the High Dust Concentration in Antarctic Ice Cores during LGM: A Sensitivity Study: F Li, P A Ginoux, V Ramaswamy

1510h **PP23E-07** Millennial-scale provenance changes of aeolian dust in the Japan Sea sediments during the last glacial period (*Invited*): K Nagashima, R Tada, Y Isozaki, S Toyoda, A Tani, Y Sun

1525h **PP23E-08** View of the MIS 2–MIS 1 transition from paleosol archives within loess of the North American central Great Plains: W C Johnson, J A Mason, T L Woodburn, G Macpherson

SPA - Aeronomy

SA23A Moscone South: Poster Hall Tuesday 1340h
SPA-Aeronomy General Contributions II Posters

Presiding: L P Goncharenko, MIT; A B Christensen, Aerospace Corp

1340h **SA23A-1455 POSTER** Near Infrared Spectroscopy and Photometry of the Thermosphere from the RAIDS Experiment on the International Space Station: A B Christensen, R L Bishop, S A Budzien, J H Hecht, A W Stephan, P R Straus, Z Van Epps

1340h **SA23A-1456 POSTER** Early Results from the RAIDS Experiment on the ISS: S A Budzien, R L Bishop, A W Stephan, A B Christensen, J H Hecht, P R Straus

1340h **SA23A-1457 POSTER** Density Variations Observable by Precision Satellite Orbits from CHAMP and GRACE: T Lechtenberg, C A McLaughlin, E Fattig

1340h **SA23A-1458 POSTER** First E-region observations of meso-scale neutral wind interaction with auroral arcs: M Kosch, C Anderson, R Makarevitch, B Carter, R A Fiori, M G Conde, P L Dyson, T Davies

1340h **SA23A-1459 POSTER** First Observations of Simultaneous Inter-hemispheric Conjugate High-latitude Thermospheric Winds: C Anderson, I Yiu, A C Kellerman, M Kosch, R Makarevitch, A L Aruliah, M G Conde, T Davies, P L Dyson

1340h **SA23A-1460 POSTER** Characterisation of the Ionosphere over the Murchison Radio Observatory, Murchison, Western Australia: D E Herne

1340h **SA23A-1461 POSTER** Current status of the Faraday Filter-Based Spectrometer to Measure Sodium Nightglow D₂/D₁ Intensity Ratios: S Harrell, C She, D A Krueger, T Yuan

1340h **SA23A-1462 POSTER** CESAR Opto-Mechanical Design: M Grill, M Radovan, R Melchiorri, T G Slanger

1340h **SA23A-1463 POSTER** Experimental and Theoretical Characterization of the ANDE Wind and Temperature Spectrometer (WATS): D Fenn, E A Syrtad, J S Dyer, B Vancil, P Roman, H Jones, F Herrero, T T Finne, A C Nicholas

1340h **SA23A-1464 POSTER** Application of The Alfvén-Assisted Precipitation Model to Field-Aligned Electron Bursts: J H Lee, J H Clemmons, V Angelopoulos, R F Pfaff, D D Wallis, D J Knudsen

1340h **SA23A-1465 POSTER** Evaluations of the impedance probe measurements in the ionosphere and its application to plasma diagnostics: T Suzuki, T Ono, A Kumamoto, Y Katoh, N Terada, J Uemoto

1340h **SA23A-1466 POSTER** Hybrid Description of Outflowing Ionospheric Plasma: A Monte Carlo/n-Moment Transport Equations Model: J Ji, A R Barakat, R W Schunk

1340h **SA23A-1467 POSTER** Simulation of ISR Spectrum in the Lower Thermosphere Using Various Collisional Models: J T Fentzke, M P Sulzer, S A Gonzalez

SA23B Moscone South: Poster Hall Tuesday 1340h
Unsolved Problems in Ionospheric Electrodynamics III Posters (*joint with SM*)

Presiding: T J Fuller-Rowell, CIRES Univ of Colorado; S Sazykin, Rice University

1340h **SA23B-1468 POSTER** Storm time signatures of the zonal ion drift and region-2 field-aligned current at middle latitude ionosphere: S Mohapatra, R A Heelis

1340h **SA23B-1469 POSTER** Comparing Equatorial Electric Fields Using the Tsyganenko R1 and R2 Models and the Hill-Siscoe Polar Cap Potential: P L Rothwell, J R Jasperse

1340h **SA23B-1470 POSTER** A Sounding Rocket experiment to Validate Ultraviolet Remote Sensing of the Upper Atmosphere and Ionosphere: **S Chakrabarti**, A W Stephan, P J Erickson, T Cook, S B Mende

1340h **SA23B-1471 POSTER** The Relation between Magnetospheric State Parameters and the Occurrence of Night-Time Mid-Latitude Plasma Depletions in the F-Region: **I Seker**, S F Fung, J D Mathews

1340h **SA23B-1472 POSTER** EEJ and Sq Variations Observed at MAGDAS/CPMN Stations: **K Yumoto**, Y Yamazaki, S Abe, T Uozumi

1340h **SA23B-1473 POSTER** Ionospheric Storms in the Sub-Auroral Ionosphere: Local Time Effects Driven by Electrodynamics: **C L Narvaez**, M Mendillo

1340h **SA23B-1474 POSTER** Cross-Polar-Cap Potential as Derived from DMSP Data and AMIE Technique: **W B Lyatsky**, G V Khazanov

1340h **SA23B-1475 POSTER** First steps toward a new class of statistical convection models: **W A Bristow**

1340h **SA23B-1476 POSTER** Climatology of Magnetosphere-Ionosphere Coupling in the Lyon-Fedder-Mobarry Global Magnetosphere Model: **B Zhang**, W Lotko, M J Wiltberger, O J Brambles, P A Damiano

1340h **SA23B-1477 POSTER** Effective Aperture Behavior of Open Magnetic Field Lines in the Geospace Environment: **R Stoneback**, R A Heelis

1340h **SA23B-1478 POSTER** Empirical Sq field model obtained from the 210°MM CPMN data during 1996-2007: **Y Yamazaki**, K Yumoto, H Terada, Y Kakinami, T Uozumi, S Abe, A Yoshikawa

1340h **SA23B-1479 POSTER** Penetration of magnetospheric electric fields to low latitude during geomagnetic storms: **T Kikuchi**, K Hashimoto, A Shinbori, Y Tsuji, S Watari

1340h **SA23B-1480 POSTER** Enhanced Electron Temperatures in the Polar D region: L Brower, **J P Thayer**, J St-Maurice

1340h **SA23B-1481 POSTER** New observations of ionospheric instabilities in the equatorial electrojet: **P Alken**, S Maus

1340h **SA23B-1482 POSTER** Effect of the geometry of earth's magnetic field on the ionospheric electrodynamics: **G H Vichare**, A J Ridley

1340h **SA23B-1483 POSTER** Constraining Magnetosphere Storm Drivers Through Analysis of the Atmospheric Response: **M Fedrizzi**, T J Fuller-Rowell, M Codrescu

1340h **SA23B-1484 POSTER** Sources for Traveling Ionospheric Disturbances: **J W MacDougall**, P T Jayachandran

1340h **SA23B-1485 POSTER** Substorm-related thermospheric density and wind disturbances: **P Ritter**, H Luhr, E N Doornbos

1340h **SA23B-1486 POSTER** Negative Effect on Electron Density in Mid-latitude Ionosphere due to Geomagnetic Disturbances: FORMOSAT-3/COSMIC Observations: **S W Tam**, C Chen, K Wang

1340h **SA23B-1487 POSTER** Response of the Ionospheric F-region in the Latin American Sector During the Intense Geomagnetic Storm of 21-22 January 2005: **Y Sahai**, P R Fagundes, R de Jesus, A J de Abreu, G Crowley, V G Pillat, F L Guarnieri, J R Abalde, J A Bittencourt

1340h **SA23B-1488 POSTER** Equatorial zonal electric fields inferred from a 3D electrostatic potential model and ground-based magnetic field measurements: **E Shume**, E R de Paula, S Maus, D L Hysell, F S Rodrigues, A Bekele

1340h **SA23B-1489 POSTER** Anomalous Enhancement of Occurrence of the Preliminary Impulse of Geomagnetic Sudden Commencement (SC) at Low Latitude in the South Atlantic Anomaly (SAA) region: **A Shinbori**, Y Nishimura, Y Tsuji, T Kikuchi, T A Araki, A Ikeda, T Uozumi, R E Otadoy, H Utada, J Ishitsuka, N B Trivedi, S L Dutra, N J Schuch, S Watari, T Nagatsuma, K Yumoto

1340h **SA23B-1490 POSTER** The Relationship between Radiance of the Tiny Ionospheric Photometer and Geomagnetic Indices: **A Lai**, S W Tam

SA23C Moscone South: 303 Tuesday 1340h Causes and Effects of Ionospheric Density Gradients II

Presiding: **J V Eccles**, Space Environment Corporation; **R A Heelis**, University of Texas at Dallas

1340h **SA23C-01** Structures in the Ionosphere: F-region Plasma Processes, Irregularity Spectra and Impact on Technological Systems: **S Basu**, S Basu

1355h **SA23C-02** Nighttime medium-scale traveling ionospheric disturbances observed by ground optical instruments at high- and low-latitudes: **K Shiokawa**, Y Otsuka

1410h **SA23C-03** The Ionospheric Mid-Latitude Summer Nighttime Anomaly: **C Lin**, C Chen, M Hsu, C H Liu, J G Liu, A G Burns, W Wang

1425h **SA23C-04** First Tomographic Observations of the Mid-latitude Summer Nighttime Anomaly (MSNA) over Japan: **M Yamamoto**, S Thampi, C Lin, H Liu

1440h **SA23C-05** Non-Equatorial Ionospheric Gradients (*Invited*): **J J Sojka**

1455h **SA23C-06** Characterization of Nightside Mid-latitude Irregularities Observed with the Blackstone SuperDARN Radar: **J M Ruohoniemi**, A J Ribeiro, J B Baker, R A Greenwald, P T Newell

1510h **SA23C-07** COSMIC Observations of Longitudinal Gradients in the Equatorial Anomaly Region: **K Dymond**, S A Budzien, S E McDonald, C Coker, D H Chua

1525h **SA23C-08** Low-to-Middle Latitude Ionospheric Plasma Blobs Observed by ROCSAT from 1999 to 2004: **S Su**, Y Shih

SPA - Solar and Heliospheric Physics

SH23A Moscone South: Poster Hall Tuesday 1340h Solar Flares II Posters

Presiding: **M S Kirk**, New Mexico State University; **P Saint-Hilaire**, SSL, UCB

1340h **SH23A-1519 POSTER** STATISTICAL STUDY of HARD X-RAY SPECTRAL CHARACTERISTICS OF SOLAR FLARES: **M Alaoui**, S Krucker, P Saint-Hilaire, R P Lin

1340h **SH23A-1520 POSTER** Relationship between Hard X-ray Emissions and Magnetic Field Strengths in Solar Flares: **M Hsieh**, Y Yang, C Z Cheng

1340h **SH23A-1521 POSTER** "Relationship between flare X-rays and photospheric magnetic fields": **P Saint-Hilaire**, S Christe, J M McTiernan, B Welsh

1340h **SH23A-1522 POSTER** The relation between solar active region location and the lowest frequency of type III emission: **N Kuroda**, N Gopalswamy

1340h **SH23A-1523 POSTER** Imaging and Spectroscopic Analysis of High Energy Coronal Looptop Sources in Three Solar Flares Observed by RHESSI: **Q Chen**, V Petrosian

1340h **SH23A-1524** *POSTER* Automated Characterization of Sequential Chromospheric Brightenings: **M S Kirk**, K S Balasubramaniam

1340h **SH23A-1525** *POSTER* Automatic Recognition of Coronal Type II Radio Bursts: The Method for ARBIS 2: **V Lobzin**, I H Cairns, P A Robinson, G Steward, G Paterson

1340h **SH23A-1526** *POSTER* RHESSI Observations of Photospheric Backscattering of Solar Flare X-rays: **E J Schmahl**, G J Hurford

1340h **SH23A-1527** *POSTER* Chromospheric Density Structures in Asymmetric Hard X-ray Footpoints of Flaring Loops: **N Chen**, Y Yang, W Ip

1340h **SH23A-1528** *POSTER* Inferring Nonthermal Particle Characteristics from Thermal Emission Signatures: **A Kobelski**, H D Winter, D E McKenzie

1340h **SH23A-1529** *POSTER* Analysis of Reconnection Electric Field in Large Solar Flares: **Y Yang**, C Z Cheng

1340h **SH23A-1530** *POSTER* Numerical and experimental observation of three-dimensional null-point magnetic reconnection and subsequent dynamical relaxation: **V S Lukin**, T Gray, M R Brown, C D Cothran

1340h **SH23A-1531** *POSTER* Secondary Islands in Sweet-Parker Reconnection: Scaling, Onset, and Impact on Coronal Energy Storage: **P Cassak**, J F Drake, M A Shay

1340h **SH23A-1532** *POSTER* The self-organization of neutral lines in three-dimensional and random fast magnetic reconnection: **T Shimizu**

1340h **SH23A-1533** *POSTER* Spontaneous non-steady reconnection within the framework of pure resistive magnetohydrodynamics: is anomalous resistivity really unescapable?: **L Bettarini**, M Skender, G Lapenta

SH23B Moscone South: Poster Hall Tuesday 1340h
Solar Magnetic Fields and Cycle Variability Posters

Presiding: **R W Nightingale**, Lockheed Martin Adv. Tech. Center; **RA Shine**, Richard A Shine

1340h **SH23B-1534** *POSTER* The Origin of High-Speed Evershed Flows in Sunspots: **I N Kitiashvili**, A G Kosovichev, A A Wray, N N Mansour

1340h **SH23B-1535** *POSTER* NUMERICAL SIMULATION OF PROPAGATION AND SCATTERING OF THE MHD WAVES IN SUNSPOTS: **K Parchevsky**, A G Kosovichev, E Khomenko, M Collados

1340h **SH23B-1536** *POSTER* Measurements of TRACE 171A Twisting Coronal Loop Fans about a Twisted Magnetic Flux Tube Originating From Below the Photosphere: **R W Nightingale**, G Ma, E Ji

1340h **SH23B-1537** *POSTER* Measuring Coronal Magnetic Twist Injected by Photospheric Rotation: **A Malanushenko**, M Yusuf, D W Longcope

1340h **SH23B-1538** *POSTER* Modeling of sunspot structures using simulations of axisymmetric MHD convection: **T Hartlep**, N E Hurlburt, F H Busse, A G Kosovichev

1340h **SH23B-1539** *POSTER* MAGNETIC ADVECTION DUE TO DIFFUSIVITY GRADIENTS: **E J Zita**

1340h **SH23B-1540** *POSTER* Origin of Filamentary Structures and Flows in Quiescent Prominences: **M Ryutova**, T E Berger, T D Tarbell, Z Frank, A M Title

1340h **SH23B-1541** *POSTER* Helical Shape and Twisting Motion as Intrinsic Properties of Penumbra Filaments: **RA Shine**, M Ryutova, T E Berger, A M Title, T D Tarbell, K Ichimoto

1340h **SH23B-1542** *POSTER* Solar Prominence Dynamics Prior to Eruption: **G K Kilper**, J M Davila

1340h **SH23B-1543** *POSTER* Eruptive Behaviors of Solar Flux Ropes Depending on the Degree of Confinement: **G Choe**, H Jun

1340h **SH23B-1544** *POSTER* Temporal Behavior of Explosive Events Seen in UV by SUMER: **J E Mendoza Torres**, T Niembro, K Wilhelm

1340h **SH23B-1545** *POSTER* Recovering Inversion Lines from GONG Magnetograms and Implications for Space Weather Forecasting: **O D Giersch**, A Brockman

1340h **SH23B-1546** *POSTER* SIMULATING LOW FREQUENCY RADIO IMAGES OF THE SUN: **L V Benkevitch**, D Oberoi, I Sokolov

1340h **SH23B-1547** *POSTER* Imaging the Sun with the Murchison Widefield Array: **D Oberoi**, L V Benkevitch, L D Matthews

1340h **SH23B-1548** *POSTER* Observations of the Sun with the 32 Element MWA Prototype: S M Rightley, L D Matthews, **D Oberoi**

1340h **SH23B-1549** *POSTER* Latitude-Dependent Temperature Variations at the Solar Limb: **M D Fivian**, H S Hudson, R P Lin, H J Zahid

1340h **SH23B-1550** *POSTER* Solar Spectrum at Millimeter-Infrared Wavelength Range: **V H De la Luz**, J Raulin, A Lara, P Kaufmann

1340h **SH23B-1551** *POSTER* Modeling Solar Cycle Length Based on Poincaré Maps for Lorenz Type Equations: **H Lundstedt**, T Persson

SH23C Moscone South: 301 Tuesday 1340h
Connecting the Evolving Sun to the Heliosheath II

Presiding: **Q Hu**, University of Alabama in Huntsville; **M Zhang**, Florida Institute Technology

1340h **SH23C-01** Energetic Particles in the Heliosheath: A Report from Voyagers 1 and 2 (*Invited*): **A C Cummings**, E C Stone, F B McDonald, B C Heikkila, N Lal, W R Webber

1400h **SH23C-02** Constraints on the Acceleration of Charged Particles in the Heliosphere (*Invited*): **J R Jokipii**

1420h **SH23C-03** Changes in the Solar Modulation of Anomalous Cosmic Rays in the Heliosheath: **E C Stone**, A C Cummings, F B McDonald, B C Heikkila, N Lal, W R Webber

1435h **SH23C-04** Intensity Variations of Suprathermal Heliosheath Ions Measured at Voyagers 1 and 2: **R B Decker**, E C Roelof, S M Krimigis, M E Hill

1450h **SH23C-05** Acceleration of the low-energy anomalous cosmic ray component observed by Voyager 2: **V A Florinski**, R B Decker, G P Zank, J A le Roux

1505h **SH23C-06** The Origin of Low-Energy Anomalous Cosmic Rays at the Solar-Wind Termination Shock: **J Giacalone**, R B Decker

1520h **SH23C-07** Diffusive compression acceleration of particles by plasma waves: Is it the source of p^5 spectrum?: **M Zhang**

SPA - Magnetospheric Physics

SM23A Moscone South: Poster Hall Tuesday 1340h
Dynamic Evolution of Earth's Radiation Belts: Observations, Modeling, Forecasting II Posters

Presiding: **Y Shprits**, UCLA; **A Y Ukhorskiy**, JHU/APL

1340h **SM23A-1573** *POSTER* Self-limitation of Stably-trapped Particle Fluxes in Planetary Magnetospheres: **R Tang**, D Summers, R M Thorne

1340h **SM23A-1574** *POSTER* IMF Sector Control of the Relativistic Electrons at Geostationary Orbit: **T Obara**, H Koshiishi, H Matsumoto, T Goka

1340h **SM23A-1575 POSTER** Seasonal dependence of energetic electron precipitation: Evidence for a global role of lightning: **E Gemelos**, U S Inan, M Walt, M Parrot, J Sauvaud

1340h **SM23A-1576 POSTER** 3D simulations of the dynamics of the Radiation Belts including mixed diffusion: **D Subbotin**, Y Shprits

1340h **SM23A-1577 POSTER** Radial Profiles of Relativistic Electron Phase Space Density at Constant First and Second Adiabatic Invariant: **J L Roeder**, J Fennell

1340h **SM23A-1578 POSTER** Bounce-averaged diffusion coefficients in non-dipole field for field-aligned chorus waves: **K Orlova**, Y Shprits

1340h **SM23A-1579 POSTER** Wave Normal Angles of Magnetospheric Chorus Emissions Observed on the Polar Spacecraft: **N Haque**, M Spasojevic, O Santolik, U S Inan

1340h **SM23A-1580 POSTER** A study of energetic electrons near the last closed drift shell using THEMIS-SST data: **D L Turner**, J Koller, G D Reeves, X Li, R H Friedel

1340h **SM23A-1581 POSTER** Observations of relativistic electron precipitation during the 2009 Valentine's Day Storm: Results from the first BARREL test flight: **R M Millan**, J G Sample, M McCarthy, D M Smith, J G Hewitt, M Comess, L A Woodger, X Liang, M K Hudson, R P Lin

1340h **SM23A-1582 POSTER** Theoretical prediction of longitude dependence of electron precipitation due to lightning: **B R Cotts**, U S Inan, N G Lehtinen

1340h **SM23A-1583 POSTER** Pc 5 Spectral Density at ULTIMA stations and its Radial Diffusion Coefficients for REE: **A Fujimoto**, T Tokunaga, S Abe, T Uozumi, A Yoshikawa, I R Mann, P J Chi, M J Engebretson, K Yumoto

1340h **SM23A-1584 POSTER** Systematics of Electron Flux Decay Lifetimes in the Outer Radiation Belts: **S G Kanekal**, J Fennell, D Baker, J B Blake

1340h **SM23A-1585 POSTER** A split in the outer radiation belt by magnetopause shadowing: **S saito**, Y Miyoshi, K Seki

1340h **SM23A-1586 POSTER** Transport of Energetic Particles to Inner Magnetosphere During Substorms: W C Lin, **C Z Cheng**

1340h **SM23A-1587 POSTER** Evolution and Energization of Energetic Electrons in the Inner Magnetosphere: July 2004 Storms: **J Fennell**, J L Roeder, S G Kanekal

1340h **SM23A-1588 POSTER** An Empirical Model of the South Atlantic Anomaly in Low Earth Orbit: C Selby, **R K Schaefer**, L J Paxton

1340h **SM23A-1589 POSTER** Rapid Loss of the Outer Belt Electrons due to Storm-Time EMIC Waves: **A Y Ukhorskiy**, Y Shprits, B J Anderson, K Takahashi, R M Thorne

1340h **SM23A-1590 POSTER** A three dimensional test particle simulation for the electron injections associated with the 23 March 2007 substorm: **K Min**, K Keika, J Lee

1340h **SM23A-1591 POSTER** Identifying Loss Mechanism of Radiation Belt Electrons During Flux Dropout Events: **C Huang**, H E Spence, H J Singer

1340h **SM23A-1592 POSTER** Duskside Relativistic Electron Precipitation in the SAMPEX data set from 1992-2004: **M D Comess**, D M Smith, R M Millan, J G Sample

1340h **SM23A-1593 POSTER** Probing the microburst source region using low energy electron measurements made in low-Earth orbit: **A B Crew**, J H Clemmons, H E Spence, M H Boehm

1340h **SM23A-1594 POSTER** Quantification of the Precipitation Loss of Radiation Belt Electrons Observed by SAMPEX: **W Tu**, R S Selesnick, X Li, M D Looper

1340h **SM23A-1595 POSTER** Remote sensing of plasma density fluctuations and wave source characteristics by means of chorus waves multi point phase correlation analysis: **O Agapitov**, V Krasnoselskikh, T Dudok de Wit, Y V Khotyaintsev, O Santolik, G Rolland, F Lefeuve

1340h **SM23A-1596 POSTER** ULF Wave Characteristics Associated with Electron Acceleration to Relativistic Energies: **L B Clausen**, J B Baker, J M Ruohoniemi

1340h **SM23A-1597 POSTER** Two Duskside Relativistic Electron Precipitation Events Seen During the 2008/2009 Balloon Array for Radiation-belt Relativistic Electron Losses (BARREL) Piggyback Flight: **A X Liang**

1340h **SM23A-1598 POSTER** A Detailed Look at Energetic Electron Dynamics in Response to Solar Wind Drivers at GPS Orbit: **R H Friedel**, S Morley, T E Cayton

SM23B Moscone South: Poster Hall Tuesday 1340h
Jupiter's Magnetosphere and Satellites II Posters (*joint with P*)

Presiding: **F Bagenal**, University of Colorado; **B H Mauk**, Johns Hopkins APL

1340h **SM23B-1599 POSTER** Discovery of Diffuse Hard X-ray Emission associated with Jupiter: Y Ezoe, **Y Miyoshi**, K Ishikawa, T Ohashi, N Terada, Y Uchiyama, H Negoro

1340h **SM23B-1600 POSTER** Periodic bursts observed in Jovian decametric radio emission: **M Panchenko**, H O Rucker, M L Kaiser, J L Bougeret, D A Gurnett

1340h **SM23B-1601 POSTER** Jupiter's Radio Rotation Period: 50 Years of Ticking: **D Solus**, C A Higgins, F Reyes

1340h **SM23B-1602 POSTER** Polarization Characteristics of Io-related Jupiter 18 MHz Radio Emissions: **C A Higgins**, J Bonner, F Reyes

1340h **SM23B-1603 POSTER** Model of Io's Local Interaction: Comparison with Galileo Flyby Observations: **V J Dols**, P A Delamere, R Wilson, F Bagenal

1340h **SM23B-1604 POSTER** Power transmission and particle acceleration along the Io flux tube: **S Hess**, P A Delamere, V Dols, B Bonfond, D Swift

1340h **SM23B-1605 POSTER** Modelling Io's auroral emission and the interaction of the moon's atmosphere-ionosphere with the Jovian magnetosphere: **L Roth**, J S Saur, K D Retherford, D F Strobel, J R Spencer

1340h **SM23B-1606 POSTER** Plasma Temperature Anisotropies at Io: O Sebek, **P M Travnicek**, R J Walker, P Hellinger

1340h **SM23B-1607 POSTER** Energetic Heavy Ion Depletion Observations Near Europa: **M Kokorowski**, H B Garrett, R W Evans, C M Cohen, E C Stone

1340h **SM23B-1608 POSTER** Modeled Ion and Neutral Particle Distributions around Jupiter's Moon Europa: **M Rubin**, V Tennishev, K C Hansen, X Jia, M R Combi, T I Gombosi

1340h **SM23B-1609 POSTER** Effect of Field-Aligned Potentials on Magnetospheric Dynamics at Jupiter and Saturn: **L C Ray**, R E Ergun, P A Delamere, F Bagenal, Y Su

1340h **SM23B-1610 POSTER** Global MHD simulations of Jupiter's magnetosphere: study of the ionosphere-magnetosphere coupling: **E Chané**, J S Saur, S Poedts

1340h **SM23B-1611 POSTER** Observation of Jupiter's Electron Radiation Belts Dynamics on Time-Scales of Days: R J Sault, **D Santos-Costa**, S J Bolton, R M Thorne, S M Levin

1340h **SM23B-1612 POSTER** Electron Densities in Jupiter's Magnetosphere Determined from Voyager and Galileo Plasma Wave Spectra: **B L Barnhart**, W S Kurth, J Groene, J Faden, O Santolik, D A Gurnett

1340h **SM23B-1613 POSTER** Self-consistent Euler potential modelling of the jovian magnetodisc: C S Arridge, **N A Achilleos**, P Guio, F Bagenal, R Wilson

1340h **SM23B-1614 POSTER** Potential reconnection configurations and flows at Jupiter's magnetopause: **M J Desroche**, F Bagenal, P A Delamere

1340h **SM23B-1615 POSTER** Plasma Observations of Magnetopause Crossings along Jupiter's Distant Dusk-side Flank from ~ 1650 to 2550 R: **R W Ebert**, D J McComas, F Bagenal, H A Elliott, D K Haggerty, Y Su

1340h **SM23B-1616 POSTER** Mapping the open/closed boundary in Jupiter's polar cap with a 2-D equatorial magnetic field model: **M F Vogt**, M G Kivelson, K K Khurana, R J Walker

1340h **SM23B-1617 POSTER** On the Importance of Solar Wind Observations Upstream of Jupiter's Magnetosphere: **K Fukazawa**, T Ogino, R J Walker, T Tanaka

1340h **SM23B-1618 POSTER** Solar wind interaction with Jupiter's magnetosphere: **P A Delamere**, F Bagenal

1340h **SM23B-1619 POSTER** Moment Calculations for Low Energy Ions in Jupiter's Magnetotail from NASA's NEW HORIZONS Mission: **D Hui**, Y Su, H A Elliott, D J McComas, F Bagenal, F J Cray

1340h **SM23B-1620 POSTER** Energetic Particle Evidence for Magnetic Filaments in Jupiter's Magnetotail: **D K Haggerty**, M E Hill, R L McNutt, C Paranicas

1340h **SM23B-1621 POSTER** New Public Analysis Environment for Galileo EPD Data: **L E Brown**, J D Vandegriff, C Paranicas, B H Mauk, R B Decker

1340h **SM23B-1622 POSTER** Versatile Langmuir Probe for Outer Planet Missions: **D Allen**, C S Fish, F J Cray, P Leung, R Frampton, C Swenson, D C Thompson, L Peltz

SM23C Moscone South: Poster Hall Tuesday 1340h
Saturn's Magnetosphere: A Laboratory for Plasma-Gas Interactions I Posters (*joint with P, SH*)

Presiding: **H T Smith**, JHU APL; **A Rymer**, JHU-APL

1340h **SM23C-1623 POSTER** Azimuthal plasma flow in the Kronian magnetosphere: **A Mueller**, J S Saur, N Krupp, D G Mitchell, S M Krimigis

1340h **SM23C-1624 POSTER** Magnetodisc Structure: Saturn versus Jupiter: **N A Achilleos**, C S Arridge, P Guio

1340h **SM23C-1625 POSTER** Rate of radial transport of plasma in Saturn's inner magnetosphere: **Y Chen**, T W Hill

1340h **SM23C-1626 POSTER** Plasma Circulation and Escape at the Magnetospheres of Jupiter and Saturn: **M Kane**, D G Mitchell, J F Carbary, S M Krimigis

1340h **SM23C-1627 POSTER** Analysis of RCM simulations of plasma transport in Saturn's inner magnetosphere: **X Liu**, T W Hill

1340h **SM23C-1628 POSTER** Response of Saturn's Magnetosphere to Changes in the Solar Wind: 3D Global MHD Simulations: **X Jia**, K C Hansen, A J Ridley, D De Zeeuw, B Zieger, T I Gombosi

1340h **SM23C-1629 POSTER** Energetic Solar Wind Ions As Probes Of Saturn's Magnetosphere: **S P Christon**, D C Hamilton, D G Mitchell, S M Krimigis

1340h **SM23C-1630 POSTER** Polarization and Beaming Properties of the Saturn Kilometric Radiation: **B Cecconi**, L Lamy, G Fischer, P M Zarka, S Hess, R Prange

1340h **SM23C-1631 POSTER** Mapping Saturn's Magnetic Field Lines to the Ionosphere in the Presence of Field Aligned Currents and Comparison with Observations: **K M Ramer**, M G Kivelson, D J Southwood, X Jia

1340h **SM23C-1632 POSTER** Properties of ion-cyclotron waves and mirror modes observed in the Saturnian middle magnetosphere: **M RODRIGUEZ-MARTINEZ**, X Blanco-Cano, C T Russell, J S Leisner, R J Wilson, M K Dougherty

1340h **SM23C-1633 POSTER** Cassini observations of a vortex structure in Saturn's dayside magnetosphere driven by the Kelvin-Helmholtz instability: **A Masters**, N A Achilleos, N Sergis, M K Dougherty, M G Kivelson, C S Arridge, S M Krimigis, H J McAndrews, M F Thomsen, S J Kanani, N Krupp, A J Coates

1340h **SM23C-1634 POSTER** Langmuir Waves Associated with the Kelvin-Helmholtz Instability at Saturn's Magnetopause: **J S Leisner**, G B Hospodarsky, A Masters, C S Arridge, W S Kurth, K M Sigsbee, D A Gurnett, A J Coates, M K Dougherty

1340h **SM23C-1635 POSTER** Kelvin-Helmholtz Waves at Saturn's Magnetopause: **R J Walker**, K Fukazawa, T Ogino, D Morozoff

1340h **SM23C-1636 POSTER** Modeling of Saturn's magnetosphere based on satellite observation data: **M Chou**, C Z Cheng

1340h **SM23C-1637 POSTER** Neutral O₂ and Ion O₂⁺ Sources from Rings into the Inner Magnetosphere: **M K Elrod**, R E Johnson, T A Cassidy, R J Wilson, W Tseng, W Ip

1340h **SM23C-1638 POSTER** Saturn in Hot Water: Simulations vs. Theory of the Enceladus Torus: **A J Farmer**

1340h **SM23C-1639 POSTER** Interaction of Enceladus's Water Plume with Kronian Magnetosphere via Hybrid Numerical Simulations: S Stverak, **P M Travnicek**, K K Khurana, P Hellinger, M K Dougherty

1340h **SM23C-1640 POSTER** The Pickup of Titan's Ionospheric Ions into Saturn's Magnetosphere: **R L Powell**, D B Reisenfeld, F J Cray, E C Sittler, H Smith, D T Young

1340h **SM23C-1641 POSTER** 1D Hybrid Simulations of Ion Cyclotron Wave Generation by Pickup Ions at Titan: **M Cowee**, R L Tokar, S P Gary, H Wei, C Russell, E C Sittler

1340h **SM23C-1642 POSTER** Global Features of Ion Distributions Near Titan: **Z Nemeth**, K Szego, G Erdos, L Foldy, A Rymer, M F Thomsen, E C Sittler, A J Coates, A Wellbrock

SM23D Moscone South: 305 Tuesday 1340h
Magnetic Reconnection II (*joint with SH*)

Presiding: **J Raeder**, University of New Hampshire; **J D Scudder**, University of Iowa

1340h **SM23D-01** Ion distributions near the reconnection sites: Comparison between simulations and THEMIS observations: X Zhou, **V Angelopoulos**, A Runov, M I Sitnov, Q Zong, Z Pu

1355h **SM23D-02** Average properties of magnetic reconnection ion diffusion regions in the Earth's magnetotail: 2001 – 2005 Cluster observations and comparison with simulations: **J P Eastwood**, T Phan, M Oieroset, M A Shay

1410h **SM23D-03** Secure Identifications of the Electron Diffusion Region with Spacecraft Observations: **J D Scudder**, H Karimabadi, W S Daughton

1425h **SM23D-04** THEMIS Observation of Reconnection-Associated Hall Field at the Magnetopause: First Results from Hall MHD-Based Reconstruction: **W Teh**, S Eriksson, B Sonnerup, L Andersson, R E Ergun

1440h **SM23D-05** Scaling of Asymmetric Reconnection in Compressible Plasmas: **J Birn**, J E Borovsky, M Hesse, K Schindler

- 1455h **SM23D-06** Scaling of reconnection at the dayside magnetopause: **J Ouellette**, B Rogers, J Lyon, M J Wiltberger
- 1510h **SM23D-07** 3-D Hybrid Simulation of the Magnetopause Reconnection and Associated Cusp Precipitating Ions: **B Tan**, Y Lin, J D Perez, X Wang
- 1525h **SM23D-08** Observation of Split Crescent Cells During IMF BY-Dominated Periods: **M Watanabe**, G J Sofko, J M Ruohoniemi, K A McWilliams, M R Hairston

Study of Earth's Deep Interior (DI)

DI23A Moscone South: Poster Hall Tuesday 1340h
Discoveries of the Earth's Deep Mantle II Posters (*joint with MR, S, T*)

Presiding: **A R Oganov**

- 1340h **DI23A-1655 POSTER** Toward a 3D Global Attenuation Model in the Lower Mantle from the Earth's Free Oscillations: **S Dou**, B A Romanowicz
- 1340h **DI23A-1656 POSTER** Development of Anisotropic Mobility During Two-phase Flow: **S Hier-Majumder**
- 1340h **DI23A-1657 POSTER** High Resolution Imaging of the Core-Mantle Boundary with PcP-P Seismic Traveltime Data: **S Pozgay**, N Rawlinson, H Tkalcic
- 1340h **DI23A-1658 POSTER** Mixing and entrainment in mantle plumes: A 3D experimental investigation: **W Newsome**, C R Lithgow-Bertelloni, A J Cotel, S R Hart, J A Whitehead
- 1340h **DI23A-1659 POSTER** A New Mantle Convection Model with Depth-Dependent Viscosity and its Implications for the Thermal and Chemical Evolution of the Earth: **J W Crowley**, R J O'Connell
- 1340h **DI23A-1660 POSTER** Seismic investigation of the Pacific lower mantle using S, SKS and SKKS traveltimes and amplitudes: **Y Zhang**, J E Ritsema
- 1340h **DI23A-1661 POSTER** Geographic boundary of the "Pacific Anomaly" near the Earth's core-mantle boundary: **Y He**, L Wen
- 1340h **DI23A-1662 POSTER** Measurement of thermal conductivity of $\text{Mg}_{0.9}\text{Fe}_{0.1}\text{SiO}_3$ perovskite at high pressure and temperature: **A D Savello**, J Montoya, A Ricolleau, Y Fei, V Struzhkin, A F Goncharov
- 1340h **DI23A-1663 POSTER** A Survey of Earth's Lowermost Mantle Utilizing Core-Diffracted Waves: **G G Euler**, M E Wyssession
- 1340h **DI23A-1664 POSTER** Re-access the D'' Discontinuity beneath the Cocos Plate: Numerical modeling of USArray data: **T Song**, S Tsuboi
- 1340h **DI23A-1665 POSTER** Using EarthScope data to study the mantle structure beneath Central America: **H Long**, L Wen
- 1340h **DI23A-1666 POSTER** Effect of Spin Crossover on Diffusivity of Fe^{2+} in (Mg,Fe)O Ferroperricline: **S Saha**, D Morgan, A Bengtson
- 1340h **DI23A-1667 POSTER** Crossover from Melting to Dissociation in Carbon Dioxide at 35 GPa: **A F Goncharov**, K Litsov, R J Hemley
- 1340h **DI23A-1668 POSTER** MgO Phase Diagram up to 6 Mbar and 14000 K From First Principles Molecular and Meta- Dynamics: **A B Belonoshko**, S Arapan, R Martonak, A Rosengren
- 1340h **DI23A-1669 POSTER** Structure of northern edge of the Pacific large low shear velocity province: **A To**, Y Fukao
- 1340h **DI23A-1670 POSTER** Synthesis and equation of state of perovskite with almandine composition ($\text{Fe}_3\text{Al}_2\text{Si}_3\text{O}_{12}$) to 149 GPa: **S M Dorfman**, S R Shieh, Y Meng, V Prakapenka, T S Duffy

- 1340h **DI23A-1671 POSTER** Spin and Valence States of Iron in $\text{Mg}_{0.8}\text{Fe}_{0.2}\text{SiO}_3$ Perovskite: **B Grocholski**, S Shim, J Zhao, W Sturhahn, Y Xiao, P Chow
- 1340h **DI23A-1672 POSTER** Spin state of ferric iron in Mg-perovskite up to 200 GPa by X-ray emission spectroscopy and its implication to the lower mantle: **K Fujino**, D Nishio-Hamane, Y Seto, N Sata, T Nagai, T Ishido, L Li, T Shinmei, T Irifune, H Ishii, N Hiraoka, Y Cai, K Tsuei
- 1340h **DI23A-1673 POSTER** Mantle dynamics with the post-perovskite phase change: Numerical simulations with the latest constraints from mineral physics: **N Tosi**, D A Yuen, O Cadek
- 1340h **DI23A-1674 POSTER** Elastic Properties of $(\text{Mg}_{0.9}\text{Fe}_{0.1}\text{O})$ in Earth's Lower Mantle: **H Marquardt**, S Speziale, H J Reichmann, D J Frost, F R Schilling
- 1340h **DI23A-1675 POSTER** Oxygen fugacity determined from iron oxidation state in natural (Mg,Fe)O ferroperricline: new insights for lower mantle diamond formation: **M Longo**, C McCammon, G Bulanova, F V Kaminsky, R Tappert

Mineral and Rock Physics

MR23A Moscone South: Poster Hall Tuesday 1340h
Ices: From Planetary Interiors to Astrobiology II Posters (*joint with P*)

Presiding: **M S Gudipati**, Jet Propulsion Laboratory, California Institute of Technology

- 1340h **MR23A-1676 POSTER** Gas Jets and Ice Grains Ejections on Comets and Enceladus: A Bar-Nun, D Laufer, I Pat-El, **R Jacovi**
- 1340h **MR23A-1677 POSTER** hydrohalite: properties of a major hydrate in the H_2O -NaCl binary: **I Daniel**, R Caracas
- 1340h **MR23A-1678 POSTER** The strength of clathrate-rich mixtures of ice I and methane clathrate hydrate: **H J Lenferink**, W B Durham, L A Stern
- 1340h **MR23A-1679 POSTER** Electronic Structure of CO_2 at High Pressure: **S R Shieh**, I Jarrige, N Hiraoka, Y Cai
- 1340h **MR23A-1680 POSTER** Organic ices: methanol monohydrate: **R D Martinez**, R Caracas, A H Romero
- 1340h **MR23A-1681 POSTER** Ice Layers Origins in Icy Satellites and Icy Giants: **J E Panzik**, K K Lee
- 1340h **MR23A-1682 POSTER** Laboratory studies on low-energy electron penetration depths into amorphous ice – consequence to astrobiology on icy surfaces: **M S Gudipati**, **I Li**, A A Lignell
- 1340h **MR23A-1683 POSTER** The Possible Role of the Piezoelectricity of Water Ice in Planet Formation and Lightening: **J P Cowin**, R C Bell

MR23B Moscone West: 2003 Tuesday 1340h
Computational Approaches and Applications in Mineral Physics II (*joint with DI*)

Presiding: **B B Karki**, Louisiana State University; **L P Stixrude**, University College London

- 1340h **MR23B-01** Molecular Dynamics Studies of $\text{CaAl}_2\text{Si}_2\text{O}_8$ Liquid to 800 GPa: An Equation of State (EOS), Hugoniot Analysis, and Thermodynamic Model Over the Temperature-Range 2500-5000 K (*Invited*): **M S Ghiorso**, I Cutler, D Nevins, F J Spera
- 1404h **MR23B-02** The Pressure Effect on the Melting Temperature and the Melting Curves of Epsilon Iron and MgSiO_3 Perovskite: **J Garai**, J Chen
- 1416h **MR23B-03** First Principles Calculations of Viscosity of MgSiO_3 Liquids at Mantle Conditions: **B B Karki**, L P Stixrude

- 1428h **MR23B-04** Molecular dynamics simulations of water, solution, and clay mineral-water systems (*Invited*): **K Kawamura**
- 1452h **MR23B-05** EXTENDED LDA+U+V APPROACH FOR COVALENTLY BONDED SYSTEMS: **M Cococcioni**, V Leiria Campo Jr
- 1504h **MR23B-06** Magnesium Vacancy Segregation and Fast Pipe Diffusion for the $\frac{1}{2}\langle 110 \rangle\{110\}$ Edge Dislocation in MgO: **A M Walker**, F Zhang, K Wright, J D Gale
- 1516h **MR23B-07** Elastic Properties of Sheet Silicates Calculated From Ab Initio Simulations: **B Militzer**, H Wenk, S Stackhouse, L P Stixrude
- 1528h **MR23B-08** Order-disorder phase boundary in ice VII-VIII investigated by first principles: **R M Wentzcovitch**, K Umemoto, S Baroni, S de Gironcoli

Seismology

S23A Moscone South: Poster Hall Tuesday 1340h **Locating and Characterizing Seismic Noise Sources III Posters** (joint with A, OS)

Presiding: **M L Pyle**, Saint Louis University

- 1340h **S23A-1725** POSTER Investigating Source Locations for Body Wave Energy in Ambient Seismic Noise: **M L Pyle**, K Koper
- 1340h **S23A-1726** POSTER Can complete Green's function be retrieved from ambient seismic noise?: **Z Zhan**, S Ni, D V Helmberger, R W Clayton
- 1340h **S23A-1727** POSTER Fundamental and Higher-order Rayleigh Wave Characteristics of the New Zealand Ambient Seismic Noise Field: L A Brooks, **J Townend**, P Gerstoft, S C Bannister, L Carter
- 1340h **S23A-1728** POSTER 2-D Velocity Structure across Newberry Caldera Derived from Ambient Seismic Noise: **J Richardson**, G P Waite
- 1340h **S23A-1729** POSTER Low frequency seismic noise from railways: **J Shin**, D Sheen
- 1340h **S23A-1730** POSTER Seismic Noise Characterization in the Northern Mississippi Embayment: **S Wiley**, H R DeShon, O S Boyd
- 1340h **S23A-1731** POSTER Origin of microseism observed in South Korea: **D Sheen**, J Shin, S You, J Rhie
- 1340h **S23A-1732** POSTER Near Source Monitoring Typhoon-Induced Ground Motions: **W Chen**, W Chi, D Dolenc, B Kuo, Y Hsu
- 1340h **S23A-1733** POSTER Seasonal variation of seismic ambient noise level at King Sejong Station, Antarctica: **W Lee**, D Sheen, K Seo, S Yun
- 1340h **S23A-1734** POSTER Oscillations of Atmosphere-Solid Earth Coupled System Excited by the Global Activity of Cumulus Clouds: **K Shimazaki**, K Nakajima
- 1340h **S23A-1735** POSTER Causes and Corrections for STS-1 Gain Changes in the Global Seismographic Network: **C R Hutt**, A T Ringler
- 1340h **S23A-1736** POSTER Self-Noise Models of Seismic Instruments: **A T Ringler**, C R Hutt
- 1340h **S23A-1737** POSTER The analysis of microseism prior to the Wenchuan Earthquake of 12 May 2008, Sichuan, China: **X Hao**, X Hu

S23B Moscone South: Poster Hall Tuesday 1340h **Observation and Analysis of Natural and Induced Microearthquakes I Posters** (joint with H, NS, T)

Presiding: **S Buske**, Freie Universität Berlin; **V Oye**, NORSAR; **J Chavarria**, SR2020 Inc.; **J T Rutledge**, Los Alamos National Laboratory

- 1340h **S23B-1738** POSTER Fine fracture structures in the geothermal region of Hakone volcano, revealed by well-resolved earthquake hypocenters and focal mechanisms: **Y Yukutake**, T Tanada, R Honda, M Harada, H Ito, A Yoshida
- 1340h **S23B-1739** POSTER Velocity structures of Geothermal sites: A comparative study between different tomography techniques on the EGS-Soultz-sous-Forêts Site (France): **M C Calo**, C Dorbath
- 1340h **S23B-1740** POSTER Seismicity Associated with Geothermal Systems: **R Walters**, K Van Wijk
- 1340h **S23B-1741** POSTER Hot Dry Rock Induced Seismicity - Latest results from Basel, Switzerland: N Deichmann, **T Kraft**, S Husen
- 1340h **S23B-1742** POSTER Update of the Reservoir Triggered Seismicity of Brazil - 2008: M G Von Huelsen, **G S Franca**, M Assumpcao, P F Nascimento, L C Ribotta, C N Chimpliganond
- 1340h **S23B-1743** POSTER Complexity in hydroseismicity of the Koyna-Warna region, India: **D V Ramana**, A Chelani, M Shekar, R K Chadha, R N Singh
- 1340h **S23B-1744** POSTER Co-seismic water level changes in Koyna - Warna region- A Wavelet analysis Approach: **C V Eswari**, D V Ramana, K P Kaladhara Rao, M Shekar, R K Chadha
- 1340h **S23B-1745** POSTER Small repeating earthquakes activity and interplate quasi-static slips in the Hyuga-nada, SW Japan: **Y Yamashita**, H Shimizu, K Goto
- 1340h **S23B-1746** POSTER Earthquakes on mature faults radiate seismic energy differently than earthquakes on immature faults: **R M Harrington**, E E Brodsky
- 1340h **S23B-1747** POSTER Local Vp/Vs estimation in the source region at western Nagano, Japan: **M Takeuchi**, A Kubo, Y Iio, S Noda, S Horiuchi
- 1340h **S23B-1748** POSTER Empirical Green's function waveform inversion method applied to the Parkfield SAFOD repeating earthquakes: **A Kim**, D S Dreger, T Taira
- 1340h **S23B-1749** POSTER Searching for evidence of a preferred rupture direction in small earthquakes at Parkfield: **D L Kane**, P M Shearer, B Allmann, F L Vernon
- 1340h **S23B-1750** POSTER Event Locations with a Long Borehole Array: An Example from SAFOD: **J Chavarria**, V Oye
- 1340h **S23B-1751** POSTER Location of Microearthquakes in Various Noisy Environments Using Envelope Stacking: **V Oye**, H Gharti
- 1340h **S23B-1752** POSTER Using Non-linear Waveform Inversion to Determine Microearthquake Source Parameters: **S Wen**, C Chen
- 1340h **S23B-1753** POSTER Manual and automated localizations of the microseismicity in the southeastern Aegean using EVELADOS network data: **J Lee**, A Bruestle, L Küperkoch, T Meier, W Friederich
- 1340h **S23B-1754** POSTER CODA METHOD AT HIGH FREQUENCIES: RETRIEVING SOURCE PARAMETERS OF SMALL (M1-M2) EARTHQUAKES: **G Viegas**, R E Abercrombie, K M Mayeda
- 1340h **S23B-1755** POSTER Monitoring microseismicity in the Northern Dead Sea basin using sparse seismic mini-arrays: **A Inbal**, A Ziv, H G Wust-Bloch, Z Ben-Avraham
- 1340h **S23B-1756** POSTER Observation and Scaling of Microearthquakes from TCDP Borehole Seismometers: **Y Lin**, K Ma, V Oye, H Tanaka

1340h **S23B-1757 POSTER** Reflection Imaging of Deep Structure beneath Montserrat using Microearthquake Sources: **K Byerly**, L D Brown, B Voight, V Miller, C J Ammon

1340h **S23B-1758 POSTER** Seismicity and Structure at Okmok Volcano, Alaska: **S J Ohlendorf**, C H Thurber, S G Prejean

1340h **S23B-1759 POSTER** Monitoring the long term stability and sinkhole of shallow underground cavities using micro-seismic technique – gypsum mine (Jura, France): **C Balland**, M AlHeib, C Didier

1340h **S23B-1760 POSTER** Frequency-Magnitude Study Down To Magnitude -4.4 For Induced Seismicity Recorded At Mponeng Deep Gold Mine, South Africa: G Kwiatek, K Plenkers, D Schorlemmer, M Nakatani, Y Yabe, **G H Dresen**

1340h **S23B-1761 POSTER** Aftershock activity of a M2 earthquake in a deep South African gold mine – spatial distribution and magnitude-frequency relation: M M Naoi, **M Nakatani**, G Kwiatek, K Plenkers, Y Yabe

1340h **S23B-1762 POSTER** ABSOLUTE VERSUS RELATIVE EVENT LOCATION CALIBRATED BY INDUCED BLASTS FOR REAL-TIME MICROSEISMIC MONITORING OF POST-MINING GROUND FAILURES: **I Contrucci**, F Pacchiani, E Klein

1340h **S23B-1763 POSTER** Evidence For The Strong Influence Of Structural Geology On Shallow Microseismicity: **S Pytharouli**, J D Kirkpatrick, R J Lunn, A do Nascimento, Z K Shipton

1340h **S23B-1764 WITHDRAWN**

1340h **S23B-1765 POSTER** Comparative study of the amplification of ground motion using seismic noise and recent earthquakes adjacent to the Cerro Prieto volcano, Baja California: **F D Vega**, A Vidal-Villegas

1340h **S23B-1766 POSTER** Apparent Weekly and Daily Earthquake Periodicities in the Western United States: **A H Atef**, K H Liu, S S Gao

1340h **S23B-1767 POSTER** Multicomponent elastic imaging of subsurface sources: **B Artman**, A Goertz

1340h **S23B-1768 POSTER** Waveform Modeling for Near-surface Structure in the New Madrid Seismic Zone: **S C Chiu**, C A Langston

S23C Moscone West: 2005 Tuesday 1340h
Monitoring Temporal Changes of Earth's Properties With Seismic Waves II (*joint with G, H, NS, V, T*)

Presiding: **E F Larose**, LGIT - CNRS; **C Sens-Schönfelder**, Institut für Geophysik und Geologie

1340h **S23C-01** Predicting Earthquake Response of Civil Structures from Ambient Noise: **G Prieto**, J F Lawrence, A I Chung, M D Kohler

1355h **S23C-02** Detecting temporal changes around the Parkfield section of the San Andreas Fault associated with large teleseismic earthquakes: **P Zhao**, Z Peng, K G Sabra

1410h **S23C-03** Temporal changes of seismic wavefield during the 2007 eruptions of Piton de la Fournaise, La Réunion island: **Y Aoki**, V Ferrazzini

1425h **S23C-04** Temporal variation of stress at Mt. Asama Volcano, Japan, from seismic anisotropy and GPS (*Invited*): **M K Savage**, T Ohminato, Y Aoki, H Tsuji, S Greve

1440h **S23C-05** Temporal variations of anisotropy related to the Parkfield earthquake (28 Sept., 2004, Mw 6.0): **S Durand**, J Montagner, P Roux, F Brenguier

1455h **S23C-06** On the precision of noise-correlation interferometry: **R Weaver**, C Hadziioannou, E F Larose

1510h **S23C-07** Imaging using Energy Densities of Diffuse Seismic Fields: **F J Sanchez-Sesma**, F Scherbaum, F Luzón, A García-Jerez, A Rodriguez-Castellanos, U Iturrarán-Viveros, M Campillo

1525h **S23C-08** Slow Dynamics in the Nonlinear Elastic Response of Geomaterials (*Invited*): **J A Ten Cate**

Tectonophysics

T23A Moscone South: Poster Hall Tuesday 1340h
Arc Systems, Ophiolites, and Continental Crust Formation II Posters (*joint with V*)

Presiding: **Y Tamura**, JAMSTEC

1340h **T23A-1870 POSTER** Crustal image along the southern Izu-Bonin arc and the northern tip of the West Mariana Ridge deduced from a seismic refraction/reflection data: **T Sato**, S Kodaira, N Takahashi, Y Kaiho, Y Kaneda

1340h **T23A-1871 POSTER** Seismic velocity structure variation along northern Izu-Bonin arc: **K Obana**, S Kamiya, S Kodaira, D Suetsugu, N Takahashi, T Takahashi, Y Tamura, H Sakaguchi

1340h **T23A-1872 POSTER** Understanding the Crustal Structure of the Klamath Mountain Province using Geophysical Methods, Northern California and Southern Oregon: **R R Burr**, S Holloway, G R Keller

1340h **T23A-1873 POSTER** Dispersed volcanic ash in marine sediment: Revisiting an old issue with a new geochemical and statistical approach: **R Scudder**, R W Murray, T Plank

1340h **T23A-1874 POSTER** Processes of subduction and exhumation of continental blocks in collisional orogeny: **C Tirel**, J Brun, E B Burov, M J Wortel, S Lebedev

1340h **T23A-1875 POSTER** Modelling of silicic intrusions in Alpine type orogens: **K Vogt**, T Gerya, A Castro

1340h **T23A-1876 POSTER** Insights into the fine-grained fraction of serpentine mud from the Southern Chamorro seamount (ODP Leg 195): A combined XRD, RFA and TEM-EDS study: **M Lischka**, M Meschede, L N Warr

1340h **T23A-1877 POSTER** Evidence for silicic crust formation in an incipient stage of intra-oceanic subduction zone: discovery of deep crustal sections in Izu-Bonin forearc: **K Tani**, H Shukuno, Y Hirahara, Q Chang, J Kimura, A R Nichols, T Ishii, Y Tatsumi, D J Dunkley

1340h **T23A-1878 POSTER** Numerical experiments for evolution of backarc basins and melting processes at the Mariana subduction system: **S Lin**, S Chung, B Kuo

1340h **T23A-1879 POSTER** Submarine Arc Volcanism in the Southern Mariana Arc: Results of Recent ROV studies: **A R Nichols**, Y Tamura, R J Stern, R W Embley, J R Hein, E Jordan, J M Ribeiro, N Sica, E J Kohut, S A Whattam, Y Hirahara, R Senda, A Nunokawa

1340h **T23A-1880 POSTER** An exploration for hydrothermal plume evolution using the AUV "URASHIMA" with fluid sampling system at southern Mariana Trough: **T Noguchi**, M Sunamura, H Yamamoto, T Fukuba, K Okino, T Sugiyama, K Okamura

1340h **T23A-1881 POSTER** Composition of the Southeast Mariana Forearc Rift pillow lavas : interaction between adiabatic decompression mantle melting and ultra-shallow slab-derived fluids: **J M Ribeiro**, R J Stern, K A Kelley, O Ishizuka, M Ren, Y Ohara, M K Reagan, S Bloomer, E Anthony

1340h **T23A-1882 POSTER** MANTLE WEDGE SEISMICITY UNDER THE WESTERN MARGIN OF THE RAUKUMARA PENINSULA, NORTHEAST NORTH ISLAND, NEW ZEALAND: **F J Davey**, M Reyners, J P Ristau

1340h **T23A-1883 POSTER** Mapping the Juan de Fuca Slab Beneath the Cascadia Margin: **P A McCrory**, J L Blair, F Waldhauser

1340h **T23A-1884 POSTER** A Cambrian Arc Built on the Neoproterozoic Rifted Margin of Gondwana: **R J Musgrave**

1340h **T23A-1885 POSTER** Age and origin of the Amirante ridge-trench structure, western Indian Ocean: **W E Stephens**, M Storey, C H Donaldson, R M Ellam, E Lelikov, G Tararin, C Garbe-Schoenberg

1340h **T23A-1886 POSTER** A Parameter Space Exploration of Subduction Geometries: **P I Patel**, L L Lavier

1340h **T23A-1887 POSTER** Upper plate controls on deep subduction, trench migrations and deformations at convergent margins: W Sharples, **F A Capitanio**, D Stegman, L N Moresi

1340h **T23A-1888 POSTER** Seismic Refraction – Wide-angle Reflection Survey of the Coast Mountains Batholith, British Columbia, Canada: **D O Oakley**, M E Kuhn, A L Stephenson, K Wang, G Spence, J A Hole, K C Miller, S H Harder, G M Kaip, R M Clowes, P T Hammer

1340h **T23A-1889 POSTER** Longitudinal Strain in the Forearc of a Rollback-Subduction System Forced to Change Length: Structural evolution of the Croton Basin in NE Calabria, Southern Italy: **M A Reitz**, L Seeber

1340h **T23A-1890 POSTER** Numerical Modeling of Flat Slab Formation in Central Chile: **M Manea**, M Perez-Gussinye, V Manea, M Fernandez

T23B Moscone South: Poster Hall Tuesday 1340h
Earthquakes at the Edge: Observing and Understanding
Transitions of Seismogenic Properties and Processes Along
Subduction Zones VI Posters (*joint with G, S*)

Presiding: **A M Lopez**, University of Puerto Rico; **S A Barrett**, Penn State

1340h **T23B-1891 POSTER** Spatiotemporal Distribution of Earthquakes During Slow Slip in the Nicoya Peninsula, Costa Rica: **A R Dominguez**, S Y Schwartz, N M Bartlow, A V Newman

1340h **T23B-1892 POSTER** Apparent Stress Variations at the Osa Peninsula, Costa Rica and the Role of Subducting Topography: **P A Moyer**, S L Bilek, W S Phillips

1340h **T23B-1893 POSTER** An Integrated Arrival Time Dataset for Onshore/Offshore Experiments Conducted Along The Middle America Trench: **M M Moore-Driskell**, H R DeShon, W Rabbel, M M Thorwart, Y Dzierma

1340h **T23B-1894 POSTER** Characterization of a Tremor Patch Downdip from Earthquakes in the Central Oregon Locked Zone: **M C Williams**, A M Trehu

1340h **T23B-1895 POSTER** Seismic activity in the outer Cascadia accretionary prism from a 2-year onshore/offshore seismic array: **A M Trehu**, M C Williams

1340h **T23B-1896 POSTER** A Bayesian approach for Inter-seismic Inter-plate Coupling Probabilities for the Central Andes Subduction Zone: **F H Ortega Culaciati**, M Simons

1340h **T23B-1897 POSTER** 3D extension of remarkable characteristics at the front of the Colombia-Ecuador subduction zone: **L Garcia Cano**, A Galve, P Charvis

1340h **T23B-1898 POSTER** GIS-based 3D visualization of the Mw 7.7, 2007, Tocopilla aftershocks: **S Eggert**, M Sobiesiak, K Altenbrunn

1340h **T23B-1899 POSTER** An Evaluation of the Causes of Flat Subduction in Central Mexico: **S Skinner**, R W Clayton

1340h **T23B-1900 POSTER** Local Earthquake Tomography of the Subduction Interface in Oaxaca, Mexico: **R E Anthony**, M R Brudzinski, K J Jensen, E Cabral-Cano, A Arciniega-Ceballos, O Diaz-Molina

1340h **T23B-1901 POSTER** Micro-seismicity survey of a seismic gap caused by the subduction of the Louisville seamount chain in the Tonga trench, 25° 30'S to 28° S: I Grevemeyer, **A Dannowski**, E R Flueh, S Moeller

1340h **T23B-1902 POSTER** Deployment of Ocean Bottom Seismometers South of the Puerto Rico Trench Yields new Insights Into the Behavior of Seismic Swarms: **A M Lopez**, J Pulliam, U S Ten Brink, H E Mintz, C von Hillebrandt-Andrade

1340h **T23B-1903 POSTER** A Detailed Study of Seismicity Beneath the Central Vanuatu Archipelago: **W C Crawford**, M Regnier, D Nakedau, B Pelletier, V S Ballu

1340h **T23B-1904 POSTER** Spatial Distribution of the Earthquakes beneath the Pamir-Hindu Kush Region: Implications for the Collision between two Oppositely Subducted Slabs: **J Ning**, X Lou, C Cai, C YU

1340h **T23B-1905 POSTER** Intermediate depth double seismic zone and serpentine dehydration in subducting oceanic lithosphere beneath the Northern Mariana Islands from ocean bottom seismograph observations: **M E Barklage**, D A Wiens, H Shiobara, H Sugioka

1340h **T23B-1906 POSTER** Along-strike Transitions in Subduction Characteristics, Hikurangi Margin, New Zealand: **D H Barker**, R Sutherland, S A Henrys, R E Bell

1340h **T23B-1907 WITHDRAWN**

1340h **T23B-1908 POSTER** Along-Strike Variations in Shallow Earthquake Distribution and Source Parameters Along the Kurile-Kamchatka Arc: **S L Bilek**, H R DeShon, E R Engdahl

1340h **T23B-1909 POSTER** Estimation of the Mean Repeat Time of Mega Earthquakes Occurring in the Hellenic Arc and Trench, East Mediterranean Sea: **E Daskalaki**, G A Papadopoulos

1340h **T23B-1910 POSTER** Deep structure and historical earthquakes in the Calabrian subduction zone (Southern Italy): preliminary results from multi-channel seismic reflection profiles: F Gallais, **M Gutscher**, L Torelli, A Polonia, F Riminucci

1340h **T23B-1911 POSTER** Physical characteristics of subduction-type seismogenic zones revisited: **A Heuret**, S Lallemand, C Piromallo, F Funicello

1340h **T23B-1912 POSTER** Toward Studying the Variability of Earthquake Seismicity in Geodynamic Numerical Simulations of a Subduction Zone: **Y V Dinther**, T Gerya, P M Mai, L A Dalguer Gudiel, G Morra

1340h **T23B-1913 POSTER** Improved Teleseismic Locations of Shallow Subduction Zone Earthquakes: **S T Bisrat**, H R DeShon, E R Engdahl, S L Bilek

1340h **T23B-1914 POSTER** Modeling subduction zone geometries in 3D: incorporation of local and regional seismic data and uncertainty analyses: **R Johnson**, G P Hayes, D J Wald, K M Keranen, C Dimond

1340h **T23B-1915 POSTER** Numerical modeling of stress change related to fault activities in an accretionary wedge: **A Miyakawa**, T Tsuji, Y Yamada, T Matsuoka

1340h **T23B-1916 POSTER** Consequences of the presence of a weak fault on the stress and strain within an active margin: **M Conin**, P Henry, V Godard, S Bourlange

1340h **T23B-1917 POSTER** Modelling stress accumulation and dissipation in subducting lithosphere and the origins of double and triple seismic zones: **A Fry**, N J Kusznir, A Rietbrock, M Dabrowski, Y Podladchikov

1340h **T23B-1918 POSTER** Enargy taken up by co-seismic chemical reactions during a large earthquake : An example from the 1999 Taiwan Chi-Chi earthquake: **Y Hamada**, T Hirono, W Tanikawa, S Song

1340h **T23B-1919 POSTER** Exploring the conditions for seismic and aseismic fault slip on the Longitudinal Valley Fault, Taiwan: **M Thomas**, J Avouac, J Lee, B Pyussegur, Y Hsu, Y Tsai, H Chen

1340h **T23B-1920 POSTER** Investigating Along-Strike Variations of Source Parameters for Relocated Thrust Earthquakes Along the Sumatra-Java Subduction Zone: **M El Hariri**, S L Bilek, H R DeShon, E R Engdahl

1340h **T23B-1921 POSTER** Post-26 Dec. 2004 Seismicity at Northern Sumatra Subduction System from Aftershock relocations based on 3-D seismic Velocity Model: **U Setiyono**, **A Rai**, A Chauhan, S C Singh, N D Hananto

1340h **T23B-1922 POSTER** The limits of the seismogenic zone in the epicentral region of the 26 Dec. 2004 Great Sumatra Andaman earthquake: results from a seismic refraction and wideangle reflection surveys and thermal modeling: **J Dessa**, F Klingelhoefer, M Gutscher, S Ladage, D Graindorge, D Franke, C Andre, H Permana, T Yudistira, A Chauhan

1340h **T23B-1923 POSTER** PORE PRESSURE RECOVERY AND COULOMB STRESS EVOLUTION FOLLOWING THE 2004 M9.2 SUMATRA-ANDAMAN EARTHQUAKE: **K L Hughes**, T Masterlark

1340h **T23B-1924 POSTER** Thick Consolidated Sediments Allow Rupture to Reach the Trench During December 2004 Sumatra-Andaman Great Earthquake: **S P Gulick**, J A Austin, N L Bangs, K M Martin, L C McNeill, T Henstock, J M Bull, S M Dean, Y Djajadihardja, H Permana

1340h **T23B-1925 POSTER** Teleseismic Analysis of Repeating Events Beneath the Aceh Basin, Northern Sumatra: **S A Barrett**, C J Ammon

1340h **T23B-1926 POSTER** Source model of the 2008, Mw7.4, Simeulue, Indonesia earthquake — implication on the permanent nature of the Simeulue seismic barrier: **A Sladen**, J Avouac, A J Meltzner, J F Genrich, J E Galetzka, K E Sieh, D H Natawidjaja

1340h **T23B-1927 POSTER** Seismicity Within the West Sumatra Subduction Zone: **R Collings**, A Rietbrock, D Lange, F J Tilmann, D H Natawidjaja, B W Suwargadi

T23C Moscone South: Poster Hall Tuesday 1340h
Fault Processes in Nature and Laboratory: From Microscale to 3-D Regional Observations and Models V Posters (*joint with MR, NS, S, NH*)

Presiding: **A Thomas**, University of California, Berkeley; **T S Ide**, Stanford University

1340h **T23C-1928 POSTER** Interseismic pore compaction suppresses earthquake occurrences and unexpectedly promotes fault loading on model faults with loading by slip deficits: **Y Mitsui**, K Hirahara

1340h **T23C-1929 POSTER** Development of a fast code for earthquake cycle simulation - (1) Application of Fast Multipole Method: **K Hirahara**, N Mitsui, T Hori

1340h **T23C-1930 POSTER** MPS simulation of 2-D spontaneous dynamic rupture propagation: **T Sakamoto**, K Hirahara

1340h **T23C-1931 POSTER** Effect of thermal pressurization on dynamic rupture propagation under depth-dependent stress: **Y Urata**, K Kuge, Y Kase

1340h **T23C-1932 POSTER** Earthquake Nucleation with Thermal Pressurization in Finite-Width Shear Zones: Aging Law and Slip Law: **S V Schmitt**, P Segall, A M Bradley

1340h **T23C-1933 POSTER** Evolution modeling of the λ -type Yangsan-Ulsan fault system: S Han, J Park, Y Kim

1340h **T23C-1934 POSTER** 3-D FEM-based thermal modeling of frictional melt cooling and constraints on microstructures in pseudotachylytes vein: **L Pittarello**, G Teza, G Di Toro, G Pennacchioni

1340h **T23C-1935 POSTER** Quantifying the Structure of an Exhumed Seismogenic Fault Zone Using Terrestrial Laser-Scanning and Differential GPS: **S A Smith**, R R Jones, G Di Toro, S Mariano, A R Niemeijer, A Griffith, A Bistacchi, S Mittempergher, S B Nielsen

1340h **T23C-1936 POSTER** Rough Faults, Distributed Weakening, and Off-Fault Deformation: **W A Griffith**, S B Nielsen, G Di Toro, S A Smith, A R Niemeijer

1340h **T23C-1937 POSTER** The Birth of a Fault: the nature of deformation at Lake Pillsbury, CA: **A Thomas**, R Burgmann, D S Dreger

1340h **T23C-1938 POSTER** SURFACE FISSURE FORMATION ABOVE UNDERGROUND COALSEAM FIRES: DIMENSIONLESS RELATIONSHIPS BETWEEN SURFACE FISSURES AND SUBSURFACE SUBSIDENCE: **T S Ide**, D D Pollard, F M Orr

1340h **T23C-1939 POSTER** A Non-coordination Criterion – A New Mechanical Model for Brittle Faulting in Anisotropic Media due to the Presence of Pre-existing Weakness: **H Tong**, A Yin

1340h **T23C-1940 POSTER** Agent of critical contact forces leading to cracked pebbles: Lithostatic pressure versus soft-sediment deformation: **C Tuitz**, U Exner, B Grasemann

1340h **T23C-1941 POSTER** Self-Lubrication Effect of Fault Caused by Structural Change of Carbon Mineral by Faulting: **K Oohashi**, T Shimamoto

1340h **T23C-1942 WITHDRAWN**

1340h **T23C-1943 POSTER** Frictional Models of Transient Creep on the southern Hayward Fault, San Francisco Bay, California: **C O KANU**, K M Johnson

1340h **T23C-1944 POSTER** FLASH WEAKENING OF SERPENTINITE AT SEISMIC SLIP RATES: **A H Kohli**, D L Goldsby, G Hirth, T E Tullis

1340h **T23C-1945 POSTER** Rheology of serpentinite in high-temperature and low-slip-velocity regime: **M Takahashi**, S Uehara, K Mizoguchi, N Takeda, K Masuda

1340h **T23C-1946 POSTER** Experimental Constraints On The Mechanical Strength Of Limestone On Shale Fault Zones: Implications For Natural Thrust Faults: **J Haywood**, L Kennedy

1340h **T23C-1947 POSTER** Comparison of Faulting Under Moderate and High Confinement: Lessons from Ice: **N Golding**, E M Schulson, C E Renshaw

1340h **T23C-1948 POSTER** Temporal Evolution of Vibrations on Molten Faults during High-speed Sliding: **K Mizoguchi**, E Fukuyama, T Hirose

1340h **T23C-1949 POSTER** Slip velocity dependence on shear-induced permeability evolution: **M Sakaguchi**, W Tanikawa, T Hirose, O Tadai, W Lin

1340h **T23C-1950 POSTER** A New State-of-the-art Tool to Investigate Rock Friction Under Extreme Slip Velocities and Accelerations: SHIVA: **A R Niemeijer**, G Di Toro, S B Nielsen, S A Smith, A Griffith, P Scarlato, G Romeo, G Di Stefano, F Di Felice, S Mariano

1340h **T23C-1951 POSTER** Photo-piezometric study of supershear rupture: **S B Nielsen**, A J Schubnel, J Taddeucci, S Vinciguerra, S Rao

T23D Moscone West: 2011 Tuesday 1340h
Earthquake Geology and Active Tectonics in South and East Asia I (*joint with S*)

Presiding: Y Chan, Academia Sinica; J Suppe, National Taiwan University

1340h **T23D-01** Integrating geological field observations with seismicity data to aid in the deciphering of the structural evolution of an active thrust belt: A case study in Central Taiwan (*Invited*):

D L Brown, J Alvarez-Marron, M Schimmel, Y Wu

1355h **T23D-02** Three Recipes to Decipher Late Pleistocene Slip Rates of the Chelungpu Thrust (Central Taiwan), based on OSL-dated Folded Terraces: M Le Beon, M Jaiswal, M Ustaszewski, J Suppe, Y Chen

1410h **T23D-03** Coseismic growth of the Tungshih anticline during the 1999 Chi-Chi Earthquake, Taiwan: F Graveleau, J Suppe, M Ustaszewski, K Chang, D Stephane, M Huang

1425h **T23D-04** The 3D Coseismic Deformation of the 1999 Mw 7.6 Chi-Chi Taiwan Earthquake, Obtained from Sub-pixel Cross Correlation: M Huang, J Suppe, Y Kuo, Y Chen, J Hu

1440h **T23D-05** Characterizing the Longitudinal Valley suture in eastern Taiwan and its seismic hazards by historic earthquakes and recent seismicity (*Invited*): J H Shyu, L Chung, K E Sieh, Y Wu, Y Chen, C Chang, H Huang

1455h **T23D-06** Slip behaviors of a creeping thrust fault from surface to seismogenic depth: a case study of the Chihshang fault in eastern Taiwan: J Lee, J Angelier, H CHU, J Dong, S Chang, W Huang

1510h **T23D-07** Calibrating the parameters of landform evolution models using LiDAR-derived DTM in Linkou Tableland, Taiwan: C Yeh, Y Chan, M Lin

1525h **T23D-08** Modeling of temporal variation of surface creep on the Chihshang fault in eastern Taiwan with velocity-strengthening friction: S Chang, J Lee, W Wang

T23E Moscone West: 2009 Tuesday 1340h
The Many Faces of Slow Slip, Tremor, and Earthquakes V (*joint with G, H, MR, NH, V, S, NG*)

Presiding: D R Shelly, U.S. Geological Survey; R Burgmann, Univ California Berkeley

1340h **T23E-01** Earthquake Swarms and Aseismic Slip on Transform Faults (*Invited*): E C Roland, J J McGuire, J A Collins

1355h **T23E-02** An Earthquake Swarm Search Implemented at Major Convergent Margins to Test for Associated Aseismic Slip: S G Holtkamp, M E Pritchard, R B Lohman, M R Brudzinski

1410h **T23E-03** Deformation Structures Along mid-crustal Shear Zones: What are Field Evidences for Ancient Tremor and Slip Activity?: M Herwegh, T Buckingham, A Pfiffner

1425h **T23E-04** Toward Location and Characterization of California Triggered Non Volcanic Tremor using Time Reversal: C S Larmat, P A Johnson, R Guyer

1440h **T23E-05** Systematic Search of Non-Volcanic Tremors Triggered by Regional Earthquakes Along the Parkfield-Cholame Section of the San Andreas Fault: A Guilhem, Z Peng, R M Nadeau

1455h **T23E-06** Non-volcanic tremor near the Calaveras Fault Triggered by Mw ~8 Teleseisms: A C Aguiar, J R Brown, G C Beroza

1510h **T23E-07** Deciphering tectonic tremor beneath the San Andreas Fault near Parkfield, California: Repeating events, migration, and possible deep slip preceding the 2004 M 6.0 earthquake: D R Shelly

1525h **T23E-08** Large, deep slow slip events at the southern Hikurangi margin, New Zealand, and possible triggered seismicity: L M Wallace, R J Beavan, R Robinson, C A Williams, S C Bannister, J P Ristau

T23F Moscone West: 2007 Tuesday 1340h
Tectonic, Sedimentary, Magmatic, and Thermal Evolution of Lithospheric Extension Leading to Continental Breakup and Seafloor Spreading I

Presiding: J W Van Wijk, University of Houston

1340h **T23F-01** FROM MICROCONTINENTS TO EXTENSIONAL ALLOCHTHONS: WITNESSES OF HOW CONTINENTS BREAK APART? (*Invited*): G Peron-Pinvidic, G Manatschal

1355h **T23F-02** How is crust thinned in an oblique environment: the example of Bay of Biscay-Western Pyrenees?: S Jammes, G Manatschal, L L Lavier

1410h **T23F-03** How and when did a strong thinning occur in the Gulf of Aden? A discussion from field, geophysical data and analogue models: N Bellahsen, J Autin, S D Leroy, E d'Acremont, M Beslier, L Husson, K I Al-Toubi

1425h **T23F-04** Why did the Southern Gulf of California Rupture So Rapidly?: P J Umhoefer

1440h **T23F-05** How Magmatic are Magma-Poor Rifted Margins?: G Manatschal, O Muntener

1455h **T23F-06** Amagmatic Accretionary Segments, Ultraslow Spreading and Non-Volcanic Rifted Margins (*Invited*): H J Dick, J E Snow

1510h **T23F-07** Depth Dependent Lithosphere Thinning at the Rifting to Spreading Transition in the Woodlark Ocean Basin, Western Pacific: S P Gozzard, N J Kusznir, A M Goodliffe

1525h **T23F-08** Depth-dependent Extension of the Continental Lithosphere: A Relook at Seismic Refraction Results from the Exmouth Plateau and Cuvier Margin (*Invited*): G D Karner

Volcanology, Geochemistry and Petrology

V23A Moscone South: Poster Hall Tuesday 1340h
Geochemical Investigations of Salt-Brine Systems at the Waste Isolation Pilot Plant (WIPP) and Other Geologic Repositories II Posters

Presiding: G T Roselle, Sandia National Laboratories

1340h **V23A-2051 POSTER** Thermodynamic Properties of Magnesium Chloride Hydroxide Hydrate (Mg₃Cl(OH)5·4H₂O, Phase 5), and Its importance to Nuclear Waste Isolation in Geological Repositories in Salt Formations: Y Xiong, H Deng, M B Nemer, S Johnsen

1340h **V23A-2052 POSTER** Experimental Work Conducted on MgO Inundated Hydration in WIPP-Relevant Brines: H Deng, Y Xiong, M B Nemer, S Johnsen

1340h **V23A-2053 POSTER** Anoxic Corrosion of Steel and Lead in Na - Cl ± Mg-Dominated Brines in Atmospheres Containing CO₂: G T Roselle, S Johnsen, C Allen, R Roselle

1340h **V23A-2054 POSTER** Caprock interaction with CO₂: a laboratory study of reactivity of shale with supercritical CO₂ and brine mixtures at 250°C and 110bars: B L Alemu, P Aagaard, I A Munz, E Skurtveit

1340h **V23A-2055 POSTER** Determination of Uncertainties for +III and +IV Actinide Solubilities in the WIPP Geochemistry Model for the 2009 Compliance Recertification Application: A E Ismail, Y Xiong, E J Nowak, L H Brush

1340h **V23A-2056** POSTER Nano-scale Petrography of Permian-Basin Halite by TEM: **M B Nemer**, D W Powers, A E Ismail

V23B Moscone South: Poster Hall Tuesday 1340h
Mantle Potential Temperature: A Very Hot Topic II Posters
(joint with MR, NG, DI, T)

Presiding: **M Laubier**, Harvard University; **P M Gregg**, Oregon State University

1340h **V23B-2057** POSTER Extreme Ni Concentrations in High Forsterite Olivine from a Cascade Forearc Basalt: **F J Tepley**, M C Rowe

1340h **V23B-2058** POSTER How much of the range in mantle potential temperatures is natural?: **M J Krawczynski**, C B Till, J A Barr, T L Grove

1340h **V23B-2059** POSTER Generation of incompatible element depleted high-Al melts: Constraints from melt inclusions from the FAMOUS zone, mid-Atlantic Ridge: **M Laubier**, A Gale, C H Langmuir

1340h **V23B-2060** POSTER A Comparative Study of Continental vs. Intraoceanic Arc Mantle Melting: Experimentally Determined Phase Relations of Hydrous, Primitive Melts: **S Weaver**, A Johnston, P J Wallace

1340h **V23B-2061** POSTER Relative roles of fluid fluxed and decompression melting within the Tonga Arc-Lau Basin system: Insights from the Fonualei spreading centre: **J T Caulfield**, S Turner, R J Arculus

1340h **V23B-2062** POSTER Global systematics of formation conditions of subduction zone magmas and their tectonic implications: **I Ogitsu**, K Ozawa

1340h **V23B-2063** POSTER Tracing the mantle sources of the Montereian Hills (Quebec) by coupling N, Sr, Nd and Pb isotopes: **E Rouleau**, D L Pinti, Y Sano, N Takahata, R K Stevenson

1340h **V23B-2064** POSTER Os-isotope variations in Lena Trough peridotites, Arctic Ocean: Constraints on continental lithosphere or asthenospheric mantle origin and the generation and preservation of chemically depleted domains in the convecting mantle: **J C Lassiter**, J E Snow

1340h **V23B-2065** POSTER An old HIMU seamount chain near the Japan Trench: implications for Long-lasting HIMU magmatism in the South Pacific: **G Shimoda**, K Yamashita, M Yoshitake, O Masatsugu, M Yuasa

1340h **V23B-2066** POSTER A Geochemical and Isotopic Study of the Youngest Lavas from the Islands of Upolu and Savai'i, Samoa: **A Buhler**, A J Pietruszka, B B Hanan

1340h **V23B-2067** POSTER New evidence of the Monchique - Madeira hot spot volcanism at the Coral Patch seamount, Central Eastern Atlantic Sea: **F D'Oriano**, L Angeletti, M A Laurenzi, T Trua, L Capotondi, M Taviani, L Torelli, N Zitellini

1340h **V23B-2068** POSTER Palaeomagnetic Emplacement Temperature Determinations of Pyroclastic and Volcaniclastic Deposits in Southern African Kimberlite Pipes: **G Fontana**, C Mac Niocaill, R Brown, R S Sparks, F Matthew, T M Gernon

1340h **V23B-2070** POSTER Spreading of Piton des Neiges (La Réunion): like an overturned 'Charlotte' pudding: **A Le Friant**, C Valentin, G Boudon, C Deplus

V23C Moscone South: Poster Hall Tuesday 1340h
Physics and Chemistry of Ignimbrites: Forty Years of Progress? II Posters (joint with MR)

Presiding: **O Bachmann**, University of Washington; **P W Lipman**, US Geological Survey

1340h **V23C-2071** POSTER Pyroclastic Architectural Elements within an Allostratigraphic Framework: a New Tool to Realistically Reconstruct Past Volcanic Eruptions: **M Ishikawa**, S Yoshida, Y Nemoto

1340h **V23C-2073** POSTER A Weeks-Long Hiatus During the Quilotoa 800 BP VEI 6 Eruption: **M H Ort**, K V Cashman, J A Best, P A Mothes, J Bustillos, A Di Muro, M Rosi, D M Ruscitto, M L Hall

1340h **V23C-2074** POSTER The basal fallout and surge deposits of the mafic ignimbrite-forming Villa Senni Eruption Unit, (Colli Albani volcano, Italy): A Vinkler, **M H Ort**, G Giordano

1340h **V23C-2075** POSTER Impregnating unconsolidated pyroclastic sequences: A tool for detailed facies analysis: D Klapper, **U Kueppers**, J M Castro

1340h **V23C-2076** POSTER Heat transfer coefficients for natural volcanic particles: **T W Stroberg**, M Manga, J Dufek

1340h **V23C-2077** POSTER An aggregation model for ash particles in volcanic clouds: A Costa, **A Folch**, G Macedonio, A Durant

1340h **V23C-2078** POSTER Nested Architecture of Pyroclastic Bedforms Generated by a Single Flow Event: Outcrop Examples from the Izu Volcanic Islands, Japan: **Y Nemoto**, S Yoshida

1340h **V23C-2079** POSTER Two-phase volcanic eruptions: Compaction, compression, and choking: **D Bercovici**, C Michaut

1340h **V23C-2080** POSTER Erosionally Exhumed Fill and Floor of a Ring-Fault-Bounded Plate-Subsidence Caldera: 33.2-Ma Bonanza, Southwest Colorado: **P W Lipman**, W C McIntosh

1340h **V23C-2081** POSTER Vent geometry controls on column structure and collapse: **D E Ogden**, K H Wohletz

1340h **V23C-2082** POSTER Crystal zoning in a large-volume ignimbrite: constraints on the thermal history of a supervolcano magma system: **N E Matthews**, D M Pyle, C J Wilson

1340h **V23C-2083** POSTER Emplacement pressure and equilibrium temperature of the Cretaceous rhyolite ash-flow tuff in the Mt. Jangsan, Pusan, Korea: **S Yun**, H Kim

1340h **V23C-2084** POSTER Ignimbrite stratigraphy and reworking : analogue modelling of dense, polymict granular flow deposition and Kelvin-Helmholtz (K-H) instabilities: **P J Rowley**, D Waltham, P Kokelaar, M A Menzies

1340h **V23C-2085** POSTER Physical Volcanology of the Huckleberry Ridge Tuff: **C J Wilson**

1340h **V23C-2086** POSTER An Evaluation of Uncertainties in the Ti-in-Quartz and Ti-in-Zircon Paleothermometers in a Well Characterised Rhyolitic Eruption Deposit: **B L Charlier**, C J Wilson, J Wooden, D J Morgan

1340h **V23C-2087** POSTER Evolution of the Peach Spring Tuff (Southwest USA) magma body revealed by textures and compositions of accessory minerals: **A Pamukcu**, G A Gualda, C F Miller, J Wooden, C Ferguson

1340h **V23C-2088** POSTER Sedimentological features of the surge emitted during the August, 2006 pyroclastic eruption at Tungurahua volcano (Ecuador): **G DOUILLET**, F Goldstein, Y Lavalée, J B Hanson, U Kueppers, C Robin, P Ramon

1340h **V23C-2089** POSTER Compositional and thermal zoning within quartz ejected before, during and after a supervolcanic eruption at 1.256 Ma: Valles Caldera, New Mexico, USA: **J Wilcock**, W G Minarik, F E Goff, J Stix

1340h **V23C-2090** POSTER Testing competing caldera models using U/Pb geochronology and trace-element modeling in the Questa Caldera, New Mexico: **M J Tappa**, D S Coleman, M J Zimmerer

1340h **V23C-2091 POSTER** The Campanian Ignimbrite and its precursor eruptions – implications for tephrochronology: **E Tomlinson**, V Smith, W Mueller, I Arienzo, A Carandente, L Civetta, G Orsi, M Rosi, M A Menzies

1340h **V23C-2092 POSTER** Rounding of Clasts by Abrasion and Comminution in Pyroclastic Density Currents: **A Patel**, M Manga, J Dufek

1340h **V23C-2093 POSTER** Volatile History of the Bishop Tuff from Apatite Phenocrysts and Inclusions: **K J Walowski**, J W Boyce

1340h **V23C-2094 POSTER** Rheological constraints on the deformation of Snake River-type ignimbrites: an experimental study: **G Robert**, G D Andrews, A G Whittington

1340h **V23C-2095 POSTER** Timescale of ignimbrite eruptions in the Snake River Plain (USA): **Y Lavallee**, G D Andrews, F W von Aulock, A Flaws, K Hess, J K Russell, H Tuffen, D B Dingwell

1340h **V23C-2096 POSTER** Crystallization of the Bishop magma body (or magma bodies?): Lessons from thermodynamics: **G A Gualda**, M S Ghiorso

1340h **V23C-2097 POSTER** Nature of Convective Instabilities in Explosive Volcanic Clouds Inferred by Analog Experiments: **G Carazzo**, M Jellinek

V23D Moscone South: Poster Hall Tuesday 1340h
Volcanic Dynamics: Temporal Changes of Physical Properties at Volcanoes With and Without Surficial Activity I Posters (joint with A, G, H, NH, S, NS)

Presiding: **M K Savage**, Victoria Univ. Wellington; **D C Roman**, University of South Florida

1340h **V23D-2098 POSTER** Preliminary insights into an integrated geophysical approach for a better understanding of Strombolian activity at Yasur volcano, Vanuatu: **K Meier**, E Garaebiti, A Gerst, M Harrison, M K Hort, S Kremers, J M Wassermann, B Weiss

1340h **V23D-2099 POSTER** Differences Between the 1999-2001 and 2006 Mayon Volcano Eruptions: **E Laguerta**

1340h **V23D-2100 POSTER** Ultra-long period seismic signals indicate cyclic deflation coincident with eruptions at Santiaguito volcano, Guatemala: **R W Sanderson**, J B Johnson, G P Waite, J M Lees

1340h **V23D-2101 POSTER** Inter-eruptive volcanism at Usu volcano: Micro-earthquakes and dome subsidence: **H Aoyama**, S Onizawa, T Kobayashi, T Tameguri, T Hashimoto, H Oshima, H Mori

1340h **V23D-2102 POSTER** Seismic and Geodetic Investigation of the 1996-1998 Earthquake Swarm at Strandline Lake, Alaska: **W Kilgore**, D C Roman, J A Power, R A Hansen, J Biggs

1340h **V23D-2103 POSTER** Controlled-source seismic investigations of the crustal structure beneath Erebus volcano and Ross Island, Antarctica: Preliminary Results: **S Maraj**, P R Kyle, D Zandomenighi, H A Knox, R C Aster, C M Snelson, P E Miller, G M Kaip

1340h **V23D-2104 POSTER** Shallow three-dimensional P-wave velocity structure revealed by seismic experiment Sakurajima volcano, Japan: **T Tameguri**, M Iguchi

1340h **V23D-2105 POSTER** Green's function estimates from body-wave autocorrelations of Strombolian eruption coda at Erebus volcano: Evidence for temporally varying shallow magmatic structure: J A Chaput, H A Knox, **R C Aster**, P R Kyle

1340h **V23D-2106 POSTER** Extraction and Analysis of Seismic Body Waves from Ambient Noise for Crustal Imaging on Montserrat, with Implications for Temporal Monitoring: L D Brown, **K Irie**, B Voight

1340h **V23D-2107 POSTER** A real time process for detection, clustering, and relocation of volcano-tectonic events at Piton de La Fournaise volcano: **F Massin**, V Ferrazzini, P Bachelery, Z Duputel

1340h **V23D-2108 POSTER** Seismic waveform evolution preceding the 2006 eruption of Augustine Volcano: **H Buurman**, M E West

1340h **V23D-2109 POSTER** Source processes and proximal cause of the 2006 seismic swarm activity at Mt. Martin, Katmai Volcanic Cluster, Alaska: **J F O'Brien**, D C Roman, J A Power, J P Dixon

1340h **V23D-2110 POSTER** Volcano-seismic events during 2004-2008 at Vulcano (Aeolian Islands, Italy): clues to the dynamics of the hydrothermal system: V Milluzzo, S Alparone, L Cammarata, **A Cannata**, S Gambino, S Gresta, M Hellweg, P Montalto

1340h **V23D-2111 POSTER** An Unusual Cluster of Low-Frequency Earthquakes at Mount Baker, Washington, as Detected by a Local Broadband Network: **J Caplan-Auerbach**, W A Thelen, S C Moran

1340h **V23D-2112 POSTER** An anomalous swarm of low-frequency events at Mount Baker, Washington, June-August 2009: **S C Moran**, W A Thelen, J Caplan-Auerbach, S D Malone, A Wright

1340h **V23D-2113 POSTER** Plenty of Deep Long-Period Earthquakes Beneath Cascade Volcanoes: **M L Nichols**, S D Malone, S C Moran, W A Thelen, J E Vidale

1340h **V23D-2114 POSTER** Subevents of long-period seismicity during the 2004-2008 eruption of Mount St. Helens: **R S Matoza**, B A Chouet, M A Hedlin, M A Garces

1340h **V23D-2115 POSTER** Source characteristics of Long Period events from high resolution observations at Mt Etna during the 2008 eruption: **L De Barros**, I Lokmer, C J Bean, G S O'Brien, G Saccorotti, L Zuccarello, J Métaixian, D Patané

1340h **V23D-2116 POSTER** Relationship between very-long-period seismic pulses and volcanic gas jet events at Mt. Asama, Japan: **R Kazahaya**, T Mori, M Takeo, T Ohminato, T Urabe, Y Maeda, H Shinohara

1340h **V23D-2117 POSTER** Duration of curtain of fire activity deduced from eruptive tremor analysis at Piton de La Fournaise volcano: implication for the end of the eruption: **A Dupont**, A Peltier, V Ferrazzini, S Vergnolle

1340h **V23D-2118 POSTER** New insights into banded tremor: Mt. Etna volcano, August-October 2008: **G Di Grazia**, A Cannata, F Ferrari, P Montalto, G Nunnari, D Patané, E Privitera

1340h **V23D-2119 POSTER** Regimes of Volcanic Activity at Mt. Etna in 2007-2009 inferred from Unsupervised Pattern Recognition on Volcanic Tremor Data: **S M Falsaperla**, B Behncke, H K Langer, A Messina, S Spampinato

1340h **V23D-2120 POSTER** Infrasonic tremor driven by lava lake degassing dynamics at Villarrica Volcano, Chile: E Marchetti, **M Ripepe**, C Bonadonna, A J Harris, L Poli

1340h **V23D-2121 POSTER** Study of the Seismicity Associated to Four Cycles of Dome Growth and Destruction at Colima Volcano, Mexico: **F J Nunez-Cornu**, C Suarez-Plascencia, J J Sanchez, M Rutz, D Vargas-Bracamontes

1340h **V23D-2122 POSTER** Effects of topography and atmospheric structure on volcano infrasound: **O E Marcillo**, J B Johnson

1340h **V23D-2123 POSTER** Temporal Changes in Eruption Dynamics at Tungurahua Volcano Deduced from Infrasonic Measurements, June 2009: **A Parmigiani**, K N Chojnicki, C E Parcheta, B Christensen, O E Marcillo, J B Johnson

1340h **V23D-2124 POSTER** Variable explosive energy partitioning during open vent activity at Fuego volcano, Guatemala 2007-2009: constraining explosion source processes and implications for monitoring: **J J Lyons**, G P Waite, W I Rose

1340h **V23D-2125 POSTER** Acoustic emission during experimental fragmentation of volcanic rocks: **S Karl**, Y Lavallee, B Scheu, M Alatorre-Ibargüengoitia, A Arciniega-Ceballos, A Flaws, R Smith, P M Benson, D B Dingwell

1340h **V23D-2126 POSTER** Ground deformation of Suwanose-jima volcano inferred from InSAR small baseline time-series analysis:

J Oikawa, Y Aoki, M Furuya, M Iguchi

1340h **V23D-2127 POSTER** The duration, magnitude, and frequency of subaerial volcano deformation events: New InSAR results from Latin America and a global synthesis: **M E Pritchard**, **T Fournier**, S Riddick, J Jay, S T Henderson

1340h **V23D-2128 POSTER** InSAR observations of localized deformation of volcanic deposits apparently triggered by regional earthquakes: Examples from Hawai`i and Lascar volcano, Chile:

J Jay, M P Poland, M E Pritchard, E S Calder, P Whelley, A Pavez

1340h **V23D-2129 POSTER** Deformation of the Piton de la Fournaise volcano (La Réunion island) monitored by the horizontal components of the GEOSCOPE RER broad-band station: **G C Roult**, V Ferrazzini, R Pillet, A Peltier, B Taisne

1340h **V23D-2130 POSTER** Ground-Surface Displacements Associated With Geyser Eruptions: Implications for Volcano Deformation: **S Hurwitz**, M J Johnston, R A Reves-Sohn

1340h **V23D-2131 POSTER** Volcano inflation prior to eruption: Calculation based on a 1-D conduit magma flow model:

R Kawaguchi, T Nishimura, H Sato

1340h **V23D-2132 POSTER** The resistivity structure of Aso caldera, Japan, obtained by wide band magnetotelluric survey: **M Utsugi**, W Kanda, T Hashimoto, T Kagiya, Y Ogawa

1340h **V23D-2133 POSTER** A heating process of Kuchi-erabu-jima volcano, Japan, as inferred from geomagnetic field variations and electrical resistivity structure: **W Kanda**, M Utsugi, Y Tanaka, T Hashimoto, I Fujii, T Hasenaka, N Shigeno

1340h **V23D-2134 POSTER** Resistivity Changes of Sakurajima Volcano by Magnetotelluric Continuous Observations: **K Aizawa**, W Kanda, Y Ogawa, M Iguchi, A Yokoo

1340h **V23D-2135 POSTER** Three-dimensional magnetotelluric imaging of the crust and uppermost mantle beneath the Sambe volcano, Southwest Japan: **K Asamori**, K Umeda, T Negi, A Ninomiya

1340h **V23D-2136 POSTER** Quantifying Heat Flow from a Restless Caldera: Shallow Measurement from a Vapor Dominated Area of the Yellowstone Plateau Volcanic Field: **R Rosenberg**, R N Harris, S Hurwitz, P M Fulton, M G Davis, C A Werner

1340h **V23D-2137 POSTER** Thermal monitoring of Vulcano's fumarole field using a fixed automatic infrared thermal camera: **L Lodato**, A Harris, L Drago

1340h **V23D-2138 POSTER** Fundamental and statistical characteristics of experimental geyser: **K Maeda**, A Toramaru

1340h **V23D-2139 POSTER** Detecting shallow hydrothermal pressure sources before sudden short-scale eruptions: insights from numerical modelling at Ruapehu volcano, New Zealand: **N Fournier**, B Christenson, L Chardot, D Robertson

1340h **V23D-2140 POSTER** First observations of intermittent, non-eruptive gas emissions of Cotopaxi volcano (Ecuador) during a period of heightened seismicity: **J Bourquin**, S Hidalgo, S Arellano, L Troncoso, B Galle, S Arrais, F Vásconez

1340h **V23D-2141 POSTER** Relating high temporal resolution gas emission rate data to subsurface processes at Santiaguito Volcano, Guatemala: **P Holland**

1340h **V23D-2142 POSTER** Insights into magmatic fragmentation: a revised fragmentation model based on high-speed video analysis of rapid decompression of magma: **B Scheu**, A C Fowler, M J McGuinness, W T Lee

1340h **V23D-2143 POSTER** Micro-seismic Signals Recorded During Fast Depressurization of Natural Volcanic Samples in a Shock Tube Apparatus: **A Arciniega-Ceballos**, M Alatorre-Ibargüengoitia, D B Dingwell, B Scheu, H Delgado Granados, M Navarrete Montesinos, D Richard, U Kueppers, Y Lavallée

1340h **V23D-2144 POSTER** How Does Temperature Influence the Physical and Chemical Properties of the Deep Carbonate Basement and Shallow Lava Flows at Mt. Etna Volcano?: **M J Heap**, S Mollo, Y Lavallée, S Vinciguerra, F W von Aulock, D B Dingwell, P Baud

1340h **V23D-2145 POSTER** Rheology Of Natural Dacitic Rocks: Lava Dome Versus Lava Flow: **G Avar**, A G Whittington

1340h **V23D-2146 POSTER** Oscillating dome at Santiaguito? A numerical model to explain inter-eruptive pulses: **L Scharff**, J Hasenclever, M K Hort

1340h **V23D-2147 POSTER** Cyclic pressurisation of lava dome rocks. Laboratory results and implications for lava dome monitoring: **M L Dainty**, R Smith, P Sammonds, P G Meredith

1340h **V23D-2148 POSTER** The effects of time-varying chamber and surface pressure on dome-building eruptions: **M de' Michieli Vitturi**, A B Clarke, A Neri, B Voight

1340h **V23D-2149 POSTER** Intermittent outgassing through a non-Newtonian fluid: **T Divoux**, V Vidal, E Bertin, J Gémard

1340h **V23D-2150 POSTER** Acoustic waveform of continuous bubbling in a non-Newtonian fluid: From laboratory bubbles to quasi-periodic volcanic phenomena: **V Vidal**, M Ichihara, M Ripepe, K Kurita

V23E Moscone South: Poster Hall Tuesday 1340h
Volcano Tectonics: New Insights From Earth and Other Planets II Posters (joint with P, T, EP)

Presiding: **E Herrero-Bervera**, University of Hawaii at Manoa;
M Kervyn, Ghent University

1340h **V23E-2151 POSTER** Understanding the mechanical coupling between magma emplacement and the resulting deformation: the example of saucer-shaped sills: **O Galland**, E R Neumann, S Planke

1340h **V23E-2152 POSTER** Vertical linear feeder to elliptical igneous saucer-shaped sills: evidences from structural observations, geochemistry and experimental modeling: C Y Galerne, **O Galland**, E R Neumann, S Planke

1340h **V23E-2153 POSTER** Shallow magma system of Kilauea volcano investigated using L-band synthetic aperture radar data: **Y Fukushima**, D K Sinnett, P Segall

1340h **V23E-2154 POSTER** Magma Emplacement at Lemptegy Volcano, Chaîne Des Puys, France based on Structures, Anisotropy of Magnetic Susceptibility and Paleomagnetic Data: **M S Petronis**, A Delcamp, B Van Wyk de Vries

1340h **V23E-2155 POSTER** Magma flow pattern in a giant dolerite sill and implications for the Karoo mantle plume hypothesis: **A Lehman**, E C Ferre, J W Geissman, J Marsh, M C Marsh, L P Mare, C K Ranaweera, S M Maes

1340h **V23E-2156 POSTER** Fernandina caldera collapse morphology in geometric and dynamic comparison to sandbox models, subsidence sinks over nuclear-explosion cavities, and some other calderas: **K A Howard**

1340h **V23E-2157 POSTER** Discrete Element Simulations of Density-Driven Volcanic Deformation: Applications to Martian Caldera Complexes: **L L Zivney**, J K Morgan, P J McGovern

1340h **V23E-2158 POSTER** Pit Craters and Collapse Calderas: Structural Influences of Initial Mechanical and Geometric Properties as revealed by 2D Distinct Element Method (DEM) Models: **E P Holohan**, M P Schöpfer, J J Walsh

1340h **V23E-2159 POSTER** Formation of Pit Chains and Pit Crater Chains at Kilauea Volcano, Hawaii: **S J Martel**, I Tulasi

1340h **V23E-2160 POSTER** Evolution of Large Venusian Volcanoes: Insights from Coupled Models of Lithospheric Flexure and Magma Reservoir Pressurization: **G A Galgana**, P J McGovern, E B Grosfils

1340h **V23E-2161 POSTER** Olympus Mons shaped by lithospheric flexure: **P K Byrne**, B Van Wyk de Vries, E P Holohan, J B Murray, V Troll

1340h **V23E-2162 POSTER** Unravelling the complex deformation structures at Mt Cameroon: Field evidence and analogue experiments: **M Kervyn**, B Van Wyk de Vries, T R Walter, L Mathieu, G G Ernst

1340h **V23E-2163 POSTER** 2008 Mt. Etna eruption: Co-intrusive strain and stress fields constrained by GPS observations and seismological data: **M Palano**, M Mattia, F Cannavo', C Musumeci, M Aloisi, V Bruno, D Patanè

1340h **V23E-2164 POSTER** Temperature induced phase transformations at Mt. Etna (Italy) volcano: implications for the mechanical weakening of the volcanic edifice under magmatic stresses: **S Vinciguerra**, S Mollo, A Iarocci, G Iezzi, M J Heap

1340h **V23E-2165 POSTER** Flank creeping, a mechanism of stabilisation and destabilisation: example of the Tenerife NE-Rift Zone, Spain: A Delcamp, **B Van Wyk de Vries**, V Troll, M S Petronis, J C Carracedo

1340h **V23E-2166 POSTER** Shape evolution of arc volcanoes, a case study of Concepción and Maderas (Nicaragua): **B Van Wyk de Vries**, P Grosse, L Mathieu, E Cecchi

1340h **V23E-2167 POSTER** Evidence for Ring Structures and Fracture Zones in the Tectonics of Kerguelen Archipelago, Indian Ocean: **L Mathieu**, P K Byrne, B Van Wyk de Vries, B Moine

1340h **V23E-2168 POSTER** Regional stress and basement structure controls on dike orientation in the Karoo Basin: K Feiner, V Bianchi, **S M Maes**, A Lehman, E C Ferre, J W Geissman

1340h **V23E-2169 POSTER** Tectonic dynamics of the Lipari-Vulcano islands revealed by geodetic and seismic data: S Gambino, S Alparone, **A Bonforte**, S Gresta, F Guglielmino, F Obrizzo, G Puglisi

1340h **V23E-2170 POSTER** Evolution of the Thaumasia volcano-tectonic province, Mars, through crater-fault relationships: **M R Smith**, A Gillespie, D R Montgomery, J Barbataar

1340h **V23E-2171 POSTER** Explosive Lava-Water Interactions in Elysium Planitia, Mars: Constraints on the Formation of the Tartarus Colles Cone Groups: **C W Hamilton**, S A Fagents, L Wilson

1340h **V23E-2172 POSTER** Spatial Analysis of Volcanoes at Convergent Margins on Earth: **R V Roberts**, S L de Silva, M Meyers

1340h **V23E-2173 POSTER** Punctuated Arc Migration: Origins and Antecedents of the Taupo Volcanic Zone, New Zealand: **J V Rowland**, C J Wilson, G Lamarche

1340h **V23E-2174 POSTER** Planetary Aspects of Volcanism: Insights Into the Volcano - Tectonic Relationship on Earth: **E Cañón-Tapia**

1340h **V23E-2175 POSTER** Tectonomagmatic evolution of the Earth: from the primordial crust to plate tectonics: **E V Sharkov**, O A Bogatikov

V23F Moscone West: 3005 Tuesday 1340h
Forecasting and Monitoring Volcanic-Cloud Hazards: Scientific Contributions to Aviation Safety I (*joint with A*)

Presiding: **M Guffanti**, U.S. Geological Survey; **M Coltelli**, INGV

1340h **V23F-01** Scientific Contributions to Aviation Safety: A User's Perspective: **M Stills**, M Guffanti, L Salinas

1355h **V23F-02** Mitigation of volcanic hazards to aviation: The need for real-time integration of multiple data sources (*Invited*):

D J Schneider

1410h **V23F-03** Physically Linking Volcanic Plume Height to Radiated Seismic Waves: **S G Prejean**, E E Brodsky

1425h **V23F-04** Detecting Explosive Volcanic Eruptions with the World Wide Lightning Location Network (WWLLN): **J W Ewert**, R H Holzworth, A K Diefenbach

1440h **V23F-05** New Automated Methods for Detecting Volcanic Ash and Retrieving its Macro- and Micro-physical Properties:

M J Pavolonis, J Sieglaff

1455h **V23F-06** Size-Resolved Forecasting of Volcanic Ash Plumes: **D L Westphal**, H Chen

1510h **V23F-07** A multi-model approach to tephra dispersal forecast: The Mt. Etna's case: A Neri, **S Barsotti**, M Coltelli, A Costa, A Folch, G Macedonio, L Nannipieri, M Prestifilippo, S Scollo, G Spata

1525h **V23F-08** The Global Framework for Providing Information about Volcanic-Ash Hazards to International Air Navigation:

R W Romero, M Guffanti

V23G Moscone West: 2020 Tuesday 1340h
Major Geochemical Cycles on Earth I (*joint with PP*)

Presiding: **W M White**; **C Chauvel**, University of Grenoble

1340h **V23G-01** Is the Chondritic Earth model still viable? (*Invited*): **M Sharma**

1355h **V23G-02** Origins and early evolution of volatile elements in Earth: **B Marty**

1410h **V23G-03** MOMO – Revisited in light of 142Nd: **M Stein**

1425h **V23G-04** Highly Siderophile Element Fractionation During Magma Transport in the Mantle: **H Becker**, D van Acken, M Fischer-Goedde

1440h **V23G-05** Noble Gas Partitioning Between Olivine and Melt to 2 GPa: **S W Parman**, S P Kelley, C J Ballentine, J A Van Orman, G Holland

1455h **V23G-06** Geochemical cycling, mass balance, and Earth's dynamic structure (*Invited*): **C J Allegre**

1510h **V23G-07** Dynamical Geochemistry: **G F Davies**

1525h **V23G-08** Accumulation of melt and hydrogen at the lithosphere-asthenosphere boundary: **G Hirth**, E Parmentier, A Saal

V23H Moscone West: 2016 Tuesday 1340h
Role of CO₂ in Magma Evolution and Degassing Processes II

Presiding: **N Metrich**, CNRS; **E R Johnson**, University of Tasmania; **H Shinohara**, Geological Survey Japan, AIST

1340h **V23H-01** New Constraints for Fluid Compositions of Melt Inclusions: Results from H₂O & CO₂ Solubility Experiments at 200 to 400 MPa (*Invited*): **K Roggensack**, G M Moore

1355h **V23H-02** H₂O-CO₂ solubility in basanite: Applications to volatile sources and degassing behavior at Erebus volcano, Antarctica: **K D Iacovino**, G M Moore, K Roggensack, C Oppenheimer, P R Kyle

1410h **V23H-03** A chromatographic simulation of CO₂ flushing in magmatic systems (*Invited*): **S Yoshimura**, M Nakamura

1425h **V23H-04** Gas-melt ratios: a framework for interpreting melt inclusion CO₂-H₂O data (*Invited*): **A Rust**, J Blundy, K V Cashman, F Witham

1440h **V23H-05** Conditions of Magma Storage, Degassing and Ascent at Stromboli: the Effect of CO₂: **N Metrich**, A Bertagnini, A Di Muro

1455h **V23H-06** Magmatic CO₂ gas emissions from Stromboli volcano (Italy): **A Aiuppa**, M Burton, T Caltabiano, G Giudice, S Gurrieri, M Liuzzo, G G Salerno, F Murè

1510h **V23H-07** Degassing of CO₂-H₂O from Miyakejima Volcano: Insights from Melt Inclusion Compositions and Volcanic Gas Emissions: **H Shinohara**, G Saito, Y Morishita

1525h **V23H-08** Known and suspected key roles of carbon dioxide in magmatic and volcanic processes (*Invited*): **P Allard**

V23I Moscone West: 2018 Tuesday 1340h
Volcano Databases: Preserving the Past and Present for the Future II (*joint with NH*)

Presiding: **F M Schwandner**, Nanyang Technological University; **A Ratdomopurbo**, Nanyang Technological University; **H S Crossweller**, University of Bristol; **L Siebert**, Smithsonian Institution

1340h **V23I-01** Four-Decades Perspective on Earth's Volcanoes by the Smithsonian's Global Volcanism Program: **L Siebert**, T Simkin, P Kimberly

1355h **V23I-02** A New Breed of Database System: Volcano Global Risk Identification and Analysis Project (VOGRIPA): **H S Crossweller**, R S Sparks, L Siebert

1410h **V23I-03** DIVO - Database for Italian Volcanoes (*Invited*): **J Selva**, F Doumaz, D Reitano, A Troiano, S Vinci

1425h **V23I-04** Volcanic observation data and simulation database at NIED, Japan (*Invited*): **E Fujita**, H Ueda, T Kozono

1440h **V23I-05** Volcanic and geologic database projects of the Geological Survey of Japan (*Invited*): **S Takarada**, S Nakano, H Hoshizumi, J Itoh, M Urai, K Nishiki

1455h **V23I-06** How volcano monitoring in New Zealand can contribute to a global volcano dataset: The GeoNet Project: G E Jolly, **B Scott**

1510h **V23I-07** Geologic data management at AVO: building authoritative coverage with radical availability (*Invited*): **C Cameron**, S F Snedigar, C J Nye

1525h **V23I-08** On Relations between Current Global Volcano Databases: **C G Newhall**, L Siebert, S Sparks

Union

U24A Moscone West: 3005 Tuesday 1600h
The 29 September 2009 Tsunami and Earthquake III

Presiding: **V V Titov**, NOAA/PMEL; **B E Jaffe**, U.S. Geological Survey

1600h **U24A-01** Survivor Interviews from the Sept. 29, 2009 tsunami on Samoa and American Samoa: B M Richmond, **W C Dudley**, M L Buckley, B E Jaffe, S Fanolua, M Chan Kau

1615h **U24A-02** Identifying Precursors to the 2009 South Pacific tsunami?: **J R Goff**, C Chague-Goff, S Etienne, G Lamarche, B Pelletier, B M Richmond, L C Strotz, M L Buckley, K Wilson, W C Dudley, G Urban, M Sale, D Dominey-Howes

1630h **U24A-03** Tsunami Sediment Transport and Deposition in a Sediment Limited Environment on American Samoa: **A A Apotsos**, G R Gelfenbaum, B E Jaffe, S Watt, B Peck, M L Buckley, B M Richmond, A W Stevens

1645h **U24A-04** Effect of Fringing Reefs on Tsunami Inundation: American Samoa: **G R Gelfenbaum**, A A Apotsos, B E Jaffe, S Watt, B Peck, P J Lynett, B M Richmond, M L Buckley

1700h **U24A-05** Geologic Signatures of the September 2009 South Pacific Tsunami (*Invited*): **B M Richmond**, M L Buckley, S Etienne, L C Strotz, C Chague-Goff, K Wilson, J R Goff, W C Dudley, F Sale

1715h **U24A-06** Real-time Modeling Forecast of the 29 September 2009 Samoa Tsunami: Y Wei, **V V Titov**, L Tang, C Chamberlin, B U Uslu, D Arcas, D W Denbo, C W Moore, M C Eble

1730h **U24A-07** The 29 September 2009 Samoan earthquake and tsunami in the ionosphere: analysis of the near- and far-field GPS-TEC perturbations: **L M ROLLAND**, G Occhipinti, A Loevenbruck, P Coisson, P Lognonne, H Hebert, E I Astafyeva

1745h **U24A-08** Search for Evidence of the 29 September 2009 Tsunami in Altimeter Data: **P S Callahan**, J K Willis

Atmospheric Sciences

A24A Moscone West: 3004 Tuesday 1600h
Downscaling of Weather and Climate I (*joint with GC, H*)

Presiding: **R W Arritt**, Iowa State University; **L Leung**, Pacific Northwest National Laboratory

1600h **A24A-01** The Coordinated Regional Downscaling Experiment (CORDEX) (*Invited*): **W J Gutowski**

1615h **A24A-02** Intercomparison of Regional Climate Models Simulations over North America: **D Caya**, S Biner, R deElia

1630h **A24A-03** Downscaling Ensemble Seasonal Forecasts of a Strong El Niño: **R W Arritt**

1645h **A24A-04** Improving Precipitation Prediction by the CWRf Ensemble Downscaling Approach: **X Liang**, X Yuan, T Ling, L Chen, J X Wang

1700h **A24A-05** Statistical Properties of Downscaled CMIP3 Global Climate Model Simulations: **P Duffy**, S Tyan, B Thrasher, E P Maurer, C Tebaldi

1715h **A24A-06** High Resolution Simulation of Annual Snowfall and Snowpack over Colorado and some Impacts of Climate Change using the Pseudo Climate Simulation Method: **R Rasmussen**, K Ikeda, C Liu, D Gochis, F Chen, M Tewari, J Dudhia, G Thompson, M J Barlage, K Miller, D Yates, V Grubisic, K Arsenault

1730h **A24A-07** Developing a unified parameterization of diabatic heating for regional climate modeling simulations: **A B Beltran-Przekurat**, R A Pielke Sr, G Leoncini, P Gabriel

1745h **A24A-08** Regional climate change projections over southern Africa: Benefits of a high resolution climate change simulation: **A Haensler**, S Hagemann, D Jacob

A24B Moscone West: 3006 Tuesday 1600h
Ocean-Atmosphere-Sea Ice-Snow (OASIS) Interactions in Polar Regions: Results From Recent Field Campaigns II (*joint with C, H, OS*)

Presiding: **J W Bottenheim**; **J J Orlando**, National Center for Atmospheric Research

1600h **A24B-01** Implications of Arctic Sea Ice Reduction on Arctic Tropospheric Chemical Change (*Invited*): **S V Nghiem**

1620h **A24B-02** A microlayer source of summer CCN in high Arctic open leads (*Invited*): **P A Matrai**, M V Orellana, C Rauschenberg, A Hind, C Leck

1645h **A24B-03** Chemical interplay between snowpack NO_x emissions and reactive halogen chemistry in the Arctic atmosphere: insights from the OASIS '09 campaign at Barrow AK, USA: J P Savarino, **S Morin**, J Erbland, J Bock, H Jacobi, F Domine, J Jaffrezo, P Quinn

1700h **A24B-04** Some missing puzzle pieces in our understanding of the behavior of PAN during a polar spring time ODE: **W Zheng**, F M Flocke, J J Orlando, E C Apel, A J Hills, J Liao, D Tanner, L G Huey, S J Sjostedt, P Weibring, J Walega, A Fried

1715h **A24B-05** The Role of Surface and Boundary Layer Dynamics in Arctic Ozone Depletion Episodes: R M Staebler, **J Fuentes**, J W Bottenheim

1730h **A24B-06** Physical properties of the snowpack and of precipitating snow at Barrow, Alaska, during the Barrow 2009 campaign: **F Domine**, J Gallet, J Bock

1745h **A24B-07** (Semi)volatile Organic Compounds and Microbiological Entities in Snow during OASIS Barrow 2009: G Kos, A Nafissa, D Lutchman, R Mortazavi, **P Ariya**

A24C Moscone West: 3002 Tuesday 1600h
Physics and Chemistry of the Upper Troposphere and Lower Stratosphere III

Presiding: A E Dessler, Texas A&M University; **P A Newman**, NASA Goddard

1600h **A24C-01** Has the Age of Stratospheric Air Decreased over the Past Three Decades (1979-2008)?: **Q Fu**

1615h **A24C-02** Sensitivity of the Strength of the Brewer-Dobson Circulation to SST Perturbations in an Aqua-planet Model: **G Chen**, R A Plumb, J Lu

1630h **A24C-03** Stratospheric Circulation Changes Inferred From Observations of Ozone and Other Trace Gases: **E A Ray**, F L Moore, K H Rosenlof, J W Elkins, A Engel

1645h **A24C-04** What factors affect planetary wave driving in the Southern Hemisphere in spring?: **M Hurwitz**, L Oman, P A Newman, E Nielsen, J T Bacmeister, A M Molod

1700h **A24C-05** Static Stability in the Global Upper Troposphere and Lower Stratosphere: Observations of Long-term Mean Structure and Variability using GPS Radio Occultation Data: **K M Grise**, D W Thompson, T Birner

1715h **A24C-06** Residual circulation trajectories and transit times into the extratropical lowermost stratosphere: **T Birner**

1730h **A24C-07** Impacts of Asian Summer Monsoon on Seasonal and Interannual Variations of tropical upper tropospheric pollution over South Asia: **L Zhang**, Q Li, J Jin, N J Livesey, J H Jiang, M Luo

1745h **A24C-08** Transport from the Asian monsoon to the stratosphere observed in satellite measurements of hydrogen cyanide: **W J Randel**, M Park, D E Kinnison, L K Emmons, P F Bernath, K A Walker, H C Pumphrey

Atmospheric and Space Electricity

AE24A Moscone West: 3008 Tuesday 1600h
From Cloud Electrification to Lightning: Initiation, Development, and Effects II (*joint with A, SA*)

Presiding: **D R MacGorman**, NOAA/Natl Severe Storms Lab; **V A Rakov**, University of Florida

1600h **AE24A-01** An Overview of LANL's New Hurricane Lightning Project (*Invited*): **C A Jeffery**, X Shao, J Reisner, C J Kao, M Brockwell, P Chylek, A Fierro, M Galassi, H C Godinez, S Guimond, T Hamlin, B G Henderson, C Ho, D Holden, T E Light, N O'Connor, D M Suszcynsky

1630h **AE24A-02** LIGHTNING CHARACTERISTICS IN DIFFERENT REGIONS OVER THUNDERSTORM LIFECYCLES: **A C Saraiva**, M M Saba, K L Cummins, O Pinto, E P Krider, R L Holle

1645h **AE24A-03** Climate change and tropical total lightning: **R Albrecht**, W A Petersen, D E Buechler, S J Goodman, H Christian

1700h **AE24A-04** How do aerosols affect storm electrification?: **E R Mansell**

1715h **AE24A-05** Electric Fields, Microphysics, and Reflectivity Observations from Trailing Stratiform Clouds in Florida: **J E Dye**

1730h **AE24A-06** A Comparison of Lightning Behaviors in Severe Thunderstorms and a Non-severe Thunderstorm: **D R MacGorman**, E M Griffin, M S Elliott

1745h **AE24A-07** About the variations on lightning activity in Brazil from 1960s to 1990s based on thunderstorm days: preliminary results: **O Pinto**, I R Pinto

Biogeosciences

B24A Moscone West: 3018 Tuesday 1600h
Remote Characterization of Vegetation Structure: Including Research to Inform the Planned NASA DESDynI and European Space Agency BIOMASS Missions II (*joint with C, ED, GC, NH, H, H, H*)

Presiding: **A M Smith**, University of Idaho; **R Dubayah**, University of Maryland; **M J Falkowski**; **S S Saatchi**, CALTECH

1600h **B24A-01** Vegetation Structure and 3-D Reconstruction of Forests Using Ground-Based Echidna® Lidar: **A H Strahler**, T Yao, F Zhao, X Yang

1615h **B24A-02** Assessing General Relationships Between Above-Ground Biomass and Vegetation Structure Parameters for Improved Carbon Estimate from Lidar Remote Sensing: **W Ni-Meister**, S Lee, A H Strahler, C E Woodcock, C Schaaf, T Yao, J Ranson, G Sun, J B Blair

1630h **B24A-03** Estimation of Tropical Forest Height and Biomass Dynamics Using Lidar Remote Sensing at La Selva, Costa Rica: **R Dubayah**, S L Sheldon, D B Clark, M A Hofton, J B Blair, G C Hurtt, R Chazdon

1645h **B24A-04** ESTIMATION OF TROPICAL FOREST STRUCTURE AND BIOMASS FROM FUSION OF RADAR AND LIDAR MEASUREMENTS (*Invited*): **S S Saatchi**, R Dubayah, D B Clark, R Chazdon

1700h **B24A-05** ESTIMATION OF FOREST VERTICAL STRUCTURE BY MEANS OF MULTI-BASELINE POL-INSAR AT L-BAND: **K Papathanassiou**, S Lee, F Kugler, A Torano Caicoya, A Fontana, S Sauer

1715h **B24A-06** Canopy Vertical Spatial Scales which Constrain Biomass in a Tropical Forest at the Plot Level: Unifying Lidar and InSAR for Biomass Estimation: **R N Treuhaft**, F G Goncalves, J B Drake, B D Chapman, J R dos Santos, L V Dutra, P M Graca, G H Purcell

1730h **B24A-07** Large-scale retrieval of forest growing stock volume using hyper-temporal ENVISAT ASAR ScanSAR data stacks: **M Santoro**, C Beer, O Cartus, C Schmullius, U Wegmüller, A Wiesmann

1745h **B24A-08** UAVSAR's first campaign over temperate and boreal forests: **M Simard**, N Pinto, R Dubayah, S Hensley

B24B Moscone West: 3016 Tuesday 1600h
Role of Climate, Carbon and Limiting Nutrient Cycles, and Human Activities in the Terrestrial Ecosystems III (*joint with GC, PA*)

Presiding: **A K Jain**, University of Illinois; **R R Nemani**, NASA; **X Yang**, University of Illinois; **W M Post**, Oak Ridge National Laboratory

1600h **B24B-01** Long-term nitrogen regulation of forest carbon sequestration: **Y Yang**, Y Luo

- 1615h **B24B-02** Modeling Greenhouse Gas Emissions from 100 Years of Land-Cover and Land-Use Change on the Amazon Agricultural Frontier: **G L Galford**, J M Melillo, D W Kicklighter, J F Mustard, T Cronin, C E Cerri
- 1630h **B24B-03** Exploring the Sensitivity of Terrestrial Carbon Sources and Sinks to Nitrogen Cycle Processes: **H S Ksheshgi**, X Yang, A Jain
- 1645h **B24B-04** Nitrogen deposition, land cover conversion, climate, and contemporary carbon balance of Europe (*Invited*): **G Churkina**, S Zahle, J Hughes, N Viovy, Y Chen, M Jung, N Ramankutty, C Roedenbeck, M Heimann, C Jones
- 1700h **B24B-05** Estimates of Historical Global Sources and Sinks of Carbon from Land Cover and Land Use Changes: **T K Richardson**, X Yang, A K Jain
- 1715h **B24B-06** Influence of dynamic land use and land cover change on simulated global terrestrial carbon and nitrogen cycles, climate-carbon cycle feedbacks, and interactions with rising CO₂ and anthropogenic nitrogen deposition: **P E Thornton**, F Hoffman, G C Hurtt
- 1730h **B24B-07** Recent Changes to the Strength of the CO₂ Sink in Boreal Land Regions (*Invited*): **D J Hayes**, A D McGuire, D W Kicklighter, K R Gurney, J M Melillo
- 1745h **B24B-08** New Projections of Global Forest Carbon and Ecosystems at Risk for Increased Greenhouse Gas Emissions From Disturbance and Forest Degradation: S Klooster, **C S Potter**, V B Genovese, P M Gross, V Kumar, S Boriah, V Mithal, J Castilla-Rubio

Cryosphere

C24A Moscone South: 103 Tuesday 1700h
Nye Lecture (This session will be Webcast) (joint with H, GC)

Presiding: **J E Box**, Byrd Polar Research Center; **D G Marks**, USDA ARS NWRC

1700h **C24A-01** Arctic Hydrology and the role of feedbacks in the climate system (*Invited*): **L D Hinzman**

Education and Human Resources

ED24B Moscone West: 3020 Tuesday 1700h
Student Recruitment, Curriculum Design, and More: Strategies and Resources for Building Strong Geoscience Departments II

Presiding: **R M Richardson**, University of Arizona; **C J Ormand**, Carleton College

1700h **ED24B-01** Building a meteorology/atmospheric science program for the future – the Penn State approach (*Invited*): **W H Brune**, H N Shirer, G S Young, J Verlinde

1715h **ED24B-02** Creative Building Design for Innovative Earth Science Teaching and Outreach (*Invited*): **M A Chan**

1730h **ED24B-03** Reinvesting in Geosciences at Texas A&M University in the 21st Century: L A Cifuentes, S W Bednarz, **K C Miller**

1745h **ED24B-04** The Role of Curricular Evolution and the Future of Collegiate Geoscience Education (*Invited*): **K Hodges**

ED24A Moscone West: 3020 Tuesday 1600h
Using Digital Information Resources and Findings From Major Research Initiatives to Transform Undergraduate Instruction II (joint with T)

Presiding: **C A Manduca**, Carleton College; **A M Goodwillie**, Lamont Doherty Earth Observatory; **D L Reed**, San Jose State University; **J G Ryan**, University of South Florida

1600h **ED24A-01** 'Building Core Knowledge – Reconstructing Earth History': Transforming Undergraduate Instruction by Bringing Ocean Drilling Science on Earth History and Global Climate Change into the Classroom (*Invited*): **K St. John**, R M Leckie, M H Jones, K S Pound, E Pyle, L A Krissek

1615h **ED24A-02** Visualizing MARGINS Data in Undergraduate Courses using GeoMapApp (*Invited*): **L R Wetzel**

1630h **ED24A-03** MARGINS mini-lessons: A tour of the Mariana Subduction System (*Invited*): **A M Goodliffe**, A Oakley

1645h **ED24A-04** EarthScope Plate Boundary Observatory Data in the College Classroom (*Invited*): **S C Eriksson**, S E Olds

Earth and Planetary Surface Processes

EP24A Moscone West: 2008 Tuesday 1600h
Aeolian Dust: Transport Processes, Anthropogenic Forces, and Biogeochemical Cycling II (joint with B, A, GC)

Presiding: **T E Gill**, University of Texas at El Paso; **J King**, Desert Research Institute

1605h **EP24A-01** Physical constraints on the emission of mineral dust aerosols from theory, measurements, and modeling of saltation (*Invited*): **J F Kok**

1625h **EP24A-02** A Simple Method to Predict Threshold Shear Velocity in the Field: **J Li**, G S Okin, J E Herrick, M E Miller, S M Munson, J Belnap

1640h **EP24A-03** Diurnal Patterns of Blowing Sand and Dust: **J E Stout**

1655h **EP24A-04** Impact of One Hundred Years of Owens Lake Playa Dust on Nearby Alluvial Soils: **D J Quick**, M C Reheis, B W Stewart, O Chadwick

1710h **EP24A-05** Hydraulic gradient and dust emissivity along a playa to distal fan transect: **T G Caldwell**, M Sweeney, S N Bacon, E McDonald

1725h **EP24A-06** ACCELERATED DEFLATION ON MESQUITE LAKE PLAYA, MOJAVE DESERT: **J W Whitney**, G N Breit, S E Buckingham, R C Bogle, H Goldstein, R L Reynolds, J C Yount, J King, J M Vogel

1740h **EP24A-07** Dust Emissions from Undisturbed and Disturbed, Crusted Playa Surfaces: Cattle Trampling Effect: **T M Zobeck**, M C Baddock, R Van Pelt, E L Fredrickson

Geodesy

G24A Moscone South: 103 Tuesday 1600h
Bowie Lecture

Presiding: **M King**, Newcastle University; **J L Davis**, Harvard Smithsonian Center for Astrophysics

1605h **G24A-01** Geodetic Constraints on the Tectonics of Alaska and the North Pacific (*Invited*): **J T Freymueller**

Global Environmental Change

GC24A Moscone West: 3014 Tuesday 1600h
Global Environmental Change General Contributions II (*joint with PA, H, A, B, NH, OS, PP*)

Presiding: **S A Lloyd**, NASA Goddard Space Flight Ctr; **X Zhu**, Johns Hopkins University

1600h **GC24A-01** Improved attribution of climate forcing to emissions by pollutant and sector: **D T Shindell**

1615h **GC24A-02** A Re-evaluation of the Coherence Between Atmospheric Carbon Dioxide and Global-Average Temperatures at Interannual Time Scales: **J J Park**

1630h **GC24A-03** Total Solar Irradiance during the past 9300 Years inferred from the Cosmogenic Radionuclide Beryllium-10: **F Steinhilber**, J Beer, C Frohlich

1645h **GC24A-04** Boron isotopes in Fiji corals and precise ocean acidification reconstruction: **E Douville**, A Juillet-Leclerc, G Cabioch, P Louvat, J Gaillardet, M Gehlen, L Bopp, M Paterne

1700h **GC24A-05** Sustainable forest management and impacts on forest responses to a changing climate: **D B Stover**, G Parker, T Riutta, R Capretz, I Murthy, R Haibao, D Bebbler

1715h **GC24A-06** Examining Changes due to Land Cover Change on Mount Kilimanjaro: Points Above 5000 m Elevation: **J G Fairman**, U S Nair, S A Christopher

1730h **GC24A-07** Climate Literacy and Cyberlearning: Emerging Platforms and Programs: **M S McCaffrey**, S B Wise, S M Buhr

Geomagnetism and Paleomagnetism

GP24A Moscone West: 2002 Tuesday 1600h
Frontiers of Tectonics in China II (*joint with G, T*)

Presiding: **S A Gilder**, Ludwig Maximilians Universität; **W Xiao**, Institute of Geology and Geophysics, Chinese Academy of Sciences; **R Zhu**, Chinese Academy of Sciences; **J Avouac**, California Inst Technology

1600h **GP24A-01** Precambrian Plate Tectonics Revealed from the North China Craton: **R Zhu**, T Zheng

1615h **GP24A-02** Long record of shortening rates in the south Tianshan and evidence for a late Quaternary order-of-magnitude acceleration, Kuqa basin, China (*Invited*): **J Suppe**, X Wang, A Hubert-Ferrari

1630h **GP24A-03** WITHDRAWN

1640h **GP24A-04** Neoproterozoic tectonic evolution of the Hongseong area, southwestern Gyeonggi Massif, South Korea; implication for the tectonic evolution of Northeast Asia: **C Oh**, S Choi, V Rajesh, J Lee, J Seo, M Zhai, P Peng

1650h **GP24A-05** Optimization of Apparent Polar Wander Paths: An Example from the South China Plate: **S A Gilder**, X Tan, H Bucher, G Kuang, J Yin

1700h **GP24A-06** Paleomagnetic reconnaissance on the Linzizong Group in the Lhasa Block, China: constraints to the onset of the India-Asia collision: **B Huang**, J Chen, L Sun, Z Yi

1710h **GP24A-07** Paleomagnetic Evidence That South Central Nei Mongol (Inner Mongolia) Has Had No Measurable Tectonic Displacement Since the Early Miocene (18 Ma to Present): **J C Liddicoat**

1720h **GP24A-08** Late Cenozoic Tectonic Evolution of the Northern Himalaya, China: **J Zhang**

1730h **GP24A-09** Cenozoic brittle and plastic deformations in west Sichuan: Evidence for the stress and strain pattern of the southeastern Tibetan plateau: **E Wang**, Y Zheng

1740h **GP24A-10** Intracontinental superimposed tectonics—A case study on the north of eastern China: **Y Wang**, L Zhou

1750h **GP24A-11** Early-middle Triassic paleomagnetic result from the Hexi corridor, and the relationship between the North China and Tarim blocks: **Z Yang**, J Liu, Y Tong, W Yuan

Hydrology

H24A Moscone West: 3009 Tuesday 1600h
Environmental Remediation and Confirmatory Monitoring IV (*joint with PA*)

Presiding: **T J Nicholson**, U.S. Nuclear Regulatory Commission; **T Hazen**, Lawrence Berkeley National Laboratory

1600h **H24A-01** Combining Modeling and Monitoring to Produce a New Paradigm of an Integrated Approach to Providing Long-Term Control of Contaminants: **T W Fogwell**

1615h **H24A-02** Competition between Methane and Alkylbenzenes for Electron Acceptors during Natural Attenuation of Crude Oil in the Subsurface: **B A Bekins**, R T Amos, I Cozzarelli, M A Voytek

1630h **H24A-03** Effects of Dual-Pump Recovery on Crude-Oil Contamination of Groundwater, Bemidji, Minnesota: **G N Delin**, W N Herkelrath, S Lounsbury

1645h **H24A-04** Evaluating the Relationship Between Source Zone Metrics and Down-Gradient Plume Response as a Function of Mixed DNAPL Mass Removal: **N L Cápiro**, E K Granbery, J Christ, K D Pennell

1700h **H24A-05** Evaluation of bromide mass discharge in a sandy aquifer at Vandenberg AFB, CA: **D M Mackay**, E Rasa, M Einarson, P Kaiser, I Chakraborty, K M Scow

1715h **H24A-06** The Application of Low Temperature Electrical Resistance Heating for Subsurface Remediation: **M M Krol**, B E Sleep, R L Johnson

1730h **H24A-07** Integration Of Borehole Methods For Hydrogeologic Characterization Optimizes Remediation And Monitoring Efforts: **W H Pedler**

1745h **H24A-08** Semi-Automated Ensemble Analysis Methods to Evaluate Performance of Pump-and-Treat Systems: **D Sorel**, M J Tonkin, D A Wilson, D E Dougherty

H24B Moscone West: 3007 Tuesday 1600h
Hydrology in Changing Climates: Matching Scales and Understanding Secondary Effects III (*joint with A*)

Presiding: **U Lall**, Columbia Univ; **C Luce**, USDA Forest Service; **M D Dettinger**, US Geological Survey; **J S Kober**, DHI

1600h **H24B-01** Fire Regime and Ecosystem Effects of Climate-driven Changes in Rocky Mountains Hydrology: **A L Westerling**, T Das, K Lubetkin, W Romme, M G Ryan, E A Smithwick, M Turner

1615h **H24B-02** The Influence of Antecedent Soil Moisture on Springtime Runoff in the Sierra Nevada Mountains: **A L Flint**, L E Flint, M D Dettinger

1630h **H24B-03** Projecting Impacts of Uncertain Sea Level Variability and Rise on Coast Groundwater Systems: South Florida Applications: F Thenault, **C Karamperidou**, U Lall, V Engel, H Kwon, J Obeysekera

1645h **H24B-04** WITHDRAWN

1700h **H24B-05** Complex geo-ecological responses to climatic changes in a dryland area: northern Negev desert, Israel: **A YAIR**

1715h **H24B-06** Hydrologic response of Pacific Northwest river to climate change: **F Su**, L Cuo, H Wu, N Mantua, D P Lettenmaier
 1730h **H24B-07** Separation of Changes in Hydroclimatic and Basin Controls on Late-Summer Low Flow in British Columbia, Canada: **K Stahl**, R D Moore, D M Allen, P H Whitfield
 1745h **H24B-08** Hydrologic trend identification and streamflow comparisons across the western sweep of the Sierra Nevada (USA): **J C Trask**, G E Fogg

H24C Moscone West: 301 I Tuesday 1600h
Process Understanding and Hydrological Modeling in Ungauged Catchments II

Presiding: **M Sivapalan**, Univ of Illinois at Urbana Champaign; **A Montanari**, University of Bologna; **J W Pomeroy**, University of Saskatchewan

1600h **H24C-01** Rainfall-runoff model calibration at an ungauged catchment using the map-correlation method: **S A Archfield**, R M Vogel, T Wagener
 1612h **H24C-02** Comparison of Spectral and Time Domain Calibration Methods for Precipitation-Discharge Processes (*Invited*): **G J De Lannoy**, J J Quets, V R Pauwels
 1624h **H24C-03** Bayesian Conditioning of Hydrological Models Using Regionalized Indices: **N Bulygina**, N McIntyre, H S Wheeler
 1636h **H24C-04** Hydrological modelling in poorly gauged catchments using a constraints: **A Bardossy**, S Singh
 1648h **H24C-05** Transit Times as process-based tools to aid hydrological prediction in ungauged basins: **C Soulsby**, D Tetzlaff, M Hrachowitz
 1700h **H24C-06** Catchment Classification: An empirical analysis of hydrologic similarity and its controls (*Invited*): **K A Sawicz**, T Wagener, M Sivapalan, P A Troch, G A Carrillo
 1712h **H24C-07** Prediction of Runoff Seasonality in Ungauged Basins: **P Claps**, F Laio
 1724h **H24C-08** Spatio-temporal Averaging of Removal Rate constants in River Networks: Is there an Emergent Pattern?: **N B Basu**, P C Rao, S Zanardo, S D Donner, S Ye, M Sivapalan
 1736h **H24C-09** Using small quantities of streamflow data to improve low streamflow estimation at ungauged river sites: **C Kroll**
 1748h **H24C-10** The PUB report – gauging the status of predictions in ungauged catchments (*Invited*): **G Bloeschl**

H24D Moscone South: 102 Tuesday 1600h
Progress in Hydrologic Science Since the Blue Book: NSF Hydrologic Sciences II

Presiding: **E Foufoula-Georgiou**, University of Minnesota; **R P Hooper**

1600h **H24D-01** The Growth of Hydrological Understanding: Observations, Theories and Societal Influences that have Shaped the Field: **M Sivapalan**
 1615h **H24D-02** New Insights Provided by Hydrologic Data Assimilation: **D McLaughlin**, D Entekhabi
 1630h **H24D-03** “Black Swans” of Hydrology: Can our Models Address the Science of Hydrologic Change?: **P Kumar**
 1645h **H24D-04** On the evolution of spatial variability and uncertainty modeling concepts in hydrogeology: **Y Rubin**
 1700h **H24D-05** Geochemistry and the Understanding of Groundwater Systems: **P D Glynn**, L N Plummer, G S Weissmann, M Stute

1715h **H24D-06** Rethinking the terrestrial water balance: Steps toward a comprehensive indicator framework: **P K Weiskel**, D Wolock, P J Zarriello, R M Vogel, S L Brandt
 1730h **H24D-07** Catchment Scale Simulations at Hydrologic Resolution: Using Massively-Parallel Computing and Integrated Models in Hydrologic Discovery: **S J Kollet**, R M Maxwell, C S Woodward, S Smith, J Vanderborcht, H Vereecken, C Simmer

Ocean Sciences

OS24A Moscone West: 3003 Tuesday 1600h
Gas Hydrates: Results of Recent Field Investigations II (*joint with PP*)

Presiding: **S Lee**; **T Saeki**, JOGMEC

1600h **OS24A-01** Gas Hydrate Research Site Selection and Operational Research Plans: **T S Collett**, R M Boswell
 1615h **OS24A-02** Initial Results of Gulf of Mexico Gas Hydrate Joint Industry Program Leg II Logging-While-Drilling Operations: **R M Boswell**, T S Collett, M Frye, D McConnell, W Shedd, D Shelander, J Dai, S Mrozewski, G Guerin, A Cook, R Dufrene, P D Godfriaux, R Roy, E Jones
 1630h **OS24A-03** Initial Results of Gulf of Mexico Gas Hydrate Joint Industry Program Leg II Logging-While-Drilling Operations in Green Canyon Block 955: **D R McConnell**, R M Boswell, T S Collett, M Frye, W Shedd, S Mrozewski, G Guerin, A Cook, D Shelander, J Dai, R Dufrene, P D Godfriaux, R Roy, E Jones
 1645h **OS24A-04** Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Results from the Walker Ridge 313 Site: W Shedd, **M Frye**, R M Boswell, T S Collett, D McConnell, E Jones, D Shelander, J Dai, G Guerin, A Cook, S Mrozewski, P D Godfriaux, R Dufrene, D R Hutchinson, R Roy
 1700h **OS24A-05** Features of methane hydrate-bearing sandy-sediments near NE-Nankai Trough: effect on methane hydrate accumulating mechanism in turbidite: **K Suzuki**, H Narita
 1715h **OS24A-06** Analysis of GasHydrate Development R&D Program of Korea Using Technology-Product diagram: **E Heo**, D Kim, S Lee
 1730h **OS24A-07** Environmental risks of the gas hydrate field development in the Eastern Nankai Trough: **K Yamamoto**, S Nagakubo
 1745h **OS24A-08** Design of a potential long-term test of gas production from a hydrate deposit at the PBU-L106 site in North Slope, Alaska: Geomechanical system response and seismic monitoring: **L Chiaramonte**, M B Kowalsky, J Rutqvist, G J Moridis

Planetary Sciences

P24A Moscone South: 307 Tuesday 1600h
MESSENGER's Third Flyby of Mercury III (*joint with GP, SM*)

Presiding: **D Schriver**, UCLA; **J A Slavin**, NASA GSFC

1600h **P24A-01** Mercury's atmosphere and magnetosphere: MESSENGER third flyby observations (*Invited*): **J A Slavin**, B J Anderson, D Baker, M Benna, S A Boardsen, C L Johnson, G Gloeckler, R E Gold, R M Killen, H Korth, S M Krimigis, W E McClintock, R L McNutt, M E Purucker, M Sarantos, D Schriver, S C Solomon, A L Sprague, R J Vervack, T Zurbuchen, P Travnicek

1615h **PP24A-02** The Space Environment of Mercury at the Time of the Third MESSENGER Flyby: Solar Wind and IMF Modeling of Upstream Conditions: **D Odstrcil**, D Baker, B J Anderson, L R Mayer, J A Slavin, S C Solomon

1630h **PP24A-03** Overview of magnetic field observations from MESSENGER's third flyby of Mercury: **H Korth**, B J Anderson, J A Slavin, S A Boardsen, S M Krimigis, R E Gold, R L McNutt, S C Solomon, C L Johnson, M E Purucker

1645h **PP24A-04** Exploring Mercury's Surface-bound Exosphere with the Mercury Atmospheric and Surface Composition Spectrometer: An Overview of Observations during the Three MESSENGER Flybys: **W E McClintock**, M Benna, E T Bradley, M H Burger, N R Izenberg, R M Killen, M C Kochte, M Lankton, N Mouawad, S C Solomon, A L Sprague, R J Vervack

1700h **PP24A-05** Observations of Metallic Species in Mercury's Exosphere During the Three MESSENGER Flybys: **R M Killen**, W E McClintock, T A Bida, E T Bradley, M H Burger, N R Izenberg, M C Kochte, M R Lankton, N Mouawad, A E Potter, S C Solomon, A L Sprague, R J Vervack

1715h **PP24A-06** MESSENGER Observations of the Plasma Environment near Mercury: **J M Raines**, T Zurbuchen, G Gloeckler, J A Slavin, S M Krimigis, R L McNutt, S C Solomon

1730h **PP24A-07** Particle Transport and Acceleration in Mercury's Magnetosphere during the MESSENGER Flybys: **D Schriver**, P M Travnicek, J Paral, J A Slavin, M Sarantos, B J Anderson, H Korth, T Zurbuchen, D Baker, M Benna, R M Killen, W E McClintock, G C Ho, S M Krimigis, R L McNutt, S C Solomon

1745h **PP24A-08** MHD modeling of the interaction of the magnetosphere of Mercury with the solar wind during the MESSENGER flybys: **M Benna**, B J Anderson, D Baker, S A Boardsen, R M Killen, H Korth, S M Krimigis, M E Purucker, R L McNutt, J M Raines, W E McClintock, M Sarantos, J A Slavin, S C Solomon, D Schriver, P Travnicek, T Zurbuchen

Public Affairs

PA24A Moscone West: 3001 Tuesday 1600h
Providing Climate Policy Makers With a Strong Scientific Base (joint with GC, ED)

Presiding: J L Baeseman, Association of Polar Early Career Scientists; **M Pit**, International Arctic Science Committee

1600h **PA24A-01** Science Influence on Policy - A Transmission or Reception Problem? (Invited): **D J Carlson**

1615h **PA24A-02** Providing Climate Policy Makers With a Strong Scientific Base (Invited): **E Struzik**

1630h **PA24A-03** Managing scientific complexity in public policy: the case of U.S. climate change legislation in the 111th Congress: **J A Mueller**, P J Runci

1645h **PA24A-04** Role of Science in the Development of U.S. Climate Policy Legislation: **A C Staudt**

1700h **PA24A-05** The Role of the National Academy of Sciences in Supporting Climate Decision Makers: **C Elfving**

1715h **PA24A-06** Climate Change: Science and Policy in the Arctic Climate Change: Science and Policy in the Arctic: **S C Bigras**

1730h **PA24A-07** Changes in the Perceived Risk of Climate Change: Evidence from Sudden Climatic Events: **J K Anttila-Hughes**

1745h **PA24A-08** Perspective of a Scientist on the Hill - Learning to Speak a New Language (Invited): **M L Walser**

Paleoceanography and Paleoclimatology

PP24A Moscone West: 2006 Tuesday 1600h
Deglaciation of the Northern Hemisphere: Timings and Forcings III (joint with A)

Presiding: J Mangerud, University of Bergen; **R Gyllencreutz**

1600h **PP24A-01** Deglaciation Chronology of the Southern Sector of the Laurentide Ice Sheet (Invited): **T Lowell**, M A Kelly

1615h **PP24A-02** The deglacial history of the Lake Michigan lobe in Illinois, USA, fleshed out by chronologies associated with ice-walled lakes: **B Curry**

1630h **PP24A-03** AMS Chronology Reveals Ice Sheet Retreat at 15.5 kyr; Provides North Atlantic Chill and Feedbacks for Abrupt Climate Warming: **D M Peteet**, M Beh, C Orr, D Kurdyla, T P Guilderson

1645h **PP24A-04** Decay of the Cordilleran Ice Sheet at the end of the Pleistocene (Invited): **J J Clague**, D H Shugar

1700h **PP24A-05** A Latest Pleistocene and Holocene Chronology of Alpine Glaciation for western North America: **S A Marcott**, P U Clark, J D Shakun, E Brook, A Novak, P T Davis, M W Caffee

1715h **PP24A-06** Timing and duration of the Last Glacial Maximum and Termination in the western United States and Southern Alps, New Zealand: **A E Putnam**, G Denton, J M Schaefer, D E Putnam, S D Birkel, P Quesada, M R Kaplan, R Schwartz, R C Finkel, E B Evenson, B Andersen, D Barrell, A Doughty, W S Broecker

1730h **PP24A-07** Perfect model experiments in cosmogenic exposure dating of moraines: **P J Applegate**, N M Urban, B J Laabs, R B Alley

1745h **PP24A-08** A Next Model of Northern Hemisphere Glaciation History: ICE-6G (VM5a): **W R Peltier**, D Argus, R Gyllencreutz, J Mangerud, O S Lohne, J Svendsen

PP24B Moscone West: 2004 Tuesday 1600h
Loess 2.0 - Milestones and Recent Advances in the Study of Loess, Dust, and Other Aeolian Sediment Archives III (joint with A, GP, GC, EP)

Presiding: Z Lai, Qinghai Institute of Salt Lakes, Chinese Academy of Sciences; **B Machalet**, Humboldt-University of Berlin; **H M Roberts**, Aberystwyth University; **E A Oches**

1600h **PP24B-01** Abrupt changes and climate feedbacks in North Africa climate-ecosystem. A combined paleo and modern perspective. (Invited): **Z Liu**

1615h **PP24B-02** Droughts In The Sahara-Sahel Region: Lessons From Dust Records Of The Past 300 Years: **A Bhattacharya**, S Mukhopadhyay, A C Maloof

1630h **PP24B-03** The primary role of active large sand seas in forming warm-desert loess sequences: O Crouvi, **Y Enzel**, R Amit, A Gillespie

1645h **PP24B-04** Luminescence-dated aeolian deposits of late Quaternary age in the southern Tibetan Plateau and their implications for landscape history: **Z Lai**

1700h **PP24B-05** Model insights into paleodust proxies (Invited): **N M Mahowald**, S Albani, S Engelstaedter, G Winckler

1715h **PP24B-06** The gustiness hypothesis: Exploring wind gusts as the primary cause of glacial-interglacial dust flux changes: **D McGee**, W S Broecker, G Winckler

1730h **PP24B-07** LARGE CHANGES IN LOESS GEOCHEMISTRY AND HIGH LATITUDE WIND REGIMES DURING THE LAST TWO MILLION YEARS, CENTRAL ALASKA: M J Keskinen, **J E Beget**

SPA - Aeronomy

SA24A Moscone South: 303 Tuesday 1600h
Causes and Effects of Ionospheric Density Gradients III

Presiding: A J Mannucci, Jet Propulsion Laboratory, California Institute of Technology; O de la Beaujardiere, Air Force Research Laboratory

1600h **SA24A-01** Structured DC Electric Fields With and Without Associated Plasma Density Gradients Observed with the C/NOFS Satellite: **R F Pfaff**, D E Rowland, J H Klenzing, H Freudenreich, K R Bromund, M C Liebrecht, P A Roddy, D E Hunton

1615h **SA24A-02** Statistical Properties of Broad Plasma Decreases: **C Y Huang**, P A Roddy, F A Marcos, D E Hunton

1630h **SA24A-03** Low and Mid-Latitude Ionospheric Irregularities Studies Using TEC and Radio Scintillation Data from the CITRIS Radio Beacon Receiver in Low-Earth-Orbit: **C L Siefring**, P A Bernhardt, J Huba, J Krall, P A Roddy

1645h **SA24A-04** Self-Consistent Modeling of Equatorial Dawn Density Depletions with SAMI3 (*Invited*): **J D Huba**

1700h **SA24A-05** Assimilative Modeling of Large-Scale Equatorial Plasma Trenches Observed by C/NOFS: **Y Su**, J M Retterer, O de la Beaujardiere, W J Burke, P A Roddy, R F Pfaff, D E Hunton

1715h **SA24A-06** Solar Wind Effects on Post-Midnight Plasma Depletions Observed by C/NOFS: **P A Roddy**, W J Burke, L C Gentile, N L Sterner, M Crown, O de la Beaujardiere, D E Hunton, R F Pfaff

1730h **SA24A-07** Density Enhancements Associated with Equatorial Spread F: **J Krall**, J Huba, G R Joyce

1745h **SA24A-08** On the Relationship between Lightning and Equatorial Ionosphere Density Irregularities: M McCarthy, **R H Holzworth**, L Willcockson, R F Pfaff, D E Rowland

SPA - Solar and Heliospheric Physics

SH24A Moscone South: 301 Tuesday 1600h
Connecting the Evolving Sun to the Heliosheath III

Presiding: Q Hu, University of Alabama in Huntsville; V A Florinski, University of Alabama, Huntsville

1600h **SH24A-01** From Interstellar Pickup Ions in the Inner Heliosphere to Anomalous Cosmic Rays in the Heliosheath (*Invited*): **G Gloeckler**, L A Fisk

1620h **SH24A-02** Solar Cycle Model Based on Ulysses Measurements (*Invited*): **N V Pogorelov**, S T Suess, R W Ebert, S Borovikov, D J McComas, G P Zank

1640h **SH24A-03** Voyager 2 enters the transition to the high-speed solar wind near the termination shock?: **J D Richardson**, C Wang

1655h **SH24A-04** Realistic and Time-Varying Outer Heliospheric Modeling by Three-Dimensional MHD Simulation: **H Washimi**, G P Zank, Q Hu, T Tanaka, K Munakata

1710h **SH24A-05** Magnetohydrodynamic Modeling of the Solar Wind in the Outer Heliosphere: **A V Usmanov**, M L Goldstein, W H Matthaeus, B Breech

1725h **SH24A-06** A reconnection mechanism for the generation of anomalous cosmic rays: **J F Drake**, M M Swisdak, M Opher, K M Schoeffler

1740h **SH24A-07** Simulation of the Halloween 2003 shocks to 10 AU with the 3D MHD Hybrid Heliospheric Modeling System With Pickup Ions (HHMS-PI): **T R Detman**, D S Intriligator, M Dryer, W Sun, C Gloeckler, D C Hamilton, C S Deehr, J Intriligator

SPA - Magnetospheric Physics

SM24A Moscone South: 309 Tuesday 1600h
Interhemispheric Similarities and Asymmetries in Geospace Phenomena I (joint with SA)

Presiding: N Ostgaard, Dept. of Phys & Techn; A T Weatherwax

1600h **SM24A-01** Absence of Geomagnetic Conjugacy in Pulsating Auroras (*Invited*): **M Watanabe**, A Kadokura, N Sato, T Saemundsson

1615h **SM24A-02** Asymmetric Aurora Detected in the two Hemispheres Simultaneously: **K Laundal**, N Ostgaard

1630h **SM24A-03** Interhemispheric Currents Associated with Ionospheric and Magnetospheric Drivers (*Invited*): **A D Richmond**, A I Maute

1645h **SM24A-04** Interhemispheric Asymmetry of Field-aligned Currents and Particle Precipitation in the Premidnight Sector: Dependence on Solar Illumination at the Ionospheric Footpoint: T Higuchi, **S Ohtani**, S Wing, G Ueno

1700h **SM24A-05** Interhemispheric and Seasonal Differences in Ionospheric Field-Aligned Currents, Horizontal Currents and Electric Fields (*Invited*): **A J Ridley**, H Korth, S G Shepherd, A T Weatherwax

1715h **SM24A-06** Bow shock current closure for large IMF B_y : The unipolar generator: **R E Lopez**, E J Mitchell, R J Bruntz, R Allen, P C Anderson, M R Hairston, M J Wiltberger, J Lyon

1730h **SM24A-07** Interhemispheric Comparisons of SuperDARN Statistical High-latitude Convection Patterns: **E D Pettigrew**, S G Shepherd, J M Ruohoniemi

1745h **SM24A-08** Substorm auroral asymmetries in the conjugate hemispheres during onset and expansion phase: **N Ostgaard**, B K Humberset, K Laundal, H U Frey, J B Sigwarth, A Asnes, J M Weygand

SM24B Moscone South: 305 Tuesday 1600h
Magnetic Reconnection III (joint with SH)

Presiding: M M Swisdak, University of Maryland; C J Farrugia

1600h **SM24B-01** Kinetic PIC simulations of reconnection signal propagation parallel to magnetic field lines: Implications for substorms: **M A Shay**, J F Drake

1615h **SM24B-02** Electron Scale Structure of Thin Current Sheets in Collisionless Magnetic Reconnection: J DeSha-Overcash, N Jain, **A S Sharma**

1630h **SM24B-03** New insights on the magnetic reconnection in collisionless plasma: **L Dai**

1645h **SM24B-04** A Statistical Model of Magnetic Islands in a Large Current Layer: **R L Fermo**, J F Drake, M M Swisdak

1700h **SM24B-05** Particle Acceleration and Multi-island Coalescence in the Magnetotail: **M Oka**, M Fujimoto, T Phan, J P Eastwood, I Shinohara

1715h **SM24B-06** Dissipation Region Structure in Asymmetric Magnetic Reconnection: **P L Pritchett**, F Mozer

1730h **SM24B-07** Fast Reconnection in Extended High-Lundquist-Number Current Sheets Due to the Plasmoid Instability: **A Bhattacharjee**, Y Huang, H Yang, B Rogers

1745h **SM24B-08** Investigations of the orientation of the reconnection X-line via numerical simulations: **R Schreier**, M M Swisdak, J F Drake, P Cassak

Mineral and Rock Physics

MR24A Moscone West: 2003 Tuesday 1600h
Rock Deformation From Grain Boundaries to Plate Boundaries I (*joint with T, S, V, DI*)

Presiding: **D S King**, University of Minnesota; **P A Skemer**, Washington University in St. Louis

1600h **MR24A-01** Grain growth systematics for forsterite + enstatite aggregates: **T Hiraga**, C Tachibana, N Ohashi, S Sano

1615h **MR24A-02** The Effect of Cation Charge and Size on Grain Boundary Diffusion Creep of Synthetic Forsterite: **A M Dillman**, D L Kohlstedt

1630h **MR24A-03** Dislocation Creep of Fine-Grained Olivine: **U H Faul**, J D Fitz Gerald, R Farla, R Ahlefeldt, I Jackson

1645h **MR24A-04** Deformation experiment at P-T conditions of the mantle transition zone using D-DIA apparatus: **T Kawazoe**, N Nishiyama, Y Nishihara, T Irifune

1700h **MR24A-05** Shear Zone Localization in the Lower Crust: Rock Mechanics Experiments at 10-mm to 100-km Scales (*Invited*): **R Burgmann**, G H Dresen

1715h **MR24A-06** From Microstructures to Geodynamics: Lessons Learned while Bridging the Gap between the Lab and the Earth (*Invited*): **G Hirth**

1730h **MR24A-07** Strain localization and the importance of second phases in polycrystalline mantle shear zones: **J Linckens**, M Herwegh, O Muntener

1745h **MR24A-08** Microstructural and mechanical evolution during deformation and annealing of poly-phase marbles – constraints from laboratory experiments and field observations: **N J Austin**, B Evans, G H Dresen, E Rybacki

Seismology

S24B Moscone South: 104 Tuesday 1700h
Gutenberg Lecture (This session will be Webcast) (*joint with T, PA, OS, V, H, NH*)

Presiding: **R D van der Hilst**, MIT

1710h **S24B-01** Tremor, the curious third wheel of fault motion (*Invited*): **J E Vidale**

S24A Moscone South: 104 Tuesday 1600h
Monitoring Temporal Changes of Earth's Properties With Seismic Waves III (*joint with G, H, NS, V, T*)

Presiding: **F Brenguier**, Institut de Physique du Globe de Paris; **E F Larose**, LGIT - CNRS

1600h **S24A-01** Distribution Of Seismic Velocity Change Associated With The May 12, 2008 M7.9 Wenchuan Earthquake: **J Chen**, B FROMENT, Q Liu, M Campillo

1615h **S24A-02** Evidence of depth dependence of the seismic velocity temporal change associated with the Wenchuan earthquake: M Campillo, J Chen, **B FROMENT**, Q Liu

1630h **S24A-03** Systematic analysis of nonlinear ground motion and temporal changes of material properties produced by small and medium earthquakes: **C Wu**, Z Peng, Y Ben-Zion

1645h **S24A-04** Numerical modeling of landslide generated seismic waves: P Favreau, **A Mangeney**, A Lucas, N M Shapiro, G B Crosta, F Bouchut, O Hungr

Tectonophysics

T24A Moscone West: 2009 Tuesday 1600h
Earthquake Cycle Deformation: Moving Beyond Kinematic Elastic Models II (*joint with G, S*)

Presiding: **E A Hetland**, University of Michigan; **K M Johnson**, Indiana University

1600h **T24A-01** Influence of Postseismic Transients on Earthquake Cycle Deformation: What We Know, What We Think We Know, and What We Don't Know (*Invited*): **W R Thatcher**, F Pollitz

1615h **T24A-02** Geologically and geodetically constrained slip rates: Implications for earthquake cycle dynamics and slip partitioning (*Invited*): **B J Meade**, Y Klinger, E A Hetland

1630h **T24A-03** Constraints on the Rheology of the Lithosphere From Geodetic Observations Before and After the 1999 Izmit Earthquake: **E A Hetland**, B J Meade, B H Hager

1645h **T24A-04** Linking postseismic and interseismic deformation along the North Anatolian Fault Zone: The role of low-viscosity shear zones and grain-size sensitive creep: **E H Hearn**, A Vaghri

1700h **T24A-05** Morphologic Scarp Dating for the 21st Century (*Invited*): **G E Hilley**, R Arrowsmith, S DeLong, C S Prentice

1715h **T24A-06** Coupled Afterslip and Mantle Flow Following the 1992 Landers and the 1999 Hector Mine, CA Earthquakes: **S D Barbot**, Y A Fialko

1730h **T24A-07** Effects of Fault Gouge Dilatancy on Subduction Zone Earthquakes (*Invited*): Y Liu, **A M Rubin**

1745h **T24A-08** The influence of spatial variations in fault friction on earthquake ruptures and interseismic coupling: **Y Kaneko**, J Avouac, N Lapusta

T24B Moscone West: 2011 Tuesday 1600h
Earthquake Geology and Active Tectonics in South and East Asia II (*joint with S*)

Presiding: **Y Awata**; **T B Byrne**, University of Connecticut

1600h **T24B-01** Crustal structure in the vicinity of the northern Itoigawa-Shizuoka Tectonic Line fault system revealed by the DD tomography method: **Y Panayotopoulos**, N Hirata, H Sato, T Iwasaki, A Kato, K Imanishi, I Cho, Y Kuwahara

1615h **T24B-02** Complexity and unpredictability of surface ruptures associated with reverse faulting earthquake in volcanic region: An example from the 2008 Mw 6.9 Iwate-Miyagi Japan earthquake (*Invited*): **S Toda**, T Maruyama

1630h **T24B-03** From earthquakes to mountains: Geomorphic constraints on the pattern of active deformation in eastern Tibet (*Invited*): **E Kirby**, W B Ouimet

1645h **T24B-04** Streaks of Aftershocks Following the 2004 Sumatra-Andaman Earthquake: **F Waldhauser**, D P Schaff, E R Engdahl, T Diehl

1700h **T24B-05** Seismotectonic analysis of the Andaman Sea region from high-precision teleseismic double-difference locations: **T Diehl**, F Waldhauser, D P Schaff, E R Engdahl

1715h **T24B-06** CO-SEISMIC DEFORMATION OF THE 2 SEPTEMBER 2009 SOUTH JAVA EARTHQUAKE FROM GPS OBSERVATIONS: **H Z Abidin**, C Subarya, I Meilano, T Kato

1730h **T24B-07** Source process of the 2006 Yogyakarta earthquake, Indonesia: . Afnimar, **R Kobayashi**, A Tohari, K Koketsu

1745h **T24B-08** Evidence of large prehistoric megathrust earthquakes along the Manila and Philippine trenches deduced from emergent Holocene coral reefs: **N T Ramos**, H Tsutsumi, J S Perez

T24C Moscone West: 2005 Tuesday 1600h
Heat Transfer From Pluton to Plate Scales II (joint with MR, V)

Presiding: A Hofmeister, Washington U; P I Nabelek, University of Missouri; A G Whittington, University of Missouri

1600h **T24C-01** Temperature dependence of thermal diffusivity and conductivity of minerals, rocks and melts: implications for geotherms (*Invited*): **A Hofmeister**, A G Whittington, P I Nabelek

1615h **T24C-02** Thermal Diffusivity of Magmas: Implications for Heat Transport in Partially Molten Zones: **A G Whittington**, A Hofmeister, P I Nabelek, M G Galenas, W L Romine

1630h **T24C-03** Plutons: Simmer between 350° and 500°C for 10 million years, then serve cold (*Invited*): **D S Coleman**, J Davis

1645h **T24C-04** Thermal models, stable isotopes and cooling ages from the incrementally constructed Tuolumne batholith, Sierra Nevada: why large chambers did exist: **S R Paterson**, D A Okaya, V Memeti, R Mundil, J Lackey, D Clemens-Knott

1700h **T24C-05** Heat and the mechanical behaviour of the lithosphere (*Invited*): **K Regenauer-Lieb**, M Earth System Dynamics

1715h **T24C-06** The Invisible Heat: Heat-Production By Strain In The Continental Crust: **P I Nabelek**, A G Whittington, A Hofmeister

1730h **T24C-07** The role of radiogenic heat production in the generation of ultra high temperature crustal metamorphism: **C Clark**, D Healy

1745h **T24C-08** Exploring the links between magmatism, large-scale regional metamorphism, and fluid flow: T Lyubetskaya, **J J Ague**

T24D Moscone West: 2007 Tuesday 1600h
Tectonic, Sedimentary, Magmatic, and Thermal Evolution of Lithospheric Extension Leading to Continental Breakup and Seafloor Spreading II

Presiding: E B Burov, University of Pierre and Marie Curie (Paris 6); G Manatschal, IPG-EOST

1600h **T24D-01** The Curious Case of Bermuda Rise: The Last Phase of the Rift-Drift Transition?: **S D King**, M C Chapman, M D Long

1615h **T24D-02** Seismic structure of the northern margin of the Gulf of Aden: **C Basuyau**, C Tiberi, S Leroy, D Keir, G W Stuart, C J Ebinger, A I Al-Lazki, K Al Toubi, H Ahmed, I Al-Ganad, E d'Acremont, F Rolandone, F Lucazeau

1630h **T24D-03** Deep Structure and Evolution of the Northeastern Gulf of Aden Margin From Wide-Angle Seismic and Thermomechanical Modeling: **L Watremez**, S Leroy, S Rouzo, E d'Acremont, E B Burov

1645h **T24D-04** The influence of magmatism on extensional deformation: an example from the eastern Black Sea (*Invited*): **D J Shillington**, T A Minshull, R A Edwards, N J White, C Scott, P J Brown

1700h **T24D-05** The role of magmatism in rift initiation (*Invited*): **M D Behn**, W R Buck, R W Bialas

1715h **T24D-06** Formation of rifted conjugate margins by faulting of cold lithosphere: **C R Ranero**, M Perez-Gussinye

1730h **T24D-07** Thermal regime of a young passive margin from heat flow measurements in the eastern Gulf of Aden and in the Arabian platform (*Invited*): **F Rolandone**, F Lucazeau, S Leroy, C P Jaupart

1745h **T24D-08** Observational constraints and models for conjugate North Atlantic volcanic rifted margins formation: **R S Huismans**, J I Faleide, S Planke

Volcanology, Geochemistry and Petrology

V24A Moscone West: 2020 Tuesday 1600h
Major Geochemical Cycles on Earth II (joint with PP)

Presiding: S L Goldstein, Columbia University; R A Cliff, University of Leeds

1600h **V24A-01** The Solid Earth Pb Cycle (*Invited*): **S R Hart**, G A Gaetani

1615h **V24A-02** What governs the enrichment of Pb in the continental crust? An answer from the Mexican Volcanic Belt: **S L Goldstein**, A LaGatta, C H Langmuir, S M Straub, A Martin-del-Pozzo

1630h **V24A-03** The Earth's Mantle is More Depleted Than we Thought: **A Stracke**, J E Snow

1645h **V24A-04** The Hawaiian plume: a case study for geochemists and geophysicists (*Invited*): **C G Farnetani**, A W Hofmann

1700h **V24A-05** Isotopic streaks suggest a stripy plume under the Marquesas: **C Chauvel**, S Blais, R Maury, E Lewin

1715h **V24A-06** Deriving the Marine Strontium Budget from Paired (⁸⁷Sr/⁸⁶Sr* - δ⁸⁸/⁸⁶Sr) Values of Marine Carbonates, Hydrothermal Fluids and River Waters: A Krabbenhoef, A Eisenhauer, F Boehm, H Vollstaedt, N Augustin, J Fietzke, V Liebetrau, B Peucker-Ehrenbrink, C Horn, N Nolte, B Hansen

1730h **V24A-07** Long-term cycles in ocean chemistry driven by hydrothermal flux at ridge flanks: **D Müller**, A Dutkiewicz, M Seton, C Gaina

1745h **V24A-08** The Geochemical Data(base) Factory: From Heterogeneous Input to Homogeneous Output: **K A Lehnert**, S L Goldstein

V24B Moscone West: 2018 Tuesday 1600h
Remote Sensing of Earth's Active Volcanoes II

Presiding: R Wright, Hawaii Institute of Geophysics and Planetology; V J Realmuto, Jet Propulsion Laboratory; M Abrams, Jet Propulsion Lab

1600h **V24B-01** What more have we learned from thermal infrared remote sensing of active volcanoes other than they are hot? (*Invited*): **M Ramsey**

1615h **V24B-02** Reconstructing recent basaltic fissure eruptions in the Afar Depression, Ethiopia, using satellite imagery: **T D Barnie**, D J Ferguson, C Oppenheimer

1630h **V24B-03** Observations of Volcanic SO₂ and HCl from Aura MLS: **W G Read**, L Froidevaux, M L Santee, N J Livesey

1645h **V24B-04** Simultaneous use of various sensors for thermal monitoring of active volcanoes – an application of Kalman filtering: **K Zaksek**, M K Hort

1700h **V24B-05** Measurements of volcanic SO₂ with ASTER. Comparison with automated scanning DOAS measurements: **R A Campion**, G G Salerno, A M Bernard, M Burton, P Coheur, T Caltabiano

1715h **V24B-06** Monitoring volcanic thermal activity by Robust Satellite Techniques: achievements and perspectives: **V Tramutoli**, F Marchese, G Mazzeo, N Pergola

1730h **V24B-07** MODVOLC2: A Hybrid Time Series Analysis for Detecting Thermal Anomalies Applied to Thermal Infrared Satellite Data: **W C Koeppen**, R Wright, E Pilger

1745h **V24B-08** Radiative transfer retrievals for accurate UV-spectroscopic measurements of volcanic SO₂ emissions: **C Kern**, T Deutschmann, L Vogel, M Wöhrbach, T Wagner, U Platt

V24C Moscone West: 2016 Tuesday 1600h
Dynamics of Small-Scale Magmatic Systems: Linking the Mantle to the Volcano II

Presiding: **K V Cashman**, University of Oregon; **I E Smith**, University of Auckland; **L Pioli**, Université de Genève

1600h **V24C-01** Compositional variation in and among small-volume primitive basaltic eruptions (*Invited*): **P W Reiners**, A Vernon, L X Marshall

1615h **V24C-02** Polygenetic magmatism in a monogenetic field: an isotopic investigation from the Auckland Volcanic Field, New Zealand: **L McGee**, C Beier, I E Smith, S Turner

1630h **V24C-03** Volatile Contents of Mafic Magmas From Cinder Cones in the Central Oregon High Cascades: Implications for Magma Formation and Mantle Conditions in a Hot Arc: **D M Ruscitto**, P J Wallace, E R Johnson, A Kent

1645h **V24C-04** Ambrym Basaltic Volcano (Vanuatu Arc): Volatile Fluxes, Magma Degassing Rate and Chamber Depth: **P Allard**, A Aiuppa, P Bani, N Metrich, A Bertagnini, P G Gauthier, F Parello, G M Sawyer, H Shinohara, E Bagnato, C Mariet, E Garaebiti, B Pelletier

1700h **V24C-05** Magma ascent, degassing, and crystallization in monogenetic volcanoes (*Invited*): **E R Johnson**, P J Wallace, K V Cashman

1715h **V24C-06** The effect of solid particles on flow regime and implications for slug flow in high-crystallinity magmas: **I L Belien**, K V Cashman, A W Rempel, A Rust, J Phillips

1730h **V24C-07** Tephro- and chemo-stratigraphy of the Vulcanello Peninsula (Vulcano, Aeolian Islands): **M Rosi**, R Fusillo, F Di Traglia, M Pistolesi, A Todman, M A Menzies

1745h **V24C-08** Clustering and Hazard Estimation in the Auckland Volcanic Field, New Zealand: **S J Cronin**, M S Bebbington

Wednesday A.M.

Union

U31A Moscone South: Poster Hall Wednesday 0800h
Lunar Reconnaissance Orbiter/LCROSS: New Insights Into the Moon III Posters

Presiding: **B W Denevi**, Arizona State University; **J Gruener**, NASA Johnson Space Center

0800h **U31A-0001 POSTER** Preliminary Measurement of Meter-scale Roughness on the Moon from Lunar Orbiter Laser Altimeter (LOLA) Pulse Spreading: **G A Neumann**, D E Smith, M T Zuber, E Mazarico, M H Torrence, J F Cavanaugh, X Sun, F G Lemoine, O Aharonson

0800h **U31A-0002 POSTER** The Moon's surface slopes and slope-distributions from the Lunar Orbiter Laser Altimeter: **O Aharonson**, M A Rosenberg, D E Smith, M T Zuber, G A Neumann, M H Torrence, E Mazarico

0800h **U31A-0003 POSTER** Comparing the roughness of the Moon from Lunar Orbiter Laser Altimeter (LOLA) to asteroids and planets: **O S Barnouin-Jha**, M T Zuber, D E Smith, G A Neumann, E Mazarico, M H Torrence, J Oberst, J W Head, P G Lucey, M S Robinson, T C Duxbury

0800h **U31A-0004 POSTER** Illumination Conditions in the Lunar Polar regions from Lunar Orbiter Laser Altimeter (LOLA) Data: **E Mazarico**, G A Neumann, D E Smith, M T Zuber

0800h **U31A-0005 POSTER** Initial Results from the Lunar Reconnaissance Orbiter Laser Ranging Investigation: **M H Torrence**, M T Zuber, D E Smith, E Mazarico, F G Lemoine, J F Cavanaugh, X Sun, T Zagwodzki, P Liiva

0800h **U31A-0006 POSTER** Preliminary Measurement of the 1064-nm Surface Reflectance of the Moon from Lunar Orbiter Laser Altimeter (LOLA) Pulse Energies: **D E Smith**, G A Neumann, M T Zuber, X Sun, E Mazarico, M H Torrence, J F Cavanaugh, F G Lemoine, P G Lucey

0800h **U31A-0007 POSTER** Orientale Impact Basin and Vicinity: Topographic Characterization from Lunar Orbiter Laser Altimeter (LOLA) Data: **J W Head**, D E Smith, M T Zuber, G A Neumann, C Fassett, E Mazarico, M H Torrence, J Dickson

0800h **U31A-0008 POSTER** Initial Results of 3D Topographic Mapping Using Lunar Reconnaissance Orbiter Camera (LROC) Stereo Imagery: **R Li**, J Oberst, A S McEwen, B A Archinal, R A Beyer, P C Thomas, Y Chen, J Hwangbo, J D Lawver, F Scholten, S S Mattson, A E Howington-Kraus, M S Robinson

0800h **U31A-0009 POSTER** Insights into Pyroclastic Volcanism on the Moon with LROC Data: **L R Gaddis**, M S Robinson, B R Hawke, T Giguere, O Gustafson, L P Keszthelyi, S Lawrence, J Stopar, B L Jolliff, J F Bell, W B Garry

0800h **U31A-0010 POSTER** LRO Camera Imaging of Constellation Sites: **J Gruener**, B L Jolliff, S Lawrence, M S Robinson, J B Plescia, S M Wiseman, R Li, B A Archinal, A E Howington-Kraus

0800h **U31A-0011 POSTER** LROC Observations of Geologic Features in the Marius Hills: **S Lawrence**, J D Stopar, R B Hawke, B W Denevi, M S Robinson, T Giguere, B L Jolliff

0800h **U31A-0012 POSTER** LRO Camera Imaging of the Moon: Apollo 17 and other Sites for Ground Truth: **B L Jolliff**, S M Wiseman, M S Robinson, S Lawrence, B W Denevi, J F Bell

0800h **U31A-0013 POSTER** A new look at formation and timing of thrust fault scarps on the Moon: **T R Watters**, M S Robinson, R A Beyer, J F Bell, M E Pritchard, M E Banks, W B Garry, N R Williams

0800h **U31A-0014 POSTER** Mapping the Moon with LROC: Global ultraviolet through visible color observations: **B W Denevi**, M S Robinson, E Eliason, H Hiesinger, B L Jolliff, S Lawrence, A S McEwen, M C Malin, M A Ravine, P C Thomas, E P Turtle

0800h **U31A-0015 POSTER** Lunar Reconnaissance Orbiter Camera Narrow Angle Cameras: Laboratory and Initial Flight Calibration: **D C Humm**, M Tschimmel, B W Denevi, S Lawrence, P Mahanti, T N Tran, P C Thomas, E Eliason, M S Robinson

0800h **U31A-0016 POSTER** LRO Diviner Lunar Radiometer: Compositional Investigation Coverage and Early Results: **B T Greenhagen**, D A Paige, P G Lucey, C Allen, J L Bandfield, N E Bowles, K L Donaldson Hanna, T D Glotch, I R Thomas, M B Wyatt

0800h **U31A-0017 POSTER** Diviner observations of crystalline plagioclase-rich regions on the Moon as observed by the Spectral Profiler and Moon Mineralogy Mapper: **K L Donaldson Hanna**, M B Wyatt, B T Greenhagen, D A Paige, P G Lucey, C M Pieters, J Helbert, A Maturilli

0800h **U31A-0018 POSTER** Comparison of The Christiansen Feature Position and Lunar Iron: Evidence for Space Weathering Effects: **P G Lucey**, D A Paige, B T Greenhagen, C Allen, J L Bandfield, N Bowles, K Hanna, T D Glotch, I R Thomas, M B Wyatt

0800h **U31A-0019 POSTER** Fine-grained impact ejecta on the Moon: Views from Earth-based radar and the LRO Diviner thermal mapper: **RR Ghent**, J Koziar, D A Paige, A R Vasavada

0800h **U31A-0020 POSTER** Local Scale Emissivity Variations on the Moon from the Diviner Lunar Radiometer Experiment: **T D Glotch**, J L Bandfield, E Song, B T Greenhagen, D A Paige

0800h **U31A-0021 POSTER** The thermal stability of cold-trapped volatile compounds at the lunar poles: **J Zhang**, D A Paige

0800h **U31A-0022 POSTER** LRO Diviner Radiometer and the Apollo 15 Heat Flow Experiment: **MA Siegler**, S J Keihm, D A Paige, A R Vasavada, R R Ghent, J L Bandfield, K Snook

0800h **U31A-0023 POSTER** Emission Measurements of Lunar Analogues Measured in a Simulated Lunar Environment for Interpretation of Data Returned from the Diviner Lunar Radiometer on NASA's Lunar Reconnaissance Orbiter: **IR Thomas**, N E Bowles, B T Greenhagen, D A Paige

U31B Moscone South: Poster Hall Wednesday 0800h
Lunar Reconnaissance Orbiter/LCROSS: New Insights Into the Moon IV Posters

Presiding: **G Chin**, NASA; **J L Heldmann**

0800h **U31B-0024 POSTER** Variability in the GCR Count Rate as Measured by the CRA TER Instrument on LRO: **A W Case**, H E Spence, M J Golightly, J C Kasper, J B Blake, J E Mazur, L W Townsend

0800h **U31B-0025 POSTER** Secondary-Particle Production in Organic Material by Cosmic Rays: Simulations and CRA TER Observations: **M D Looper**, J B Blake, J E Mazur, H E Spence

0800h **U31B-0026 POSTER** The Radiation Environment in Low Lunar Orbit: **J B Blake**, J E Mazur, M D Looper, H E Spence, G De Angelis, T Dachev, B Tomov, Y Matviichuk, P Dimitrov, F Spurny

0800h **U31B-0027 POSTER** Lunar Exploration Neutron Detector (LEND) for NASA Lunar Reconnaissance Orbiter: mapping of hydrogen with high spatial resolution and determination of neutron radiation environment: **A B Sanin**, I G Mitrofanov, M L Litvak, D Golovin, A Kozyrev, A Malakhov, M Mokrousov, V Tretyakov, A Vostrukhin, A Varenikov, G M Milikh, R Sagdeev, G Nandikotkur, W V Boynton, K Harshman, J Trombka, T P McClanahan, G Chin, R D Starr, L G Evans, V Shvecov, V Shevchenko

0800h **U31B-0028 POSTER** Analysis, Simulation, and Predictions for the Detection of Hydrogen Abundance Regions by the Lunar Exploration Neutron Detector (LEND) on board LRO: **G Nandikotkur**, D Usikov, V Ivatury, G M Milikh, R Sagdeev, I Mitrofanov, D Golovin, M L Litvak, A Malakhov, A Sanin, V Tretyakov, A S Kozyrev, A B Varenikov, A A Vostrukhin, M I Mokrousov, G Chin, J Garvin, T R McClanahan, J Trombka, L G Evans, R D Starr, W V Boynton, K Harshman, M J Finch, V P Shevchenko, G N Timoshenko, V Shvetsov, T Tomlina

0800h **U31B-0029 POSTER** Lunar South Polar Hydrogen Concentrations in the Context of LRO/Diviner Results and Modeling: **R C Elphic**, D A Paige, M A Siegler, A R Vasavada, D J Lawrence, M R James, J L Bandfield

0800h **U31B-0030 POSTER** Lyman Alpha Mapping Project (LAMP) Observations of the LCROSS Impact: **K D Retherford**, R Gladstone, S A Stern, J W Parker, T K Greathouse, A J Steffl, M W Davis, D C Slater, D Kaufmann, M Versteeg, A Egan, P F Miles, P D Feldman, D M Hurley, W R Pryor, A R Hendrix, D Goldstein, D Summy

0800h **U31B-0031 POSTER** Lunar Reconnaissance Orbiter (LRO) Observations in Support of the LCROSS Mission: **G Chin**, A Colaprete, J W Keller, R R Vondrak, J Garvin, T McClanahan, D E Smith, M T Zuber, M S Robinson, I G Mitrofanov, D A Paige, S Nozette, R Gladstone

0800h **U31B-0032 POSTER** Epithermal Neutron Observations and Lunar South Pole Targeting for LCROSS impact planning using the Lunar Reconnaissance Orbiter (LRO), Lunar Exploring Neutron Detector (LEND): **T P McClanahan**, I Mitrofanov, W V Boynton, G Chin, A Colaprete, L G Evans, J Garvin, K Harshman, M L Litvak, A Malakhov, G M Milikh, G Nandikotkur, R Sagdeev, A B Sanin, D E Smith, R D Starr, J Trombka

0800h **U31B-0033 POSTER** Simulations of the Evolution of Vapor Ejected by the LCROSS Impact on the Moon: **D M Hurley**, R M Killen, L Team, A E Potter

0800h **U31B-0034 POSTER** LCROSS Impact Conditions and Ejecta Evolution: Insight from Experiments: **B Hermalyne**, P H Schultz, A Colaprete

0800h **U31B-0035 POSTER** Lunar CRater Observation and Sensing Satellite (LCROSS) Science Payload Measurement Results of South Pole Impact: **K Ennico**, A Colaprete, M Shirley, D H Wooden, K Galal

0800h **U31B-0036 POSTER** Characterization of the Lunar Plume Excavated by the LCROSS Impactor: **C Miller**, N Chanover, R Suggs, R J McMillan, R T Hamilton

0800h **U31B-0037 POSTER** Lunar CRater Observation and Sensing Satellite (LCROSS) Mission: Preliminary Report On the LCROSS Observational Campaign Results: **J Heldmann**, A Colaprete, D H Wooden

0800h **U31B-0038 POSTER** Spectroscopy of the LCROSS Ejecta Plume from Keck, Gemini, and NASA IRTF Observatories: **D H Wooden**, E F Young, M S Kelley, C E Woodward, D E Harker, M A DiSanti, P G Lucey, R B Hawke, D Goldstein, D Summy, A R Conrad, T R Geballe, J T Rayner, A Colaprete, J L Heldmann

U31C Moscone South: I03 Wednesday 0800h
Terra at 10: Earth's Energy Balance and Water Cycle I

Presiding: **N G Loeb**, NASA Langley Research Center; **D Diner**, JPL

0802h **U31C-01** Tracking Earth's global energy (*Invited*): **K E Trenberth**

0817h **U31C-02** Multi-sensor approaches for studying aerosols and their climate effects from Terra (*Invited*): **S A Christopher**

0832h **U31C-03** A Stereo View of the Decade that was: Changes in Cloud Heights and Winds from MISR: **R Davies**

0847h **U31C-04** Ten Years of Earth Observations from MODIS: What has been Accomplished: **M D King**, C O Justice, S E Platnick, C R McClain

0902h **U31C-05** Terra at 10: CERES Results: **T Wong**, N G Loeb, D R Doelling, K Xu

0917h **U31C-06** Cloud amount and cloud top pressure from 10-years of MODIS observations: **S A Ackerman**, W Menzel, B C Maddux, R Frey, B A Baum

0932h **U31C-07** Evaluating Climate Models with MISR Joint Histograms of Cloud Properties: **T P Ackerman**, R Marchand, B R Hillman

0946h **U31C-08** Inter-annual variability of the global radiation budget derived from CERES data: **S Kato**

Atmospheric Sciences

A31A Moscone South: Poster Hall Wednesday 0800h **High-Latitude Climate Feedbacks III Posters** (*joint with C, GC, OS*)

Presiding: **I L Eisenman**, Caltech & UW; **J E Kay**, NCAR; **M Flanner**, University of Michigan

0800h **A31A-0074 POSTER** On the use of CloudSat and Calipso to Study Clouds Over Sea Ice in the Southern Beaufort Sea:

L M Candlish, D G Barber

0800h **A31A-0075 POSTER** The impact of 21st Century sea ice decline on the hydrological budget of the Arctic: **J J Day**, J L Bamber, P J Valdes, J Kohler

0800h **A31A-0076 POSTER** Diurnal albedo of seasonally melting Arctic snow at wavelengths of UV and visible: **O Meinander**

0800h **A31A-0077 POSTER** Impact of including fully interactive Greenland and Antarctic ice sheets on the climate sensitivity of an Earth system model of intermediate complexity: **H Goelzer**, M Loutre, A Mouchet, P Huybrechts, T Fichefet, H Goosse

0800h **A31A-0078 POSTER** Simulations of Vegetation Impacts on Arctic Climate: **C Bonfils**, T J Phillips, W J Riley, W M Post, M S Torn

0800h **A31A-0079 POSTER** Investigating the effects of Eurasian snow cover on winter climate: **R J Allen**, C S Zender

0800h **A31A-0080 POSTER** Exploring the Role of Sea-Ice for Seasonal Forecasts: R Senan, **R E Benestad**, M Balmaseda, L Ferranti, Y J Orsolini, A Melsom

0800h **A31A-0081 POSTER** A comparison of polar vortex trend response to Pacific and Indian Ocean warming: **S Li**

0800h **A31A-0082 POSTER** Modulation in Interannual Sea-Ice Patterns in the Southern Ocean in Association with Large-Scale Atmospheric Mode Shift: **Y Udagawa**, K Yamazaki, Y Tachibana

0800h **A31A-0083 POSTER** Atmospheric forcing of Antarctic sea ice: **J A Renwick**

0800h **A31A-0084 POSTER** The Feedback of Sea Ice Loss on Arctic Temperatures: 1970-2008: **M Hoerling**, J Perlwitz, J Eischeid, A Kumar

0800h **A31A-0085 POSTER** The Energetics of a Warming Arctic: **T Graham**, A Ferraro, M Vellinga, P Wu

0800h **A31A-0086 POSTER** Very large warming in Antarctic mid-troposphere in winter: PSCs are implicated: T A Lachlan-Cope, **H K Roscoe**

0800h **A31A-0087 POSTER** On the Interactions of Arctic Sea Ice, Cloud Cover, and Surface Temperature from Satellite Observations: **Y Liu**, J R Key, X Wang

0800h **A31A-0088 POSTER** Atmosphere-sea ice interactions over a wide range of climates: **I L Eisenman**, T Schneider, D Battisti, C M Bitz

0800h **A31A-0089 POSTER** Parameterization of the Solar Fluxes over Mountain Surfaces for Application to Regional Climate Models: **W Lee**, K Liou, A Hall

0800h **A31A-0090 POSTER** Effects of cryospheric changes on Earth's solar energy budget: **M Flanner**

0800h **A31A-0091 POSTER** An Improved Method For Retrieving TOA Albedo Over Polar Regions Using MISR: **J Corbett**, R Davies

0800h **A31A-0092 POSTER** Storm-induced polar warming and moistening under anthropogenic forcing: **J KUG**, D Choi, F Jin, W Kwon, H Ren

0800h **A31A-0093 POSTER** Modulation of Orbital Induced Climate Change by Ice, Cloud and Water Vapor Feedbacks: **D F Mantsis**, A C Clement, A J Broccoli

0800h **A31A-0094 POSTER** The rapidly shrinking sea ice cover and ice-albedo feedback effects: **J C Comiso**

0800h **A31A-0095** WITHDRAWN

A31B Moscone South: Poster Hall Wednesday 0800h **Nighttime Air Chemistry II Posters**

Presiding: **W R Stockwell**

0800h **A31B-0096 POSTER** Is $\text{NO}_3/\text{N}_2\text{O}_5$ chemistry a source of aerosol HNO_3 in the San Joaquin Valley?: **C Minejima**, P J Wooldridge, R C Cohen

0800h **A31B-0097 POSTER** Estimation of night time NO_3 and OH radical levels in the UK urban atmosphere, using the steady state approximation method: **M H Khan**, R C Rhew, M Ashfold, G Nickless, D Martin, S Henshaw, L Watson, P D Hamer, D E Shallcross

0800h **A31B-0098 POSTER** HONO Vertical Gradients during the 2006 TRAMP and the 2009 SHARP experiments in Houston, TX: **K Wong**, C Tsai, O Pikelnaya, J Stutz, D Fu

0800h **A31B-0099 POSTER** Isotope modeling of nitric acid formation in the atmosphere: Testing the importance of NO oxidation, heterogeneous reactions, and nighttime chemistry: **G Michalski**, F Xu

0800h **A31B-0100 POSTER** An assessment of direct NO_2 emissions from Oklaunion power generation facility during TexAQS 2006:

J W Peischl, T B Ryerson, S S Brown, W P Dubé, F C Fehsenfeld

0800h **A31B-0101 POSTER** Deposition of N_2O_5 to the snowpack at high latitudes: **D M Huff**, R L Apodaca, P L Joyce, G J Fochesatto, W R Simpson

0800h **A31B-0102 POSTER** Contribution of HNO_3 Partitioning and Heterogeneous Hydrolysis of N_2O_5 to High $\text{PM}_{2.5}$ Nitrate in Ammonia Deficient Atmosphere of Beijing and Shanghai: **R P Pathak**, W Wu, X Zhou, T Wang

0800h **A31B-0103 POSTER** Diurnal variations in the nitrogen and oxygen isotope composition of aerosol nitrate at a rural site: **J Kaiser**, A Bateman

A31C Moscone South: Poster Hall Wednesday 0800h **Ocean-Atmosphere-Sea Ice-Snow (OASIS) Interactions in Polar Regions: Results From Recent Field Campaigns III Posters** (*joint with C, H, OS*)

Presiding: **H J Beine**, UC Davis; **F Domine**, CNRS

0800h **A31C-0104 POSTER** Optical Properties of Arctic Mixed Phase Boundary Layer Clouds Observed from a Tethered Balloon Instrument Platform: **M V Sikand**, K Stamnes, J P Koskullics, J Stamnes, H Borge, P Lawson

0800h **A31C-0105 POSTER** Observations of Boundary Layer air over Western Arctic Sea Ice During the April 2009 Polar-5 Airborne Campaign: C T McElroy, **J W Bottenheim**, C Banic, J Narayan, P Liu, W Strapp, C Haas, R S Stone, A Herber, M Maturilli, K Dethloff, V Y Sokolov, A Makshtas, R Brauner

0800h **A31C-0106 POSTER** Boundary Layer Ozone Dynamics during the Spring 2009 OASIS Experiment in Barrow, AK: **P J Boylan**, D Helmig, J Booth, F M Flocke, B J Johnson, D J Knapp, D D Montzka, S J Oltmans, A J Weinheimer, W Zheng

0800h **A31C-0107 POSTER** Airbourne and Ground Based Lidar Measurements of Arctic Boundary Layer Ozone Depletion Events: **J Seabrook**, J A Whiteway

0800h **A31C-0108 POSTER** Boundary Layer Ozone Depletion Events Measured by Ozonesondes at Barrow, Alaska in 2009: **B J Johnson**, S J Oltmans, J Booth

0800h **A31C-0109** WITHDRAWN

0800h **A31C-0110 POSTER** An Overview of the Gas-Phase Measurements Made During the OASIS – Barrow Spring 2009 Campaign: **J J Orlando**, F M Flocke, P B Shepson, H J Beine

0800h **A31C-0111 POSTER** Behavior of HO₂ radicals in Ozone Depletion Events during OASIS-Barrow 2009: **C A Cantrell**, L Mauldin, R S Hornbrook, E Kosciuch, J McGrath

0800h **A31C-0112 POSTER** Measurements of Volatile Organic Compounds at Barrow, Alaska during the OASIS Spring 2009 Field Campaign: **S J Sjostedt**, E C Apel, A J Hills, D D Riener, J Abbatt

0800h **A31C-0113 POSTER** OH and OH Reactivity Measurements during the OASIS Campaign at Barrow, Alaska: **J McGrath**, L Mauldin, E Kosciuch

0800h **A31C-0114 POSTER** HONO Measurements in Barrow, Alaska; using LOPAP technique: **G Villena Tapia**, P Wiesen, F M Flocke, A J Weinheimer, D D Montzka, D J Knapp, S R Hall, K Ullmann, L Mauldin, E Kosciuch, J McGrath, H J Beine, R M Staebler, J Kleffmann

0800h **A31C-0115 POSTER** Active, passive and satellite borne spectroscopic measurements of tropospheric BrO during the OASIS 2009 campaign in Barrow, Alaska: **U Friess**, H Sihler, T Wagner, U Platt

0800h **A31C-0116 POSTER** Partitioning and Transport of Organochlorine Pollutants in the Arctic: From Snowfall to Snowmelt: **G A Rowland**, A Torres, A M Grannas

0800h **A31C-0117 POSTER** Aldehydes in Arctic Snow at Barrow (AK) during the Barrow 2009 Field Campaign: M Barret, S Houdier, J Gallet, **F Domine**, H J Beine, H Jacobi

0800h **A31C-0118 POSTER** Carbonaceous Species in the Snowpack during the OASIS 2009 campaign in Barrow, Alaska: D Voisin, J Jaffrezo, S Houdier, M Barret, H Jacobi, V Jacob, M Beztout, **F Domine**, H J Beine

0800h **A31C-0119 POSTER** Absorption Spectra of Surface Snow, Sea Ice, and Frost Flowers at Barrow, AK: **H J Beine**, C Anastasio

0800h **A31C-0120 POSTER** Investigation of short-term photochemical processes in surface snow: H Jacobi, J Bock, M Barret, S Houdier, J Jaffrezo, H J Beine, **G Villena Tapia**, J Kleffmann, P Wiesen, J L France, H J Reay, M D King

0800h **A31C-0121 POSTER** Optical Properties of Snow and Sea-ice, Barrow Alaska: **H J Reay**, J L France, M D King

0800h **A31C-0122 POSTER** The geochemical composition of frost flowers in the Alaskan Arctic and their role in mercury deposition: **T A Douglas**, M Sturm, J D Blum, L S Sherman, A Steffen, W R Simpson

0800h **A31C-0123 POSTER** Out On The Ice (OOTI): Studies of Bromine Monoxide (BrO) and ozone (O₃) in the Arctic and Sub-Arctic Marine Boundary Layer by Multiple Axis Differential Optical Absorption Spectroscopy (MAXDOAS): Local Emissions or Transport Processes?: **S Netcheva**, J W Bottenheim, R M Staebler, A Steffen

0800h **A31C-0124 POSTER** First measurements of Nitric Oxide (NO) at the WAIS Divide site in West Antarctica and implications for atmospheric oxidation: **S Masclin**, M M Frey, W F Rogge, R C Bales

0800h **A31C-0125 POSTER** Atmospheric anionic and VOCs composition from Detroit Plateau, Antarctic Peninsula: **A S Alencar**, H Evangelista, M Cataldo, S Coôrreia, J C Simoes, I Wainer, R Jaña, A Kurbatov, M Potocki, P A Mayewski

0800h **A31C-0126 POSTER** A network of autonomous surface ozone monitors in Antarctica: technical description and first results: S J Bauguitte, N Brough, M M Frey, A E Jones, **H K Roscoe**, E W Wolff

0800h **A31C-0127 POSTER** (Semi)volatile organic compounds and microbiological entities in snow during OASIS Barrow 2009: **P Ariya**, G Kos

A31D Moscone South: Poster Hall Wednesday 0800h Physics and Chemistry of the Upper Troposphere and Lower Stratosphere IV Posters

Presiding: L Pan, National Center for Atmospheric Research

0800h **A31D-0128 POSTER** Observations of Stratospheric Aerosols over Sondrestrom, Greenland Injected by Russia's Sarychev Peak Volcano: **R R Neely**, J P Thayer, M Hayman, J E Barnes, M O'Neill

0800h **A31D-0129 POSTER** Pressure Dependence of the Reaction Rate of Acetic Acid with Hydroxyl Radical: **Y Huang**, T J Dransfield, J Anderson

0800h **A31D-0130 POSTER** Impact of Lightning-NO Emissions on Eastern United States NO_x and O₃ Determined Using the CMAQ Model: **K E Pickering**, D J Allen, R Pinder, T Pierce

0800h **A31D-0131 POSTER** Changes in the tropical belt and their effect on trace gas distributions in the UTLS: **S M Davis**, K H Rosenlof

0800h **A31D-0132 POSTER** Cirrus in the upper troposphere and its relationship to deep convection: **S T Massie**, C Craig, R Khosravi, J C Gille, J Barnett, D Winker

0800h **A31D-0133 POSTER** The Path Density of Interhemispheric Surface-to-Surface Transport through the Troposphere and Stratosphere: **M B Holzer**

0800h **A31D-0134 POSTER** Trajectory Calculations of Hydration/Dehydration in the Lower Stratosphere from Aura/MLS Water Vapor Measurements: S Wong, **A E Dessler**

0800h **A31D-0135 POSTER** Theory and measurements of charged stratospheric ice particles: **J K Nielsen**, N Larsen, T Leisner

0800h **A31D-0136 POSTER** Seasonal Variations of Age Spectrum of Air in the Lower Stratosphere: **F Li**, R S Stolarski, D W Waugh, S Pawson

0800h **A31D-0137 POSTER** Impact of instrumental response on observed ozonesonde profiles: First-order estimates and implications for measures of variability: **G T Clifton**, J T Merrill, B J Johnson, S J Oltmans

0800h **A31D-0138 POSTER** Tracking the global jet streams through objective analysis: **D Gallego**, C Peña-Ortiz, P Ribera

0800h **A31D-0139 POSTER** Constraints on JN₂O₅ from balloon-borne limb scanning measurements of NO₂ in the tropics: **L K Kritten**, M Dorf, A Butz, S Kreyer, C Prados-Roman, K Pfeilsticker

0800h **A31D-0140 POSTER** Simulations of Thin Cirrus in the TTL using CAM4/CARMA and comparisons with CALIPSO, HIRDLS, COSMIC and MLS: **C Bardeen**, A Gettelman, E J Jensen, J R Taylor, S T Massie

0800h **A31D-0141 POSTER** COSMIC Observations of the Tropical Tropopause Layer: **J R Taylor**, W J Randel

0800h **A31D-0142 POSTER** The role of clouds in the water vapor budget in the Tropical Tropopause Layer (TTL) from CALIPSO/CloudSat and MLS: **J Chae**, D L Wu, W G Read

0800h **A31D-0143 POSTER** The impacts of dynamics on tropical tropospheric CO inferred from the Aura Satellite data and GEOS-Chem model: **J Liu**, J A Logan

0800h **A31D-0144 POSTER** Case Study in Summertime North America UTLS Ozone Budget: **J Wong**, D C Noone, M C Barth, W C Skamarock, G A Grell, J Worden

0800h **A31D-0145 POSTER** Dynamical processes atop penetrative tropical deep convective clouds: **P K Wang**

0800h **A31D-0146 POSTER** Implications of all-sky heating rates for water, clouds, and upward transport in the Tropical Tropopause Layer: **L Pfister**, E J Jensen

0800h **A31D-0147 POSTER** Recent measurements by laser hygrometers in the upper troposphere and lower stratosphere: **R F Troy**, R L Herman, A Scodary, L Christensen

0800h **A31D-0148 POSTER** Gravitational settling in the Ar/N₂ Ratio observed during the START08 and HIPPO-Global Airborne campaigns: **J D Bent**, R F Keeling, B B Stephens

0800h **A31D-0149 POSTER** Increase of upper troposphere/lower stratosphere wave baroclinicity: Trends in the baroclinic wave energies and in the frequency of multiple tropopause events: **J A Añel Cabanelas**, J M Henriques Castanheira, C A Fernandes Marques, J Antuna, M L Liberato, L de la Torre Ramos, L Gimeno

0800h **A31D-0150 POSTER** Composition of air and its seasonality within the tropical tropopause layer TTL: Impact of the Asian monsoon: P Konopka, J Grooss, G Guenther, **F Ploeger**, R Pommrich, R Mueller, N J Livesey

0800h **A31D-0151 POSTER** Identifying Ozone Folding Events with Stratosphere-Troposphere Fluxes and Testing against Aura and Ozonesonde Measurements: **Q Tang**, M J Prather

0800h **A31D-0152 POSTER** Tropical circulation and clouds changes during the northern stratospheric sudden warming in January 2009: K Kodera, **N Eguchi**

0800h **A31D-0153 POSTER** Dynamics of trace gases and aerosols over the Indo-Gangetic plain: **P S Bhattacharjee**, R P Singh

0800h **A31D-0154 POSTER** Climate Change Detection in the UTLS with the GPS Radio Occultation Record: **A K Steiner**, G Kirchengast, B C Lackner, G C Hegerl, B Pirscher, U Foelsche

0800h **A31D-0155 POSTER** Different characteristics of two wildfires over Indonesia and Africa for October-December 2006: Upper and lower tropospheric CO enhancements from Aura TES and MLS: **Y Choi**, A Eldering, G B Osterman

0800h **A31D-0156 POSTER** Examining transport pathways in the Tropical Tropopause Layer using in situ measurements of H₂O, HDO, O₃, CO, and CO₂: **M R Sargent**, E M Weinstock, J B Smith, T F Hanisco, J St. Clair, J Anderson, S C Wofsy, S Park, B Daube, E Gottlieb, R Jimenez, R Gao, M Loewenstein, J P Lopez, P Bui

0800h **A31D-0157 POSTER** Investigation of stratospheric water vapor enhancements: **J B Smith**

0800h **A31D-0158 POSTER** Lidar and Sunphotometer observations of the Sarychev Volcanic Plume over Canada: **A Saha**, N T O'Neill, M Karumudi, E W Eloranta, G B Lesins, D Daou, K B Strawbridge, T J Duck, B McArthur

0800h **A31D-0159 POSTER** The Tropopause Inversion Layer: New Observations, New Theories: **N Tandon**, W J Randel, L Pan, S Son, L M Polvani

0800h **A31D-0160 POSTER** Importance of convective overshooting troposphere to stratosphere transport in the tropics at the global scale: **J Pommereau**, J Vernier, P Ricaud

0800h **A31D-0161 POSTER** Seasonality of temperature trends in the tropical lower stratosphere and upper troposphere: **M P Free**

0800h **A31D-0162 POSTER** On the use of Equivalent Latitude and Potential Temperature Coordinates in the UTLS Region: **L Pan**, W Hall, J Wei, S Tilmes, D E Kinnison, C R Homeyer, D Stone, J V Pittman, K P Bowman

0800h **A31D-0163 POSTER** Temperature Variability in the Low Stratosphere from AIRS: **A Ruzmaikin**, H H Aumann

0800h **A31D-0164 POSTER** Seasonal Cycles of Hydrocarbons in the Tropical UTLS: **M Park**, W J Randel, L K Emmons, D E Kinnison

0800h **A31D-0165 POSTER** Influence of convective structure and entrainment on transport of CO to the upper troposphere over tropical continents as determined by A-Train Observations: **R Fu**, Y Zhang, L Huang

0800h **A31D-0166 POSTER** Nonlinear modulation of O₃ and CO induced by mountain waves in the UTLS during TREX: **M Moustouli**, A Mahalov, H Teitelbaum, V Grubisic

0800h **A31D-0167 POSTER** Chemical Tracers as an Indicator of Transport in the UT/LS: F L Moore, D F Hurst, **J W Elkins**, J D Nance, G S Dutton, B D Hall

0800h **A31D-0168 POSTER** Statistical Analysis of Double Tropopause Events Utilizing HIRDLS Temperature Data: **T R Phillips**, J C Gille, W J Randel, M Shapiro, L Pan

A31E Moscone South: Poster Hall Wednesday 0800h
Toward a Policy-Relevant, Open, and Transparent Global Greenhouse Gas Monitoring and Information System (GHGIS) I Posters (*joint with B, IN, GC, PA*)

Presiding: D Rotman, LLNL

0800h **A31E-0169 POSTER** The Carbon Budget of California: **C S Potter**

0800h **A31E-0170 POSTER** WRF Simulations of Los Angeles Region Carbon-dioxide Emissions: Comparisons with Column Observations: **M K Dubey**, K R Costigan, P Chylek, D Wunch, P O Wennberg

0800h **A31E-0171 POSTER** Radiocarbon measurements constrain the fossil and biological components of total CO₂: **J B Miller**, S J Lehman, P P Tans,

J C Turnbull

0800h **A31E-0172 POSTER** 2002 Monthly Carbon Dioxide Emissions from Mexico at a 10x10k Spatial Resolution:

D L Mendoza, K R Gurney, S Geethakumar, Y Zhou, N Sahni

0800h **A31E-0173 POSTER** Atmospheric Sulfur Hexafluoride: Measurements and Emission Estimates from 1970 – 2008:

M L Rigby, R G Prinn, J Muhle, B R Miller, E J Dlugokencky, P B Krummel, L P Steele, P J Fraser, M Leist, R F Weiss, C M Harth, S J O'Doherty, B R Grealley, P G Simmonds, N Derek, M K Vollmer, J Kim, K Kim, L W Porter

0800h **A31E-0174 POSTER** Perfluorocarbons in the global atmosphere: a) Measurements of tetrafluoromethane, hexafluoroethane, and octafluoropropane: **J Muhle**, B R Miller, P K Salameh, A L Ganesan, C M Harth, B R Grealley, S J O'Doherty, C M Trudinger, L W Porter, L P Steele, P B Krummel, V V Petrenko, M L Rigby, P G Simmonds, P J Fraser, R G Prinn, R F Weiss

0800h **A31E-0175 POSTER** Perfluorocarbons in the global atmosphere: b) Emission estimates using inversions of atmospheric observations of tetrafluoromethane, hexafluoroethane, and octafluoropropane: **A L Ganesan**, J Muhle, M L Rigby, B R Miller, P K Salameh, C M Harth, B R Grealley, S J O'Doherty, C M Trudinger, L W Porter, P Steele, P B Krummel, V V Petrenko, P G Simmonds, P J Fraser, R G Prinn, R F Weiss

0800h **A31E-0176 POSTER** Initial Report on In Situ Measurements of Major Anthropogenic Halocarbons for Understanding Trends and Usage Patterns in Northeast Asia: **J Kim**, S Li, J Muhle, G Lee, P K Salameh, C M Harth, R F Weiss, K Kim

0800h **A31E-0177 POSTER** Atmospheric Nitrogen Trifluoride: Optimized emission estimates using 2-D and 3-D Chemical Transport Models from 1973-2008: **D J Ivy**, M L Rigby, R G Prinn, J Muhle, R F Weiss

A31F Moscone South: Poster Hall Wednesday 0800h
Wind Power Meteorology Poster I (*joint with PA*)

Presiding: **S Basu**, Texas Tech University; **J R McCaa**, 3TIER;
J K Lundquist, Lawrence Livermore National Laboratory

0800h **A31F-0178 POSTER** Quantifying the Benefits of Combining Offshore Wind and Wave Energy: **E Stoutenburg**, M Z Jacobson

0800h **A31F-0179 POSTER** Probability Distributions for Offshore Wind Speeds: **E C Morgan**, M Lackner, R M Vogel, L G Baise

0800h **A31F-0180 POSTER** Estimating Future Potential for Offshore Wind in Europe using Dynamical Downscaling: **I Barstad**, M D Mesquita

0800h **A31F-0181 POSTER** Method to Reduce the Computational Intensity of Offshore Wind Energy Resource Assessments Using Cokriging: **M J Dvorak**, A Boucher, M Z Jacobson

0800h **A31F-0182 POSTER** Low-impact wind Farms: **S Baidya Roy**, J Traiteur

0800h **A31F-0183 POSTER** On the use of a coupled variably-saturated groundwater flow – land surface model to initialize a fully coupled subsurface – land surface – atmospheric model for wind energy forecasting: **J L Williams**, R M Maxwell, J K Lundquist, S Wharton

0800h **A31F-0184 POSTER** An integrated system for wind energy forecast using meteorological models and statistical post-processing: **P Miranda**, A Rodrigues, J Lopes, J Palma, R Tome, J Sousa, R Bessa, J Matos

0800h **A31F-0185 POSTER** A Climate Model Investigation of Lower-Atmospheric Wind Speed Biases over Wind Farm Development Regions of the Continental United States: **J C Collier**, G J Zhang

0800h **A31F-0186 POSTER** A High Resolution Wind Forecasting System and its Real-Time Application for Wind Plants' Management in Quebec: **W Yu**, A Plante, L Chardon, S Dyck, S Beauregard, N Gauthier, A Glazer, R Benoit, L Tran, F Petrucci, A Forcione, P Dionne, J Choinsard, S Antic, G Roberge

0800h **A31F-0187 POSTER** Observing the Great Plains Low-Level Jet Using the Aircraft Communications Addressing and Reporting System (ACARS): A Comparison with Boundary Layer Profiler Observations: **P S Skinner**, S Basu

0800h **A31F-0188 POSTER** Large-eddy simulation associated with the low level jet under moderate to strong stable conditions: **B Zhou**, F K Chow

0800h **A31F-0189 POSTER** Wind Energy Resource Assessment Using Coupled Groundwater-Land-Surface Atmospheric Models: **C S Woodward**, R M Maxwell, J K Lundquist, J Mirocha, S Smith, A F Tompson

0800h **A31F-0190 POSTER** California's wind energy resource: seasonal, synoptic, and diurnal characteristics, and variability on several time scales: **D K Mansbach**, D R Cayan

0800h **A31F-0191 POSTER** El Niño Stills Winter Winds Across The Southern Canadian Prairies: **S St George**, S Wolfe

0800h **A31F-0192 POSTER** *SimWIND*: A Geospatial Infrastructure Model for Wind Energy Production and Transmission: R S Middleton, **B R Phillips**, J M Bielicki

0800h **A31F-0193 POSTER** Statistical Downscaling of Wind Speeds for California Wind Energy with an Application to 21st Century Climate: **D R Cayan**, D K Mansbach

0800h **A31F-0194 POSTER** Planning a Target Renewable Portfolio using Atmospheric Modeling and Stochastic Optimization: **E Hart**, M Z Jacobson

0800h **A31F-0195 POSTER** A Case Study of Wind Resource Assessment on a High-Rise Building: **S Padrick**, C B Clements, D Seto

0800h **A31F-0196 POSTER** Analysis of winter weather conditions and their potential impact on wind farm operations: **E Novakovskaia**, L A Treinish, A Praino

0800h **A31F-0197 POSTER** On the Integration of Wind and Solar Energy to Provide a Total Energy Supply in the U.S: **E C Liebig**, A Rhoades, M Sloggy, D Mills, C L Archer

0800h **A31F-0198 POSTER** Simulation and Analysis of Wind Turbine Loads for Neutrally Stable Inflow Turbulence: **C Sim**, L Manuel, S Basu

0800h **A31F-0199 POSTER** Evaluation of Sub-Kilometer Dynamical Downscaling Over the Complex Terrain: **K Horvath**, D Koracin, R Vellore, R Belu, T McCord

0800h **A31F-0200 POSTER** Implementation and Evaluation of Dynamic Subfilter Scale Models in WRF for Improved Large-Eddy Simulation over Complex Terrain: **G Kirkil**, J Mirocha

0800h **A31F-0201 POSTER** Nested mesoscale to large-eddy simulations for wind energy applications: **N Marjanovic**, F K Chow, J K Lundquist

0800h **A31F-0202 POSTER** Evaluation of WRF Model Physics in Wind Forecasts over Complex Terrain: **W Y Cheng**, Y Liu, T Warner

A31G Moscone West: 3004 Wednesday 0800h
Composition of the Arctic Atmosphere: Sources, Transport, Chemistry, and Impacts on Clouds and Climate I

Presiding: **G M McFarquhar**, University of Illinois; **S J Ghan**, Pacific Northwest National Laboratory

0800h **A31G-01** Manifestation of Aerosol Indirect Effects in Arctic Clouds: **D Lubin**, A M Vogelmann

0815h **A31G-02** Characterizing the Size and Composition of Cloud Condensation Nuclei (CCN) and Ice Cloud Nuclei (IN) over the North Slope of Alaska (*Invited*): **A Zelenyuk**, D G Imre, P Liu, A Macdonald, R Leaitch

0830h **A31G-03** In-situ observation of Arctic mixed phase clouds during the ISCAD flight campaign. (*Invited*): **A V Korolev**

0845h **A31G-04** Understanding the aerosol-cloud droplet link in the Arctic: A perspective derived from ARCTAS and ARCPAC data: **A Nenes**, T L Latham, R Moore, B Anderson, R Bahreini, C A Brock, A J Beyersdorf, A D Clarke, J Cozic, M Cubison, A Hecobian, S Howell, J L Jimenez, C S McNaughton, A M Middlebrook, K L Thornhill, R Weber, E L Winstead

0900h **A31G-05** A Study of Dust and Haze Aerosol Interactions with Arctic Ice Clouds during ARCTAS using In Situ and Remote Measurements: **LD Ziemba**, A H Omar, A J Beyersdorf, S P Burton, J E Dibb, R A Ferrare, J L Jimenez, M Cubison, J W Hair, K L Thornhill, E L Winstead, B Anderson

0915h **A31G-06** CCN as a Modulator of Ice Processes in Arctic Mixed-Phase Clouds: **S Lance**, M Shupe, G Feingold, C A Brock, J Holloway, R Moore, A Nenes, K D Froyd, J Cozic, T B Ryerson, J W Peischl

0930h **A31G-07** Challenges in remote sensing of CCN concentration: a comprehensive assessment with airborne measurements of AOD, CCN, chemical composition, size distribution, light scattering/absorption and humidity response in North America: **Y Shinozuka**, J Redemann, P B Russell, J M Livingston, A D Clarke, S G Howell, C S McNaughton, V N Kapustin, S Freitag, T L Latham, A Nenes

0945h **A31G-08** Ice Nucleation in Mixed-Phase Clouds: Parameterization Evaluation and Climate Impacts: **X Liu**, S J Ghan, S Xie, J S Boyle, S A Klein, P J DeMott, A J Prenni

A31H Moscone West: 3002 Wednesday 0800h
Downscaling of Weather and Climate II (*joint with GC, H*)

Presiding: **R W Arritt**, Iowa State University; **R W Arritt**, Iowa State University; **L Leung**, Pacific Northwest National Laboratory

0800h **A31H-01** Reconstruction of regional climate and climate change in past decades: **H von Storch**, F Feser, R Weisse, M Zahn

0815h **A31H-02** Analysis of the Arctic heat and moisture budgets in WRF: a comparison with reanalyses and satellite observations: **D Porter**, J J Cassano, M C Serreze

0830h **A31H-03** Climate-Soil-Vegetation Control on Groundwater Table Dynamics and its Feedbacks in a Climate Model: **L Leung**, M Huang, Y Qian, X Liang

0845h **A31H-04** Effects of Land Cover Changes on the Climate of the La Plata Basin in South America: S Lee, **E H Berbery**

0900h **A31H-05** Regional Assessment of the impact of vegetation feedback on climate prediction in West Africa and the Mediterranean: **C A Alo**, E N Anagnostou, G Wang

0915h **A31H-06** Downscaling tropical cyclone activity using regional models: Impact of air-sea coupling on the frequency and intensity of Atlantic hurricanes Authors: Jen-shan Hsieh, Mingkui Li, R. Saravanan, and Ping Chang Texas A & M University, College Station, TX: **J Hsieh**, M Li, R Saravanan, P Chang

0930h **A31H-07** Downscaling tropical Atlantic response to global warming using a regional coupled ocean-atmosphere model: **H Seo**, S Xie

0945h **A31H-08** Regional Earth System Prediction for the Chesapeake Bay: **R G Murtugudde**

A31I Moscone West: 3006 Wednesday 0800h
Evaluating Particulate Matter Air Quality With Surface and Spaceborne Measurements (*joint with GC, IN*)

Presiding: **P Gupta**, UAHuntsville; **J D Fast**, Pacific Northwest National Laboratory

0800h **A31I-08** Overview Of The Development And Evaluation Of The NCEP Global Aerosol Modeling System: Particulates From Biomass Burning: **H Huang**, S Lu, Y Tang, D Kim, M Tsidulko, C Tassone, J Huang, J McQueen, B Lapenta, G DiMego, S Lord, A Da Silva, M Chin, T L Diehl

0815h **A31I-02** Improve MISR's Capability of Predicting Ground Level PM_{2.5} Concentrations with Observed Aerosol Vertical Profiles (*Invited*): **Y Liu**, Z Wang

0830h **A31I-03** Use of meteorological data to improve PM_{2.5} and AOD relationships in a western US valley: **M C Green**, J G Watson, J C Chow

0845h **A31I-04** Inferring the composition and concentration of aerosols by combining the AERONET, MPLNET and CALIOP data: comparison with in-situ measurements and utilization to evaluate and improve GCM results: **D Ganguly**, P A Ginoux, V Ramaswamy

0900h **A31I-05** Experiments with data assimilation in comprehensive air quality models: Impacts on model predictions and observation requirements (*Invited*): **R Mathur**

0915h **A31I-06** Modeling evolution of aerosol mixing state and the associated optical and CCN activation properties (*Invited*): **RA Zaveri**, R C Easter, J Barnard, N S Riemer, M West, A P Ault, K A Prather

0930h **A31I-07** The Aerosol Modeling Testbed: A Tool to Facilitate Improved Aerosol Process Modules: **J D Fast**, W I Gustafson, E G Chapman, R C Easter, J Rishel

0945h **A31I-01** Satellite Remote Sensing of Particulate Matter Air Quality: Progress, Potential and Pitfalls (*Invited*): **S A Christopher**

Atmospheric and Space Electricity

AE31A Moscone West: 3008 Wednesday 0800h
Runaway Electrons and Energetic Radiation in Terrestrial and Planetary Atmospheres I (*joint with A, SA*)

Presiding: **K Eack**, New Mexico Tech; **S A Cummer**; **J R Dwyer**, Florida Inst of Technology

0800h **AE31A-01** Relativistic Runaway Electron Avalanches Inside Thunderclouds: **L P Babich**, I N Donskoi, I M Kutsyk

0820h **AE31A-02** Observation of Terrestrial Gamma-Ray Flashes with AGILE: **M Marisaldi**

0840h **AE31A-03** A Catalog of Terrestrial Gamma-ray Flashes Observed with the Fermi-Gamma-ray Burst Monitor: The First Sixteen Months of Operation: **G J Fishman**, M S Briggs, V Connaughton, N Bhat

0855h **AE31A-04** Fermi GBM Observations of TGFs (*Invited*): **M S Briggs**, G J Fishman, V Connaughton, N Bhat, W S Paciesas, C Wilson-Hodge, R Preece, M Kippen, A von Kienlin, J R Dwyer, D M Smith

0910h **AE31A-05** First results from the Airborne Detector for Energetic Lightning Emissions (ADELE) (*Invited*): **D M Smith**, J R Dwyer, B Grefenstette, B J Hazelton, F Martinez-McKinney, Z Zhang, A Lowell, N A Kelley, M E Splitt, S M Lazarus, W Ulrich, H Rassoul, M Schaal, Z H Saleh, E Cramer, X Shao, C Ho, S A Cummer, G Lu, R Blakeslee

0930h **AE31A-06** 3D Hybrid simulation of runaway electrons from streamers discharges in air: **C Li**, U Ebert, W Hundsdorfer

0945h **AE31A-07** Discovery of the thunderstorm correlated fluxes of electrons, gammas and neutrons observed at mountain altitudes: **A Chilingarian**

Biogeosciences

B31A Moscone South: Poster Hall Wednesday 0800h
Remote Characterization of Vegetation Structure: Including Research to Inform the Planned NASA DESDynI and European Space Agency BIOMASS Missions III Posters (*joint with C, ED, GC, NH, H*)

Presiding: **A M Smith**, University of Idaho; **R Dubayah**, University of Maryland; **S S Saatchi**, CALTECH; **M J Falkowski**

0800h **B31A-0312 POSTER** Estimating Forest Species Composition Using a Multi-Sensor Approach: **P T Wolter**

0800h **B31A-0313 POSTER** Spatial radiation environment in a heterogeneous oak woodland using a three-dimensional radiative transfer model and multiple constraints from observations: **H Kobayashi**, Y Ryu, S Ustin, D D Baldocchi

0800h **B31A-0314 POSTER** Comparative Influence of Terrain Slope and Canopy Closure on Lidar DEM Accuracy: **W Tinkham**, A M Smith, A T Hudak, P Gessler, M Swanson

0800h **B31A-0315 POSTER** Biomass Accumulation Rates of Amazonian Secondary Forest and Biomass of Old-Growth Forests from Landsat Time Series and GLAS: E Helmer, **M A Lefsky**, D Roberts

0800h **B31A-0316 POSTER** Flash Lidar Data Processing: **M D Bergkoetter**, L Ruppert, C S Weimer, T Ramond, M A Lefsky, I C Burke, Y Hu

0800h **B31A-0317 POSTER** Above-ground Forest Biomass Estimation by ALOS/PALSAR over Boreal Forest in Alaska Accompanied with Ground-based Forest Survey: **R Suzuki**, Y Kim, R Ishii, J Nicoll

0800h **B31A-0318 POSTER** Accuracy of DESDynI Biomass Estimates using Lidar and Data Fusion Methods: **B D Cook**, G Sun, K J Ranson, P M Montesano, S B Luthcke, J B Blair

0800h **B31A-0319 POSTER** On the correct estimation of effective leaf area index: does it reveal information on clumping effects?: D D Baldocchi, **Y Ryu**, T Nilson, H Kobayashi, O Sonnentag

0800h **B31A-0320 POSTER** LiDAR canopy height and shape measurements in a sagebrush-steppe ecosystem: **J Mitchell**, N F Glenn

0800h **B31A-0321 POSTER** Estimation of Tropical Forest Structure Using the Full Waveform Lidar from ICESat: **M W Palace**, S Hagen, B H Braswell, M O Hunter, M Ducey

0800h **B31A-0322 POSTER** Retrieving Biome Types from Multi-angle Spectral Data: **M A Schull**, L Xu, P Latorre, A Samanta, R B Myneni, Y Knyazikhin

0800h **B31A-0323 POSTER** Biometric Properties Estimated from High Resolution Imagery in the Amazon and the Cerrado Regions: S Hagen, **M W Palace**, B H Braswell, M Bustamante, L Ferreira

0800h **B31A-0324 POSTER** On the characteristics of Terra and Aqua MODIS LAI subsets at six FLUXNET sites: **J E Horn**, R Guggenmos, K Schulz

0800h **B31A-0325 POSTER** Development of an Integrated Hyperspectral Imager and 3D-Flash Lidar for Terrestrial Characterization: **L Abelson**, A L Swanson, S Sandor-Leahy, J Shepanski, C Wong, M Helmlinger, M Folkman

0800h **B31A-0326 POSTER** The Impact of Spatial Resolution on Classification Accuracy of Hyperspatial Imagery: **V C Vanderbilt**, J A Greenberg

0800h **B31A-0327 POSTER** Determining change in vegetation structure using small-footprint, waveform-resolving lidar: **A Nayegandhi**, M Palaseanu-Lovejoy, J C Brock, R Woodman

0800h **B31A-0328 POSTER** Modeling Avian Richness Patterns with Texture Measures of Remotely Sensed Imagery: **P Culbert**, V St-Louis, A Pidgeon, V Radeloff

0800h **B31A-0329 POSTER** Forest Volume and Biomass estimation from SAR/LIDAR/Optical Fusion in Chile: **J M Kellndorfer**, W S Walker, S J Goetz, T Cormier, K Kirsch, S Gonzalez, M Rombach

0800h **B31A-0330 POSTER** Lidar modeling with the 3D DART model: **J Rubio**, E Grau, G Sun, J Gastellu Etchgorry, K J Ranson

0800h **B31A-0331 POSTER** Assessing the use of Geoscience Laser Altimeter System data to quantify forest structure change resultant from large-scale forest disturbance events- Case Study Hurricane Katrina: **K A Dolan**, G C Hurtt, J Q Chambers, R Dubayah, S E Frolking, J Masek

0800h **B31A-0332 POSTER** Alternate spatial sampling approaches for ecosystem structure inventory using spaceborne lidar: **M A Lefsky**, T Ramond, C S Weimer

B31B Moscone South: Poster Hall Wednesday 0800h Remote Sensing of Vegetation Processes I Posters (joint with GC, H, A)

Presiding: **E Middleton**, NASA/Goddard Space Flight Center; **M Drusch**, ESA ESTEC

0800h **B31B-0333 POSTER** Temporal Dynamics for Spectral Bio-Indicators and Photosynthetic Activities in a Cornfield: **E Middleton**, Y Cheng, L Corp, K F Huemmrich, P K Campbell, Q Zhang, W P Kustas, A Russ

0800h **B31B-0334 POSTER** Estimating the Effects of Mountain Pine Beetle Outbreaks on Biophysical and Biogeochemical Variables Using MODIS Products: **A J Meddens**, J A Hicke

0800h **B31B-0335 POSTER** Amazon forests did not green up during the 2005 drought: **A Samanta**, S Ganguly, H Hashimoto, S Devadiga, E F Vermote, Y Knyazikhin, R R Nemani, R B Myneni

0800h **B31B-0336 POSTER** Spatial and temporal variability of canopy GPP within a flux tower footprint: **S R Garrity**, L A Vierling

0800h **B31B-0337 POSTER** Applying new methodologies for quantifying total vegetation cover in arid regions using MODIS data: **C Shreve**, G S Okin

0800h **B31B-0338 POSTER** Validating the Leaf-Canopy Radiative Transfer Model Using Field Data and Satellite Measurements: R D Morris, A Kottas, **R Furfaro**, M Farah, B Ganapol

0800h **B31B-0339 POSTER** Changes in Northern Hemisphere vegetation and carbon dioxide seasons: **G Choi**, D A Robinson, S Kang

0800h **B31B-0340 POSTER** Crop Water Stress Detection Using Visible Spectrum Reflectance: **A I Zyguelbaum**, A A Gitelson, T J Arkebauer, D C Rundquist

0800h **B31B-0341 WITHDRAWN**

0800h **B31B-0342 POSTER** Prediction of Foliar Nitrogen to Phosphorus Ratio Using Remote Sensing: **K Gokkaya**, V A Thomas, T Noland, R H Wynne, J H McCaughey, I Morrison, P M Treitz

0800h **B31B-0343 POSTER** Three Dimensional Remote Sensing of Vegetation in Human Landscapes Using Computer Vision Technologies: **J Dandois**, E C Ellis

0800h **B31B-0344 POSTER** Mapping vegetation Leaf Area Index globally at 30m using Landsat/Global Land Survey data: **R R Nemani**, S Ganguly, J L Dungan, F Gao, F S Melton, C Milesi, W Wang, P Votava, A Michaelis, R B Myneni

0800h **B31B-0345 POSTER** Remote sensing of the environmental boundaries of trees in Lake Tahoe, NV: **J A Greenberg**, M J Santos, S Dobrowski, V C Vanderbilt, S Ustin

0800h **B31B-0346 POSTER** MODIS EVI as a Proxy For Net Primary Production Across Precipitation Regimes: **C J Bresloff**, S M Moran, A R Huete, T E Huxman, D D Bosch, J Bradford, A R Buda, S A Gunter, H McNab, M McClaran, D P Peters, J Sadler, M S Seyfried, D Sutherland Montoya

0800h **B31B-0347 POSTER** Foliar anthocyanin content - Sensitivity of vegetation indices using green reflectance: **A Vina**, A A Gitelson

0800h **B31B-0348 POSTER** EO-1 Prototyping for Environmental Applications: P K Campbell, **E Middleton**, S Ungar, Q Zhang, L Ong, K F Huemmrich

0800h **B31B-0349 POSTER** Integration of near-surface remote sensing and eddy covariance measurements: new insights on managed ecosystem structure and functioning: **J Hatala**, O Sonnentag, M Detto, B Runkle, R Vargas, M Kelly, D D Baldocchi

0800h **B31B-0350 POSTER** Field test to the use of vegetation indices for phenology detection: **S Nagai**, K Nishida, H Muraoka, T Akiyama, S Tsuchida

0800h **B31B-0351 POSTER** Impact of Orbital Drift on Long-Term AVHRR NDVI Time-Series Data: **J R Nagol**, E F Vermote, S D Prince

0800h **B31B-0352 POSTER** Topographically mediated controls on aboveground biomass across a mediterranean-type landscape: **K Dahlin**, G P Asner, C B Field

0800h **B31B-0353 POSTER** Vegetation cover mapping at multiple scales using MODIS, Landsat, RapidEye, and Aircraft imageries in the Texas High Plains: **N Rajan**, P H Gowda, S J Maas, S Basu, S S Nair

0800h **B31B-0354 POSTER** Mapping the circumpolar taiga-tundra transition zone with MODIS tree cover: **P M Montesano**, J Ranson, R Nelson

0800h **B31B-0355 POSTER** Airborne remote sensing of photosynthetic light use efficiency and carbon uptake along an Arctic transect in Finland: **J Atherton**, T C Hill, A Prieto-Blanco, T Wade, R Clement, J Moncrieff, M D Williams, M Disney, C J Nichol

0800h **B31B-0356 POSTER** Monitoring Mediterranean Annual Grassland Response to the Changing Soil Moisture Using Digital Webcam Images: **S Liu**, O Chadwick, D Roberts, C J Still

0800h **B31B-0357 POSTER** Monitoring Carbon Assimilation of South American Tropical Forests: **M H Costa**, E L Nunes

0800h **B31B-0358 POSTER** A high accuracy integrated six category global land-cover map: **T Kinoshita**, H Bagan, Y Yamagata

B31C Moscone West: 3016 Wednesday 0800h
Urban Areas and Global Change I (*joint with PA, A, GC*)

Presiding: **K A Hibbard**, NCAR; **G Churkina**, Leibniz Centre for Agricultural Landscape Research

0805h **B31C-01** A new map of global urban extent from MODIS 500m data (*Invited*): **A Schneider**, M A Friedl, D Potere

0825h **B31C-02** Detecting Changes of Thermal Environment over the Bohai Coastal Region by Spectral Change Vector Analysis: **Y Hu**, G Jia

0840h **B31C-03** Use of Remote Sensing Data in Assessing the Effects of Urbanization on Local Climate in the UAE: **N Z Saleous**

0850h **B31C-04** Vegetation Productivity Consequences of Sprawl in the Eastern United States: **T Zhao**, D G Brown, H Fang, T Liu, T Zhang

0905h **B31C-05** Envisioning a metropolitan foodshed: potential environmental consequences of increasing food-crop production around Chicago: **E E Bowen**, P A Martin, T J Schuble

0920h **B31C-06** The IAUC Urban Flux Network – An international network of micrometeorological flux towers in urban ecosystems: **A Christen**, S Grimmond, M Roth, E Pardyjak

0935h **B31C-07** Estimates of Biogenic Greenhouse Gas Flux Components in the Denver Urban Ecosystem: **D E Anderson**, K Powell, R Kroodsma, A Griebel, L Nelson, E Stieve, S Norris

0950h **B31C-08** Fluxes of Submicron Organic Aerosol above London Measured by Eddy Covariance using the Aerodyne HR-ToF-AMS: **G J Phillips**, C F Di Marco, D Farmer, J R Kimmel, J L Jimenez, **E Nemitz**

B31D Moscone West: 3018 Wednesday 0800h
Use of Optical Properties Measurements for Understanding Environmental Processes I (*joint with H*)

Presiding: **N Mladenov**, University of Colorado; **B A Bergamaschi**, USGS

0800h **B31D-01** Relationships between Molecular Composition and Optical Properties of Dissolved Organic Matter: **W T Cooper**, M Tfaily, D Osborne, A Paul, D C Podgorski, J Corbett, J Chanton

0815h **B31D-02** Investigating Soil Organic Matter Processes Using PARAFAC Spectral Decomposition of Multidimensional Fluorescence Spectra (*Invited*): **T Ohno**, A Amirbahman

0835h **B31D-03** Using Fluorescence Spectroscopy to Trace Seasonal DOM Dynamics, Hurricane Effects, and Hydrologic Transport in the Everglades: **L G Larsen**, G Aiken

0850h **B31D-04** The Effect of Temperature on the Fluorescence of DOM: **D M Reynolds**, A Baker, E Carstea

0905h **B31D-05** Seeing the light: Applications of in situ optical measurements for understanding DOM dynamics in river systems (*Invited*): **B A Pellerin**, B A Bergamaschi, B D Downing, J Saraceno, J Fleck, J B Shanley, G Aiken, E Boss, R Fujii

0925h **B31D-06** Optical Measurements Reveal Interplay Between Surface and Bottom Processes Involving Phytoplankton, Organic Carbon, Iron, Light, and Oxygen in Two Stratified Mesotrophic Lakes: **B R Hargreaves**, A Vaidya, K A Wiles

0940h **B31D-07** Insitu measurements of laser-induced-fluorescence spectra of single atmospheric organic carbon aerosol particles for their partial classification. (*Invited*): **R G Pinnick**, Y Pan, S Hill, J M Rosen, R K Chang

Cryosphere

C31A Moscone South: Poster Hall Wednesday 0800h
Cryospheric Climate Data Records I Posters (*joint with IN*)

Presiding: **D K Hall**, NASA - GSFC; **M R Anderson**, University of Nebraska

0800h **C31A-0430 POSTER** Planned Additions to The U.S. Department of Energy's Atmospheric Radiation Measurement Climate Research Facilities on the North Slope of Alaska: **M Ivey**, J Verlinde, J E Cherry, M Stuefer

0800h **C31A-0431 POSTER** Mapping and measuring seasonal snow cover and snow mass in the South America from 1979-2006 using SMMR and SSM/I passive microwave data: **J Foster**, D K Hall

0800h **C31A-0432 POSTER** Using GIS as a Visualization Tool for Arctic Cryospheric Climate Records: **A Bliss**, M R Anderson

0800h **C31A-0433 POSTER** The new 'Programme for Monitoring of the Greenland Ice Sheet' data base: **S B Andersen**, A Ahlström, D van As, M Citterio, S Nielsen, C T Thomsen

0800h **C31A-0434 POSTER** The Contributions of Local Knowledge to Cryospheric Climate Data Records: C Jurt, **B S Orlove**, K Dunbar, J Brugger

0800h **C31A-0435 POSTER** Help, I don't know which sea ice algorithm to use?: Developing an authoritative sea ice climate data record: **W Meier**, J Stroeve, R E Duerr, F M Fetterer

0800h **C31A-0436 POSTER** The Antarctic long-term climatic components observation: **G Autret**

C31B Moscone South: Poster Hall Wednesday 0800h
Innovations in Modeling of the Seasonal Snowpack and Interactions Between Vegetation and Snow II Posters (*joint with H*)

Presiding: **M Kumar**, Pennstate University; **M L Reba**, USDA-ARS-NWRC; **T E Link**, University of Idaho

0800h **C31B-0437 POSTER** Representing Grass- and Shrub-Snow-Atmosphere Interactions in Climate System Models: **G E Liston**, C A Hiemstra

0800h **C31B-0438 POSTER** Ground Penetrating Radar Study of the Active Layer and Near Surface Conditions in the Arctic: **G F Gacitua**, M P Tamstorf, N T Knudsen

0800h **C31B-0439 POSTER** Forest influence on peak snow accumulation and snowmelt in a mixed northern hardwood-conifer forest of the northeastern U.S: **C A Penn**, B C Wemple, J L Campbell

0800h **C31B-0440 POSTER** Time Series Analysis of the Normalized Difference Vegetation Index (NDVI) and Snow Water Equivalent (SWE) in the Sierra Nevada Mountains in California: **E Trujillo**, N P Molotch

0800h **C31B-0441 POSTER** Using lidar to estimate snowpack formation under mixed-species forests in northern Wisconsin: **J D Muss**, D J Mladenoff

0800h **C31B-0442 POSTER** Modeling of Snow Packs at Urban and Suburban Sites, based on the EPiCC Montreal Field Experiment: **Y Chung**, S Belair, J Mailhot, S Leroyer

0800h **C31B-0443 POSTER** Dry Snow Temperature Gradient Metamorphism: Is Our Picture Correct?: **M Schneebeli**, B R Pinzer, T U Kaempfer

0800h **C31B-0444 POSTER** Impacts of a Multiscale-based Snow Data Assimilation Framework on Streamflow Simulations: **S Jeong**, X Liang, J A Dracup

0800h **C31B-0445 POSTER** Capturing Wind Speed and Snow Accumulation Gradients across Complex Terrain: **A H Winstral**, D G Marks, R J Gurney

0800h **C31B-0446 POSTER** Improving the Snow Processes in the NCEP Noah Land Model: **Z Wang**, X Zeng, M R Decker

0800h **C31B-0447 POSTER** Calculating snowmelt backwards – using the date of snowpack disappearance to determine how much snow fell over a season: **M S Raleigh**, J D Lundquist

0800h **C31B-0448 POSTER** Effect of vegetation on the accumulation and melting of snow: **V Mahat**, D G Tarboton

0800h **C31B-0449 POSTER** Quantifying All-wave Radiation in Discontinuous Canopies with Application to Snowmelt Prediction: **R Lawler**, T E Link

C31C Moscone South: Poster Hall Wednesday 0800h Remote Sensing and Modeling of Snow and Glacial Processes II Posters

Presiding: **H Marshall**, Boise State University; **N P Molotch**, University of Colorado at Boulder

0800h **C31C-0450 POSTER** MODIS snow albedo bias at high solar zenith angle relative to theory and to in situ observations in Greenland: **X Wang**, C S Zender

0800h **C31C-0451 POSTER** The Development of a Snowfall Rate Algorithm Using Satellite Passive Microwave Data: **H Meng**, B Yan, R R Ferraro

0800h **C31C-0452 POSTER** A continuous history and projection of the mass balance of western North America's alpine glaciers: 1900-2100: **F S Anslow**, V Radic, A Jarosch, C Reuten, G K Clarke

0800h **C31C-0453 POSTER** Transferability of distributed glacier-surface energy-balance models within a small subarctic mountain range: **A H MacDougall**, G E Flowers

0800h **C31C-0454 POSTER** The recent glacier changes in Mongolian Altai Mountains: **H Yabuki**, T Ohata

0800h **C31C-0455 POSTER** Hydrological Sensitivity of the Upper Indus River to Glacier Changes in the Karakoram Himalaya Region: **B S Naz**, L C Bowling, N S Diffenbaugh, P Owens, M Ashfaq, S Shafiq-ur-Rehman

0800h **C31C-0456 WITHDRAWN**

0800h **C31C-0457 POSTER** An enhanced distributed temperature-index melt model including radiosonde data and solar radiation: **J Hulth**, R M Hock, C Rolstad

0800h **C31C-0458 POSTER** Three-dimensional visualization of the Jakobshavn Isbrae catchment region: **A M Hoch**, J A Velez-Gonzalez, A Nardone, L A Stearns, G P Tsoflias

0800h **C31C-0459 POSTER** Modelling Glacier Surface Temperature Using Weather Station Data and Historical Climate Reconstructions: **N Schaffer**, S J Marshall

C31D Moscone South: Poster Hall Wednesday 0800h Spatial Variability in Snow: Measuring, Modeling, and Remote Sensing II Posters (joint with H, G)

Presiding: **H Marshall**, Boise State University; **J S Deems**, National Snow and Ice Data Center

0800h **C31D-0460 POSTER** Accumulation Rate Variability along Norway-US Traverse Route, East Antarctica: **M L Hall**, G S Hamilton, S A Arcone

0800h **C31D-0461 POSTER** Sources of snow cover variability in complex terrain: **B Anderson**, J P McNamara, H Marshall

0800h **C31D-0462 POSTER** Improving Spatial Estimates of Snow Water Equivalent in the Sierra Nevada for streamflow modeling: **K E Rittger**, C Tague, N P Molotch, J Dozier

0800h **C31D-0463 POSTER** Three-dimensional quantification of meltwater flow through a snowpack using a snow guillotine: **J L Petzelka**, T A Erickson, M W Williams

0800h **C31D-0464 POSTER** Snowpack heterogeneity in the Sierra Nevada derived from MODIS satellite imagery: **A Kahl**, C Tague, J Dozier

0800h **C31D-0465 POSTER** A tool for rapid snow depth, stratigraphy, and SWE measurements: portable microwave radar: **H Marshall**, G Koh, M Sturm

0800h **C31D-0466 POSTER** Utilizing the Niwot Rige longterm ecological research site surface data to verify remotely sensed snow parameters over complex terrain: **H M McIntyre**

0800h **C31D-0467 POSTER** 1998-2008: Interannual variability of snow coverage in the Mediterranean basin: **P Maisongrande**, A Lobo, B Duchemin, G Boulet

0800h **C31D-0468 POSTER** Estimating snow volume in mountain catchments using Aerial LiDAR: **A T Shallcross**, J P McNamara, H Marshall, D G Marks, T E Link, A H Winstral

C31E Moscone South: Poster Hall Wednesday 0800h Studies of Processes in Polar Snow and Firn I Posters

Presiding: **T Neumann**, NASA Goddard Space Flight Ctr.; **L Koenig**, NASA Goddard Space Flight Center

0800h **C31E-0469 POSTER** Variability of Albedo Using an Unmanned Aerial Vehicle (VAUAV): **J F Burkhart**, C A Pedersen, W Bogren, S Gerland, R Storvald, J Kohler, A A Kokhanovsky, J Ström

0800h **C31E-0470 POSTER** The variation of polar firn subject to percolation - characterizing processes and glacier mass budget uncertainty using high-resolution instruments: **M N Demuth**, **H Marshall**, E M Morris, D O Burgess, L Gray

0800h **C31E-0471 POSTER** Lattice Boltzmann modeling of air flow through firn from a Megadunes area of East Antarctica: **Z Courville**, M A Hopkins, M Horhold, M R Albert

0800h **C31E-0472 POSTER** Seasonal variations of nitrogen oxides in snowpack air at Summit, Greenland: **C Toro**, R E Honrath, L J Kramer, D Helmig, B A Van Dam, B Seok, H Jacques, L Ganzeveld, P V Doskey

0800h **C31E-0473 POSTER** Photochemical Formation and Recycling of Hydrogen Peroxide on Snow in the Presence of Organic Compounds: **T Hullar**, C Anastasio

0800h **C31E-0474 POSTER** Photochemical Production and Export of NO_x from the Antarctic High Plateau via the Transantarctic Mountains and Glacial Valleys: **W D Neff**, M Seefeldt, M P Buhr, F L Eisele, J H Crawford, D D Davis

0800h **C31E-0475 POSTER** Measurements of near surface ozone at Summit, Greenland, using an automated moving inlet system: **B A Van Dam**, D Helmig, R E Honrath, J Hueber, B Seok, L J Kramer, C Toro, L Ganzeveld

0800h **C31E-0476 POSTER** Transient Firn Compaction Model and Delta Age: **J Lundin**, E D Waddington, H Conway, E Brook

0800h **C31E-0477 POSTER** Measurement and Modeling of Firn Den-sification in the Percolation Zone of the Greenland Ice Sheet: **D West**, J T Harper, N F Humphrey, W T Pfeffer

C31F Moscone West: 3014 Wednesday 0800h
Ice Shelves, Ice Tongues, and Coupling With Ocean and Ice Sheets II (*joint with OS*)

Presiding: **L Padman**, Earth & Space Research; **A Shepherd**, University of Leeds; **K M Brunt**, Scripps Institution of Oceanography

0800h **C31F-01** Continued rapid glacier recession following the 1995 collapse of the Prince Gustav Ice Shelf on the Antarctic Peninsula (*Invited*): **N F Glasser**, T A Scambos

0815h **C31F-02** Data assimilation of rheology on ice shelves in the Antarctic peninsula, using a new finite element formulation of rifting and faulting processes: **E Y Larour**, E J Rignot

0830h **C31F-03** Bathymetry and ocean properties beneath Pine Island Glacier revealed by Autosub3 and implications for recent ice stream evolution (*Invited*): **A Jenkins**, P Dutrieux, S Mcphail, J Perrett, A Webb, D White, S S Jacobs

0845h **C31F-04** Next Century Sea Level Contribution Of Antarctica In A Worst Case Scenario Of Ice-marginal Changes: **C Ritz**, G Durand

0900h **C31F-05** Response of the Antarctic Ice Sheet to increased ice-shelf oceanic melting: **D Pollard**, R DeConato

0915h **C31F-06** Submarine Melting of the 1985 Jakobshavn Isbrae Floating Tongue and the Triggering of the Current Retreat: **R J Motyka**, M Truffer, M A Fahnestock, M Lüthi

0930h **C31F-07** Role of ice-ocean interaction on glacier instability: Results from numerical modeling applied to Petermann Glacier (*Invited*): **F Nick**, A Hubbard, A Vieli, C J Van der Veen, J E Box, R Bates, A J Luckman

0945h **C31F-08** The effects of coastal ocean warming and increased supra-glacial run-off on the submarine melt rate of Kangerdlugssuaq Gletscher, East Greenland: **A Sole**, A J Payne, P W Nienow, J L Bamber

Education and Human Resources

ED31A Moscone South: Poster Hall Wednesday 0800h
Developing Sustainable Education and Outreach Programs and Projects: Lessons Learned I Posters

Presiding: **D M Dalbotten**, University of Minnesota

0800h **ED31A-0521 POSTER** Analyzing the Watershed Dynamics project as an example of successful science and education partnerships: **C K Buzby**, K Jona

0800h **ED31A-0522 POSTER** Toward an Online Community of Educators: The Modular Curriculum for Hydrologic Advancement (MOCHA): **C Kelleher**, T Wagener, M N Gooseff, S Gregg, B L McGlynn, P Sharma, T Meixner, L A Marshall, K J McGuire, M Weiler

0800h **ED31A-0523 POSTER** Life Beyond NCED—Sustainability and gidakiimanaaniwigamig (Our Earth Lodge): **H Pellerin**, D M Dalbotten, L Greensky, A Burger, E Ito, A Myrbo

0800h **ED31A-0524 POSTER** The DataTools Professional Development Program: Sustainability via a University Partnership: **N Haddad**, T S Ledley, C A McAuliffe, D Reider

0800h **ED31A-0525 POSTER** Leveraging community support for Education and Outreach: The IRIS E&O Program: **J Taber**, M Hubenthal, M E Wyssession

0800h **ED31A-0526 POSTER** ArctiQuest: A Case Study in Sustainability for Education & Public Outreach Projects: **R Shope**

0800h **ED31A-0527 POSTER** Science Education and Public Outreach Forums (SEPOF): Providing Coordination and Support for NASA's Science Mission Directorate Education and Outreach Programs: **B J Mendez**, D Smith, S S Shipp, T G Schwerin, S A Stockman, L P Cooper, L M Peticolas

0800h **ED31A-0528 POSTER** Upward Bound: An Untapped Fountain Of Youth Wanting To Learn About Math And Science: **J J Gillis-Davis**, S B Sherman, L C Gillis-Davis, K L Svelling

0800h **ED31A-0529 POSTER** Are Exemplary Education Projects Sustained or Overruled? Lessons from the TLRBSE and Hands-On Optics Projects: **S M Pompea**

ED31B Moscone South: Poster Hall Wednesday 0800h
Improved Broader Impacts = Enhanced Scientific Impacts I Posters (*joint with PA*)

Presiding: **L A Hotaling**, Beacon Institute

0800h **ED31B-0530 POSTER** What K-12 Teachers of Earth Science Need from the Earth Science Research Community: Science Teaching and Professional Learning in the Earth Sciences (STAPLES), a Minnesota Case Study: **K M Campbell**, K S Pound, K Rosok, J Baumtrog

0800h **ED31B-0531 POSTER** Earthquake Education and Public Information Centers: A Collaboration Between the Earthquake Country Alliance and Free-Choice Learning Institutions in California: **R M DeGroot**, K Springer, C J Brooks, L Schuman, D Dalton, M L Benthien

0800h **ED31B-0532 POSTER** The Great California ShakeOut: Science-Based Preparedness Advocacy: **M L Benthien**

0800h **ED31B-0533 POSTER** Online Video-Based Training in the Use of Hydrologic Models: A Case Example Using SWAT: **J Frankenberger**

0800h **ED31B-0534 POSTER** Ocean FEST (Families Exploring Science Together): **B C Bruno**, C S Wiener

0800h **ED31B-0535 POSTER** Improving Broader Impacts through Researcher-Educator Partnerships: **K Timm**, J Warburton, A M Larson

0800h **ED31B-0536 POSTER** Involving Scientists in Education and Public Outreach: **L M Peticolas**

0800h **ED31B-0537 POSTER** The National Centers for Ocean Sciences Education Excellence Network: Building Bridges Between Ocean Scientists and Science Education: **G Scowcroft**, L A Hotaling

ED31C Moscone West: 3020 Wednesday 0800h
Education and Communication for Climate Literacy and Energy Awareness I (*joint with PA, GC*)

Presiding: **S M Buhr**, University of Colorado; **S Van Gundy**

0800h **ED31C-01** A National Road Map to a Climate Literate Society: Advancing Climate Literacy by Coordinating Federal Climate Change Educational Programs (*Invited*): **F Niepold**, J L Karsten

0815h **ED31C-02** Global Warming's Six Americas: An Audience Segmentation Analysis (*Invited*): **C Roser-Renouf**, E Maibach, A Leiserowitz

0830h **ED31C-03** Creationism & Climate Change (*Invited*):

S Newton

0845h **ED31C-04** A Second Chance: What can informal science learning institutions uniquely contribute to public inquiry about climate change? (*Invited*): **D Bartels**

0900h **ED31C-05** AMS Climate Studies: Improving climate literacy through undergraduate education: **J A Brey**, I W Geer, J M Moran, R S Weinbeck, E W Mills, B A Blair, E J Hopkins, T P Kiley Jr., E E Ruwe

0915h **ED31C-06** Translating Scientific Conclusions about Risk for Public Audiences: **T E Bowman**

0930h **ED31C-07** Global Climate Change for Kids: Making Difficult Ideas Accessible and Exciting: **D K Fisher**, N Leon, M P Greene

0945h **ED31C-08** Climate Literacy and Energy Awareness Network (CLEAN): **T S Ledley**, M McCaffrey

Earth and Planetary Surface Processes

EP31A Moscone South: Poster Hall Wednesday 0800h
Earth and Planetary Surface Processes and Landscapes
General Contributions: Other Posters (*joint with C, GC, H*)

Presiding: **M P Lamb**, Caltech

0800h **EP31A-0572 POSTER** Fire Induced Changes in Soil Structure: Implications for Soil Hydraulic Properties and Aeolian Suspension Potential in the Great Basin, USA: **D S Shafer**, D W DuBois, K Chief, M Berli, J J Miller, M Young

0800h **EP31A-0573 POSTER** Bedform-field pattern formation through bedform interactions within a set of boundary conditions: Example from White Sands Dune Field, New Mexico: **R C Ewing**, G Kocurek, D Mohrig

0800h **EP31A-0574** WITHDRAWN

0800h **EP31A-0575 POSTER** Morphology of the Petit-Rhone Canyon and Deep-Sea Turbidite System and Last Glacial and Holocene Sedimentary Facies, Gulf of Lions, Western Mediterranean: **B Dennielou**, A Fanget, S P Berne, I Jégou, G Jouet, M Bassetti, A Normand, E Théréau, A Roubi, L Droz, N Babonneau, J Etoubleau

0800h **EP31A-0576 POSTER** Fjord-valley fill stratigraphy from onshore high-resolution shear-wave seismics, Trondheim harbour area, central Norway: **L Hansen**, U Polom, J L'Heureux, G Sauvin, I Lecomte, C M Krawczyk, O Longva

0800h **EP31A-0577 POSTER** Water discharge and glacier hydrology of West Washmawapta Glacier, British Columbia: implications for cirque glacier sediment flux: **K R MacGregor**, J W Sanders, K M Cuffey, T S Tobin

0800h **EP31A-0578 POSTER** Evapotranspiration monitoring with Eddy covariance system in Seochon area, Korea: **K Ha**, K Ko

0800h **EP31A-0579 POSTER** Antimony isotope study in the Kamo-Ichinokawa river system near the Ichinokawa Sb mine in Southwest Japan: **S ASAOKA**, Y Araki, M Tanimizu, Y Takahashi

0800h **EP31A-0580 POSTER** Biotic Composition in Transgressive Levels Of Pennsylvanian Cyclothems: Bachende Limestone, Cantabrian Zone, Spain: **D Corrochano**, P Barba

0800h **EP31A-0581 POSTER** Sea Floor Volcanic Glasses as a Source of Available Phosphate for Prebiotic Reactions: **J C Hart**, G Cody

0800h **EP31A-0582 POSTER** Mineralogical and rock magnetic provenance variation in Alaskan Abyssal Plain sediments, Gulf of Alaska: **A D Ullrich**, J M Jaeger

0800h **EP31A-0583 POSTER** Multi-Scale and Object-Oriented Analysis for Mountain Terrain Segmentation and Geomorphological Assessment: **B K Marston**, M P Bishop, J F Shroder

0800h **EP31A-0584 POSTER** Space-scale methodologies for geomorphic feature extraction from LiDAR: An assessment: P Passalacqua, **P Tarolli**, E Foufoula-Georgiou

0800h **EP31A-0585 POSTER** GIS-Based Paleotopographic Reconstructions of the Queen Elizabeth Islands at 8500 ¹⁴C yr B.P.: **S C Calderon**, D W Leverington

0800h **EP31A-0586 POSTER** Granular structure: Distinctive clay fabric for the recognition of fluid-mud deposits: **N Nishida**, M Ito, A Inoue

0800h **EP31A-0587 POSTER** Evaluating post-glacial aggradational rates and transport processes, and assessing impacts of the Grand Ditch on the Lulu City wetland, Rocky Mountain National Park, Colorado: **Z Rubin**, S L Rathburn, E E Wohl

0800h **EP31A-0588 POSTER** Large and asymmetric polar scarps in Planum Australe, Mars: Characterization and evolution: C Grima, F Costard, **W W Kofman**, S M Clifford, J Mouginit, A Servain, A Herique, R Seu

0800h **EP31A-0589 POSTER** Planetary Analogues of Volcanic Systems: **A R Baptista**, R A Craddock, J R Zimelman

0800h **EP31A-0590 POSTER** Geomagnetic disturbances effects on earths environ and relationship to interplanetary conditions: **F N Okeke**, E A Hanson, E C Okoro

EP31B Moscone South: Poster Hall Wednesday 0800h
Initial Landform Evolution: Structures, Processes, and Ecosystem Feedbacks Posters (*joint with B, H, H, H, H, H, H*)

Presiding: **T A Raab**, BTU Cottbus

0800h **EP31B-0591 POSTER** Analyses of Initial Geomorphic Processes by Microdrone-based photogrammetry: W Gerwin, **T A Raab**, T Seiffert, R Nenov, T Maurer, M Veste, R F Hüttl

0800h **EP31B-0592 POSTER** Quantification and Reconstruction of Initial 3D Sediment Mass Distribution in an Artificially-Created Catchment Area Using GOCAD: **H H Gerke**, A Schneider, T Maurer, T A Raab

0800h **EP31B-0593 POSTER** Development of soil physical parameters on initial landforms – An example from a post-mining recultivation site in Lusatia, East Germany: **J Kruemmelbein**, T A Raab, O Bens, R F Hüttl

0800h **EP31B-0594 POSTER** The Time Evolution of Minor Channels on Growing Folds and Their Bearing on Fold Kinematics: **J K Goode**, D W Burbank

0800h **EP31B-0595 POSTER** Slope Impacts on Concentrated Flow Hydraulics in Rangeland: **O Z Al-Hamdan**, F B Pierson, C J Williams, P R Kormos, M A Nearing, J Boll

0800h **EP31B-0596 POSTER** Initial Landform Evolution in an Artificial Water Catchment: **T A Raab**, W Gerwin, R F Hüttl

0800h **EP31B-0597 POSTER** Can pocket gopher burrowing explain the long-term evolution of uplifted marine terrace scarps?: **M G Loso**, R S Anderson, D F Doak

0800h **EP31B-0598 POSTER** Seasonal Evolution of Surface Detention and Retention Properties with Rain Erosivity, at the Interill Scale: C Biolders, **M Antoine**, M Javaux

EP31C Moscone West: 2004 Wednesday 0800h
Coastal Geomorphology and Morphodynamics I (*joint with NG, OS*)

Presiding: **D McNamara**, UNC Wilmington; **H F Stockdon**

0800h **EP31C-01** Morphodynamics of Rippled Beds: **D Foster**, C Nichols

0815h **EP31C-02** Morphological response to nearshore wave groups (*Invited*): **A J Reniers**

0830h **EP31C-03** Modeling Megacusps and Dune Erosion: **M Orzech**, A J Reniers, E B Thornton

0845h **EP31C-04** A Simple Model for Predicting Shoreline Position on a High-Energy Sandy Beach at Monthly to Multi-Year Timescales: **J E Hansen**, P L Barnard

0900h **EP31C-05** Recent Shifts in Shoreline Orientation along a Cuspate Coast Potentially Linked to Climate Change, North Carolina Outer Banks, USA (*Invited*): **L J Moore**, O Brenner, D McNamara, A B Murray

0915h **EP31C-06** Biogeomorphic Feedbacks in Barrier Island Evolution: Exploring Temporal and Spatial Persistence of Overwash Zones in the Virginia Coast Reserve: **C V Wolner**, L J Moore, D Young, S T Brantley, S N Bissett

0930h **EP31C-07** Overwash controls coastal barrier response to sea-level rise: **A D Ashton**, E Carruthers, A Piliouras, H Taylor

0945h **EP31C-08** Barrier transition from regressive to transgressive with decelerating sea-level rise, Bogue Banks, North Carolina: **E A Timmons**, A B Rodriguez

EP31D Moscone West: 2008 Wednesday 0800h
Experimental Rivers: New Facilities, New Observational Technologies, and New Questions I (*joint with H, B*)

Presiding: **A Lightbody**, University of Minnesota; **J G Venditti**, Simon Fraser University; **C H Orr**, Washington State University

0800h **EP31D-01** StreamLab: Full-scale Experiments in River Science (*Invited*): **P Wilcock**

0820h **EP31D-02** Impacts of biological diversity on sediment transport in streams (*Invited*): **L K Albertson**, B J Cardinale

0840h **EP31D-03** Creating self-formed meandering channels in laboratory flumes (*Invited*): **C A Braudrick**

0900h **EP31D-04** Stabilization of inactive braid channels by vegetation as a mechanism for suppressing braiding and reinforcing the dominant channels in a braided network: **R Egozi**, M Tal

0920h **EP31D-05** Designing and interpreting laboratory experiments for hydrodynamical, biogeochemical, and ecological processes in rivers (*Invited*): **A I Packman**

0940h **EP31D-06** Sediment Transport and Flow Dynamics in a Fish-Habitat Restoration Project: Field and Numerical Experiments: **P Biron**, R B Carver, D M Carré

Geodesy

G31A Moscone West: 2022 Wednesday 0800h
Advances in Geodetic Imaging of the Earthquake Cycle and Land Surface Processes II (*joint with IN, GC, EP, S, NH, T*)

Presiding: **W E Carter**, Univ Florida; **A J Hooper**, Delft University of Technology

0800h **G31A-01** Airborne Geodetic Imaging Using the L-band UAVSAR Instrument (*Invited*): **S Hensley**, H A Zebker, C E Jones, T Michel, B D Chapman, R Muellerschoen, A Fore, M Simard

0815h **G31A-02** Beyond PSInSAR: the SQUEESAR Approach: **A Ferretti**, F Novali, A Fumagalli, C Prati, F Rocca, A Rucci

0830h **G31A-03** Characteristics of Ionospheric Signals in L-band SAR/INSAR Data and Methods for their Correction: **F J Meyer**

0845h **G31A-04** Development of InSAR tropospheric correction maps using continuous GPS data and weather models: **A W Moore**, S Kedar, S E Owen, F Webb, E J Fielding, E Fishbein, J D Means, Y Bock, P Fang, P Jamason, M B Squibb, F Bjorndahl, J Lofgren

0900h **G31A-05** The 2009 L'Aquila Earthquake: Postseismic Deformation with High Temporal Resolution Using the new GPS "Carrier Range" Data Type: **E D'Anastasio**, G Blewitt, N D'Agostino, A Avallone, D Cheloni, M Marzario

0915h **G31A-06** Revisiting Past Earthquakes and Seismo-Volcanic Crises Using Declassified Optical Satellite Imagery (*Invited*): **J Hollingsworth**, S Leprince, F Ayoub, J Avouac

0930h **G31A-07** Simultaneous High Resolution Lidar Imaging of the Shallow-water Seafloor and Beach with the Coastal Zone Mapping and Imaging Lidar (CZMIL) (*Invited*): **G H Tuell**

0945h **G31A-08** Inflight Performance of an Airborne Photon Counting 3D Imaging Lidar (*Invited*): J J Degnan, **J M Sirota**

Global Environmental Change

GC31A Moscone South: Poster Hall Wednesday 0800h
Environmental, Socioeconomic, and Climatic Changes in Northern Eurasia and Their Feedbacks to the Global Earth System: How Far Have We Advanced in Our Ability to Describe Them? I Posters (*joint with C, H, PA, PP*)

Presiding: **I N Sokolik**, Georgia Inst Tech; **E F Wood**, Princeton University

0800h **GC31A-0676 POSTER** Snow and Ice Crust Changes over Northern Eurasia since 1966: **O Bulygina**, P Y Groisman, V Razuvaev, V Radionov

0800h **GC31A-0677 POSTER** Estimation of Chlorophyll-a Concentration in Inland, Estuarine, and Coastal Waters using Aircraft and Satellite Data: **W J Moses**, A A Gitelson, S Berdnikov, V Povazhnyy

0800h **GC31A-0678 POSTER** Estimating chlorophyll-a concentration in inland, estuarine and coastal waters: from close range to satellite observations: **A A Gitelson**, D Gurlin, W J Moses, D C Rundquist

0800h **GC31A-0679 POSTER** Carbon footprint analysis of the Bus Rapid Transit (BRT) system: a case study of Xiamen City, China: **W Wang**, S Cui

0800h **GC31A-0680 POSTER** The Altai Mountains environmental disaster (Eastern Kazakhstan): **Z K Akhmadiyeva**

0800h **GC31A-0681 POSTER** The Influence of Seasonal Climatic Parameters on the Permafrost Thermal Regime in West Siberia: **V V Popova**, A B Shmakina

0800h **GC31A-0682 POSTER** Climatic Changes over the Republic of Belarus during the Period of Instrumental Observations: **A N Taberka**

0800h **GC31A-0683 POSTER** Permafrost Dynamics Modeling in European Russian North using a High Spatial Resolution RCM: **S S Marchenko**, V E Romanovsky, A Rinke, P Kuhry

0800h **GC31A-0684 POSTER** Seasonal Temperature Changes and their Impacts on Vegetation in the Northern Latitudes: **Y Xie**

0800h **GC31A-0685 POSTER** Possible land cover change feedbacks to surface albedo and net radiation over Siberia in a warming climate: **N Tchebakova**, E Parfenova, A J Soja

0800h **GC31A-0686 POSTER** Long-Term Measurements of Carbon Monoxide and Aerosols at the ZOTTO tall tower, Siberia: **J C Mayer**, W Birmili, M Heimann, J Heintzenberg, N Juergens, Y Kisilyakhov, A Panov, M O Andreae

0800h **GC31A-0687** POSTER NASA Satellite and Model Data and Services to Support NEESPI and MAIRS: **S Shen**, G G Leptoukh, I Gerasimov

0800h **GC31A-0688** WITHDRAWN

0800h **GC31A-0689** POSTER Influence of the landscape condition on the thermal state of permafrost on the interior Alaska and Kolyma lowland: **A L Kholodov**, V E Romanovsky, S Davydov, D Gilichinsky

0800h **GC31A-0690** POSTER Russian Arctic warming and 'greening' are closely tracked by tundra shrub willows: **B C Forbes**, M Macias Fauria, P Zetterberg

0800h **GC31A-0691** POSTER Development of forecasting methods of water inflow into the Krasnodar reservoir based on using remote sensing information: **G Mikhail**

0800h **GC31A-0692** POSTER Changes in land-cover, land-use, and dust loadings in the Northern Eurasia drylands and implications for the surface energy balance and PAR: **I N Sokolik**, X Xi, A S Darmanov

0800h **GC31A-0693** POSTER Simulating the effects of soil organic nitrogen and grazing on arctic tundra vegetation dynamics on the Yamal Peninsula, Russia: **Q Yu**, H E Epstein, D A Walker

0800h **GC31A-0694** POSTER Increasing Soil Heat Storage across Northern Eurasia: **T J Troy**, E F Wood

0800h **GC31A-0695** POSTER Climate- and Anthropogenically-Induced Change in the Republic of Tyva: **A J Soja**, N Tchekakova, E Parfenova, V Kanzai, D J Westberg, L Buryiak, O Kalenskaya, E A Kukavskaya, G A Ivanova, P W Stackhouse, A Sukhinin

0800h **GC31A-0696** POSTER Conversion of Siberian Larch Forests in Response to Climate Change: **J K Shuman**, H H Shugart

0800h **GC31A-0697** POSTER Vegetation biomass, leaf area index, and NDVI patterns and relationships along two latitudinal transects in arctic tundra: **H E Epstein**, D A Walker, M K Reynolds, A M Kelley, G Jia, C Ping, G Michaelson, M O Leibman, E Kaarlejärvi, A Khomutov, P Kuss, N Moskalenko, P Orekhov, G Matyshak, B C Forbes, Q Yu

0800h **GC31A-0698** POSTER Spatio-temporal trends in tree and tall shrub cover in the Eurasian Low Arctic: evidence from 1960s and contemporary satellite imagery and ground observations: **G V Frost**, H Epstein, D A Walker

0800h **GC31A-0699** POSTER Mapping and Monitoring Boreal Wetlands within the NEESPI Domain Using Spaceborne Synthetic Aperture Radar for Assessing Carbon Release: **E Podest**, K C McDonald, R Schroeder, T J Bohn, D P Lettenmaier

0800h **GC31A-0700** POSTER Linking Satellite-Derived Fire Counts to Satellite-Derived Weather Data in Fire Prediction Models to Forecast Extreme Fires in Siberia: **D J Westberg**, A J Soja, P W Stackhouse

0800h **GC31A-0701** POSTER Seasonality of Air-sea-ice-land Variables for Arctic Tundra in Northern Eurasia and North America: **U S Bhatt**, D A Walker, M K Reynolds, M Steele, H Epstein, G Jia, J C Comiso, J E Pinzon, C J Tucker

0800h **GC31A-0702** POSTER Carbon and Water Dynamics in the Mongolian Plateau during the 21st Century: Y Lu, **Q Zhuang**, G Zhou, A Sirin, J M Melillo

GC31B Moscone West: 3001 Wednesday 0800h
Water Supply Management and Security II (joint with A, C, H, NH, PA)

Presiding: J M Byrne, University of Lethbridge; J Tindall, USGS; D Sauchyn, University of Regina

0800h **GC31B-01** Avoiding the unmanageable and managing the unavoidable: Options for water managers (*Invited*): **P H Gleick**, H Cooley

0817h **GC31B-02** Water Management Strategies against Water Shortage in the Alps (*Invited*): **C de Jong**

0834h **GC31B-03** Adapting to climate change at Glacier National Park, Montana, USA (*Invited*): **D B Fagre**

0851h **GC31B-04** Multiple High Resolution Climate Scenarios over North America for Application to Water Resources (*Invited*): **L O Mearns**

0908h **GC31B-05** WITHDRAWN

0925h **GC31B-06** Climate change, water, and agriculture: a study of two contrasting regions: **A Kirilenko**, N Dronin, X Zhang

Geomagnetism and Paleomagnetism

GP31A Moscone West: 2002 Wednesday 0800h
Geomagnetic Field Modeling and Interpretation of Satellite, Observatory, Marine, and Aeromagnetic Data II (joint with SA, SM)

Presiding: S Maus, CIRES, University of Colorado; G Hulot

0800h **GP31A-01** New Time-dependent Geomagnetic Field Model based on CHAMP and Oersted data: **V Soukhovitskaya**, J Bloxham

0815h **GP31A-02** Modeling the recent geomagnetic field using satellite and ground magnetic observations (*Invited*): **N Olsen**

0830h **GP31A-03** Fast torsional waves and strong magnetic field within the Earth's core (*Invited*): **N Gillet**, D Jault, E Canet, A Fournier

0845h **GP31A-04** ON THE ORIGIN OF THE NORTH MAGNETIC POLE ACCELERATED DRIFT IN THE 1990S: **A Chulliat**, G Hulot, L R Newitt

0900h **GP31A-05** First Complete High-Resolution Record of the Cretaceous Normal Superchron (*Invited*): **J Dymert**, Y Gallet, E Hoise

0915h **GP31A-06** Hydrated mantle in forearc settings: Evidence from low-earth-orbit magnetic anomalies (*Invited*): **R J Blakely**, S Maus, M E Purucker

0930h **GP31A-07** A Computationally Compact Representation of Magnetic-Apex and Quasi-Dipole Coordinates with Smooth Base Vectors: **J T Emmert**, A D Richmond, D P Drob

0945h **GP31A-08** Spatiotemporal reconstruction of geomagnetic Sq+induced signals from LEO satellite data: **M E Everett**

Hydrology

H31A Moscone South: Poster Hall Wednesday 0800h
Environmental Vadose Zone Hydrology Posters

Presiding: M Young; J E Smith

0800h **H31A-0740** POSTER Calibration and Testing of the MPS-1 Soil Matric Potential Sensor: **A I Malazian**, P C Hartsough, T Kamai, D R Cobos, C S Campbell, J W Hopmans

0800h **H31A-0741** POSTER The Influence of Surface Tension Gradients on Surfactant Tracer Measurement of Air-Water Interfacial Area in Porous Media: **M S Costanza-Robinson**, B D Estabrook, E J Henry

0800h **H31A-0742** POSTER Fractional Wetting and Contact Angle Dynamics in Water Repellent Soils: **S M Beatty**, J E Smith

0800h **H31A-0743** POSTER A high-speed video analysis of advancing and receding droplet interfaces in simulated rock fractures: **K M Hay**, J Berman

0800h **H31A-0744 POSTER** Water retention curves of loamy-sandy soils: Transient evaporation method versus steady-state tension and pressure techniques: **G Winkler**, **E Eberhard**, **J Fank**, **S Birk**

0800h **H31A-0745 POSTER** Scaling soil water retention functions using particle-size distribution: **P Nasta**, **J W Hopmans**, **T Kamai**, **N Romano**, **G Chirico**

0800h **H31A-0746 POSTER** Properties of unsaturated weathered granitic soils with varying clay contents: **D Kim**, **G Kim**, **H Baek**

0800h **H31A-0747 POSTER** Heat-induced evaporation in the shallow subsurface: Experimental and modeling investigation: **K M Smits**, **A Cihan**, **T Sakaki**, **T H Illangasekare**

0800h **H31A-0748 POSTER** A Button Multi-Functional Heat Pulse Probe for in-situ Soil Moisture, Thermal Properties and Salinity Measurements: **T Kamai**, **G J Kluitenberg**, **J W Hopmans**

0800h **H31A-0749 POSTER** Role of air on local water retention behavior in the shallow heterogeneous vadose zone: **T Sakaki**, **A Limsuwat**, **T H Illangasekare**

0800h **H31A-0750 POSTER** Observations of soil water dynamics around a tree on a hillslope before and after intercepting stemflow: **W Liang**, **K Kosugi**, **T Mizuyama**

0800h **H31A-0751 POSTER** Induction and Control of Non-vertical Flow in the Vadose Zone: **E Pirnie-Fisker**, **S E Silliman**

0800h **H31A-0752 POSTER** Gravimetric observations of water storage change - lysimeters and superconducting gravimeters: **B Creutzfeldt**, **A Güntner**, **B Merz**, **H Wziontek**

0800h **H31A-0753 POSTER** On the infiltration process in treated effluents spreading basins: **A Loewy**, **N Weisbrod**, **O Lev**, **N Lazarovitch**

0800h **H31A-0754 POSTER** Relationship between water content and permeability of a rock: an example of Fontainebleau sandstone: **N Nishiyama**, **T Yokoyama**, **S Takeuchi**

0800h **H31A-0755 POSTER** Spatial and temporal variations in seepage during managed aquifer recharge: **A J Racz**, **A T Fisher**, **C M Schmidt**, **B S Lockwood**, **M Los Huertos**

0800h **H31A-0756 POSTER** Integrated Assessment to Evaluate the Artificial Recharge in a Small Portion of the Aquifer of Puebla, Mexico: **C Arango-Galván**, **L E Flores-Marquez**, **R Martínez-Serrano**

0800h **H31A-0757 POSTER** Tritium tracer test to estimate aquifer recharge under irrigated conditions: **J Jimenez-Martinez**, **K Tamoh**, **L Candela**

0800h **H31A-0758 POSTER** An Analysis of the Impacts of Sodic Soil Amelioration on Soil Hydraulic Properties, Deep Drainage and Groundwater Using the HYDRUS Model: **L Reading**, **D A Lockington**, **K L Bristow**, **T Baumgartl**

0800h **H31A-0759 POSTER** Quantifying Mechanisms of Aquifer Salinization at the Alto Piura Valley, Northern Part of Peru: **C A Rivera Villarreyes**, **N Weisbrod**, **A Yakirevich**, **I Benavent**, **A M Chavez**

0800h **H31A-0760 POSTER** Role of the sedimentary structure of the urban vadose zone (URVAZO) on the transfer of heavy metals of an urban stormwater basin: **R Angulo-Jaramillo**, **T Winiarski**, **D Goutaland**, **L Lassabatere**

0800h **H31A-0761 POSTER** Solute movement through unsaturated fen peat: Lab and greenhouse experiments for transport study of contaminants from Athabasca oil sands tailing pond water: **J S Price**, **F Rezanezhad**, **M Graf**, **L Rochefort**

0800h **H31A-0762 POSTER** Evaluating Groundwater and Surface Water Exchange in Travertine Spring, Death Valley, CA, Using Temperature Coupled With Soil and Water Chemistry and Moisture Content: **J Koonce**, **D Sada**, **M Young**, **M Stone**, **Z Yu**

0800h **H31A-0763 POSTER** Infiltration into fractured bedrock: **D R Haught**, **H J Tromp-van Meerveld**

0800h **H31A-0764 POSTER** Effects of the hydraulic conductivity of the matrix/macropore interface on cumulative infiltrations into dual-permeability media: **L Lassabatere**, **X Peyrard**, **R Angulo-Jaramillo**, **J Simunek**

0800h **H31A-0765 POSTER** Modeling Crop Water Requirement at Regional Scales in the Context of Integrated Hydrology: **E C Dogrul**, **T Kadir**, **C F Brush**, **F I Chung**

0800h **H31A-0766 WITHDRAWN**

0800h **H31A-0767 POSTER** Three-dimensional hydrogeophysical characterization and modeling of heterogeneous vadose zone of two quarries: **T Winiarski**, **R Angulo-Jaramillo**, **G Bièvre**, **D Goutaland**, **L Lassabatere**

0800h **H31A-0768 POSTER** Role of subsurface lateral flowpaths in streamflow generation of a California oak woodland watershed: **A Swarowsky**, **A T O'Geen**, **R A Dahlgren**

0800h **H31A-0769 POSTER** Groundwater Flow and Solute Transport in a Tidally influenced gravel beach in Prince William Sound, Alaska: **A M Bobo**, **M C Boufadel**, **A Abdollahi Nasab**

0800h **H31A-0770 WITHDRAWN**

0800h **H31A-0771 POSTER** Simulation of Beach Hydraulics for Smith Island, Prince William Sound, Alaska: **B Khan**, **M C Boufadel**, **A M Bobo**

0800h **H31A-0772 POSTER** Effects of bagasse-charcoal addition to soil on nitrate leaching in calcaric soils: **K Kameyama**, **T Miyamoto**, **Y Shinogi**

0800h **H31A-0773 POSTER** Quantifying Dissolution and Transport of Nitroglycerine, 2,4-Dinitrotoluene, and Nitroguanidine from Fired and Unfired Propellants in the Vadose Zone: **D L Gosch**, **K Dontsova**, **J D Chorover**, **J Simunek**, **T A Ferre**

0800h **H31A-0774 POSTER** In situ Gas Measurements in Five Experimental Waste Rock Piles, Antamina Mine, Peru: **O Singurindy**, **S R Blackmore**, **A Wild**, **K U Mayer**, **R D Beckie**, **L Smith**

0800h **H31A-0775 POSTER** Structure and chemistry of bacterially populated acidic microenvironments found on naturally colonized and weathered circumneutral pH unsaturated waste rock from the Antamina Mine, Peru: **J W Dockrey**, **K U Mayer**, **R D Beckie**, **G Southam**

H31B Moscone South: Poster Hall Wednesday 0800h
Fate and Transport of Radionuclides in the Environment I
Posters (joint with B)

Presiding: **B J Andraski**, US Geological Survey; **D A Stonestrom**, US Geological Survey; **P Jardine**

0800h **H31B-0776 POSTER** Field Studies Provide Insight into Tritium Migration in an Arid Environment: **B J Andraski**, **C Garcia**, **R L Michel**, **D A Stonestrom**, **C Mayers**, **M Johnson**

0800h **H31B-0777 POSTER** Hot VOCs and Tritium Transport — A Conundrum Solved?: **D A Stonestrom**, **W Luo**, **R J Baker**, **R L Michel**, **B J Andraski**, **C Garcia**, **C Mayers**, **W C Evans**, **J F Pankow**

0800h **H31B-0778 POSTER** Preferential Radionuclide Transport in a Tuff with Altered Zones: Micro-scale Mapping: **Q Hu**, **X Liu**, **R Zuo**

0800h **H31B-0779 POSTER** Simulated Damping of Periodic Fluctuations in Net Infiltration Within a Thick Unsaturated Zone in Southern Nevada: Implications For Radionuclide Transport: **B A Ebel**, **J R Nimmo**

0800h **H31B-0780 POSTER** Immobilization of iodine in soil-water systems and its relation to iodine species: **Y Shimamoto**, **Y Takahashi**

0800h **H31B-0781 POSTER** Iodine sorption by highly weathered soils: **W A Bruns**, M R Bruns, D I Kaplan, T Murphy, K Roberts, A Thompson, J C Seaman

0800h **H31B-0782 POSTER** Environmental Impacts on Nuclear Reprocessing Solvents: **A R Gillens**, J E Fessenden

0800h **H31B-0783 POSTER** Bacterially Induced Calcite Precipitation and Strontium Co-Precipitation under Flow Conditions in a Porous Media System: **R Gerlach**, A C Mitchell, L Schultz, A Cunningham

0800h **H31B-0784 POSTER** Microbial effects on sorption and transport of actinides in tuff samples from the Nevada Test Site and soils from McGuire AFB, NJ: **J C Fisher**, R Gostic, J Gostic, K Czerwinski, D P Moser

0800h **H31B-0785 POSTER** Determining the Desorption Kinetics of U(VI) from Contaminated Sediments Under Complex and Changing Solution Conditions: **M B Hay**, G P Curtis, K J Johnson, J Greskowiak, J A Davis

0800h **H31B-0786 POSTER** Multiscale Studies of U(VI) Desorption From Contaminated Sediments: **G P Curtis**, M B Hay, M Kohler, K J Johnson, J A Davis

0800h **H31B-0787 POSTER** Effect of 57Fe-goethite Amendment on Microbial Community Composition and Dynamics During the Transition from Iron to Sulfate Reduction: **H Moon**, L McGuiness, R K Kukkadapu, A Peacock, J Komlos, L Kerkhof, P E Long, P R Jaffe

0800h **H31B-0788 POSTER** Effects of microbial activity and electron shuttles on the reduction of U(VI) under Fe(III)- and sulfate-reducing conditions: **E J O' Loughlin**, M Boyanov, M Kwon, P E Long, K H Williams, K M Kemner

0800h **H31B-0789 POSTER** In situ Bioreduction of Uranium (VI) in Groundwater and Sediments with Edible Oil as the Electron Donor: **W Wu**, D B Watson, T Mehlhorn, G Zhang, J Earles, K Lowe, J Phillips, M Boyanov, K M Kemner, C W Schadt, S C Brooks, C Criddle, P Jardine

0800h **H31B-0790 POSTER** COMBINED X-RAY, CHEMICAL, AND BIOLOGICAL CHARACTERIZATION OF BIOSTIMULATED AND SULFATE-AMENDED SEDIMENTS FROM THE OAK RIDGE FIELD RESEARCH CENTER: **M Boyanov**, E J O' Loughlin, K Skinner-Nemec, M Kwon, S Kelly, F Yang, T Marsh, W Wu, C Criddle, K M Kemner

0800h **H31B-0791 POSTER** High Performance Computing for Groundwater Reactive Transport Modeling: **G L Miller**, M Ye, G Tang, F Zhang, J Parker, D B Watson, P Jardine

0800h **H31B-0792 POSTER** Massively Parallel Simulation of Uranium Migration at the Hanford 300 Area: **G E Hammond**, P C Lichtner

H31C Moscone South: Poster Hall Wednesday 0800h Measuring, Modeling, and Assessment of Groundwater Nonpoint Source Contamination I Posters

Presiding: **C Green**, USGS; **T Harter**, University of California Davis

0800h **H31C-0793 POSTER** Nonpoint Source Groundwater Solute Transport Using Unit Response Functions: **F Klein**, T Harter

0800h **H31C-0794 POSTER** Modeling nonpoint source nitrate contamination and associated uncertainty in groundwater of U.S. regional aquifers: **J J Gurdak**, C Lujan

0800h **H31C-0795 POSTER** Reducing Uncertainty in Characterization of the Vadose Zone for Modeling Groundwater Vulnerability: **R Li**, J Merchant, X Chen, R J Oglesby, D C Gosselin

0800h **H31C-0796 POSTER** The process and potential of nitrate attenuation in the aquifers with different scale of flow system: **M Saito**, S Onodera

0800h **H31C-0797 POSTER** Application of nitrate and water isotopes to assessment of groundwater quality beneath dairy farms in California: **M B Young**, T Harter, C Kendall, S R Silva

0800h **H31C-0798 POSTER** Modeling Groundwater-Quality Data from In-Situ Mesocosms Using PHREEQC to Provide Insights into the Electron Donors Involved in Denitrification in the Karlsruhe Aquifer, ND: **S F Korom**, T Tesfay

0800h **H31C-0799 POSTER** Multi-tracer analysis of vertical nitrate fluxes in the Mississippi River Valley alluvial aquifer: **C T Green**, H Welch, R Coupe

0800h **H31C-0800 POSTER** Field Evaluation of Preferential Flow in Agricultural Soil of the Mississippi Delta: **K S Perkins**, J R Nimmo, C E Rose, R Coupe

0800h **H31C-0801 POSTER** The role of ground-water recharge processes in the formation of natural acid-rock drainage in mineralized mountain watersheds: **A H Manning**, D J Bove, P L Verplanck

0800h **H31C-0802 POSTER** A Study of Finding Safer Aquifer in the Arsenic Contaminated Holocene Deposit; South-Western Bangladesh: **M Rahman**, A Mano, K Udo, Y Ishibashi

0800h **H31C-0803 POSTER** The Extent of Denitrification in Long Island Groundwater using MIMS: **C Young**, G N Hanson, K D Kroeger

H31D Moscone South: Poster Hall Wednesday 0800h Precipitation Processes and Observations for Atmospheric, Land Surface, and Hydrological Modeling II Posters

Presiding: **P A Kucera**, NCAR; **C S Pathak**, South Florida Water Management; **M Ignaccolo**, Duke University; **B E Vieux**

0800h **H31D-0804 POSTER** Precipitation Estimation using NEXRAD Over A Sparse Rain Gauge Network: **S Rendon**, B E Vieux, C S Pathak

0800h **H31D-0805 POSTER** Evaluation of Optimal Reflectivity-Rain Rate (Z-R) Relationships for Improved Precipitation Estimates: A Ferreira, **R S Teegavarapu**, C S Pathak

0800h **H31D-0806 POSTER** Intercomparison Experiments with an X-band Polarimetric Radar: **P Domaszczyński**, J J Niemeier, A Kruger, D Ceynar, W F Krajewski

0800h **H31D-0807 POSTER** Coupling Radar estimated precipitation with distributed hydrological model for flood forecast: **Y Chen**

0800h **H31D-0808 POSTER** Investigation of Precipitation Input Scenarios in Hydrological Modeling - Prospects for Applying Radar Data: **X He**, S Stisen, F Vejen, K H Jensen

0800h **H31D-0809 POSTER** Evaluation of Incremental Improvement in the NWS MPE Precipitation Estimates: **L qin**, E H Habib

0800h **H31D-0810 POSTER** Evaluation of Satellite-Based High Resolution Precipitation Products for Catchment Hydrologic Forecasting: **A Behrangi**, B Khakbaz, T C Jaw, B Imam, K Hsu, S Sorooshian

0800h **H31D-0811 POSTER** A New Paradigm in Satellite Rainfall Estimates: **M Gebremichael**, J Yan, G Liao

0800h **H31D-0812 POSTER** New Capabilities in TRMM Precipitation Data Services at NASA GES DISC: **Z Liu**, D Ostrenga, G G Leptoukh, S J Kempler, W L Teng

0800h **H31D-0813 POSTER** Infilling Missing Daily Precipitation Data at Multiple Sites Using a Multivariate Truncated Normal Distribution Model: **W Ng**, P F Rasmussen, U S Panu

0800h **H31D-0814 POSTER** Stochastic Modeling based on Dictionary Approach for the Generation of Daily Precipitation Occurrences: U S Panu, **W Ng**, P F Rasmussen

0800h **H31D-0816 POSTER** Causality in Rainfall Cascades: **A Molini**, G G Katul, A Porporato

0800h **H31D-0817 POSTER** A Data-based Analysis of Valley Effects on Precipitation Characteristics with Consideration of Circulation Patterns: **M Liu**, A Bárdossy

0800h **H31D-0818 POSTER** Annual Rainfall Maxima: Theoretical Estimation of the GEV Shape Parameter k Using Multifractal Models: **D Veneziano**, A Langousis, C Lepore

0800h **H31D-0819 POSTER** Probabilistic Envelope Curves for Extreme Rainfall Events: **A Castellarin**, R Merz, G Bloeschl

0800h **H31D-0820 POSTER** On the possibility of a non arbitrary statistical definition of rain event: the case of stratiform rain: **M Ignaccolo**, C De Michele

0800h **H31D-0821 POSTER** A Multivariate model for Monte-Carlo Simulation of Spatially and Temporally Correlated Daily Rainfall Intensities: **C M Mok**, R M Suribhatla, N Wanakule, M Zhang

0800h **H31D-0822 POSTER** Is there a timescale where the Clausius-Clapeyron relation describes precipitation rate changes?: **J O Haerter**, S Hagemann, C Piani, P Berg

0800h **H31D-0823 POSTER** Statistical bias correction of multi-decadal global simulated daily precipitation: C Piani, J O Haerter, **L Mariotti**, S Hagemann, A Tompkins

0800h **H31D-0824 POSTER** Laboratory experiments on the influence of rainfall characteristics on runoff generation and soil erosion: **Q Ran**, P Li, D Su, Z Li, Q Fu

0800h **H31D-0825 WITHDRAWN**

0800h **H23J-07 POSTER** Rainfall dynamics: a non-stationary statistical model at drop-size scale: **C De Michele**, M Ignaccolo

H31 E Moscone South: Poster Hall Wednesday 0800h
Sustained Metal and Radionuclide Attenuation in Complex, Evolving Subsurface Environments I Posters

Presiding: **K Skubal**, U.S. Department of Energy; **E M Pierce**; **J C Marble**, U.S. Dept. of Energy

0800h **H31E-0826 POSTER** Evaluation of Geochemical Processes Affecting Uranium Sequestration and Longevity of Permeable Reactive Barriers for Groundwater Remediation: **C C Fuller**, S Webb, J Bargar, D L Naftz

0800h **H31E-0827 POSTER** FORWARD AND INVERSE BIO-GEOCHEMICAL MODELING OF MICROBIALLY INDUCED PRECIPITATION IN 0.5M COLUMNAR EXPERIMENTS: **T H Barkouki**, B Martinez, B Mortensen, J DeJong, T S Weathers, N Spycher, T R Ginn, Y Fujita, R W Smith

0800h **H31E-0828 POSTER** Microbial Community Phylogenetic and Functional Succession in Chromium-Reducing Aquifer-Derived Microcosms: **E L Brodie**, H R Beller, K C Goldfarb, R Han, C A Santee

0800h **H31E-0829 POSTER** Foam as a Delivery Vehicle in Vadose Zone Remediation: Transport; Amendment Distribution; and Tc-99 Immobilization: **L Zhong**, J Szecsody, D M Wellman, Z F Zhang, S Mattigod, E M Pierce

0800h **H31E-0830 POSTER** Differentiation among Multiple Sources of Anthropogenic Nitrate in a Complex Groundwater System using Dual Isotope Systematics: A case study from Mortandad Canyon, New Mexico: T E Larson, **G Perkins**, P Longmire, J M Heikoop, J E Fessenden, M Rearick, J Fabyrka-Martin, A E Chrystal, M Dale, A M Simmons

0800h **H31E-0831 POSTER** Isotopic Composition of Natural Nitrate in Groundwater in Los Alamos, New Mexico, USA: **A E Chrystal**, J M Heikoop, P Longmire, M Dale, T E Larson, G Perkins, J Fabyrka-Martin, A M Simmons, J Fessenden-Rahn

0800h **H31E-0832 POSTER** Long-term groundwater transport of radionuclides from seepage basins at the Savannah River Site: **A Wiedmer**, J R Hunt, N Spycher, M E Denham

0800h **H31E-0833 POSTER** Cr(VI) reduction under aerobic and denitrifying conditions by an aquifer-derived *Pseudomonas*: **H R Beller**, R Han, J T Geller

0800h **H31E-0834 POSTER** Flow Alteration and Chemical Reduction: Air Stripping to Lessen Subsurface Discharges of Mercury to Surface Water: **S C Brooks**, M Bogle, L Liang, C L Miller, M Peterson, G R Southworth, B P Spalding

0800h **H31E-0835 POSTER** Conditions inside Water Pooled in a Failed Nuclear Waste Container and its Effect on Radionuclide Release: **L K Hamdan**, J C Walton, A Woocay

0800h **H31E-0836 POSTER** Sr isotope study in the drainage water in semi-arid irrigation district, Adana, Turkey: **T Kume**, E Akca, T Nakano, T Nagano, S Kapur, T Watanabe

0800h **H31E-0837 POSTER** Evaluation of Zeolite Permeable Treatment Wall for the Removal of Strontium-90 from Groundwater: **S M Seneca**, K Bandilla, A J Rabideau, E Ross, C E Bronner

0800h **H31E-0838 WITHDRAWN**

H31 F Moscone West: 3011 Wednesday 0800h
Defining, Measuring, and Modeling Hydrological Connectivity Across Scales: Macropores to Landscapes I (*joint with B, NS, NG*)

Presiding: **H Lin**; **C B Graham**, Penn State University

0800h **H31F-01** Universality of Preferential Flow in Field Soils across Scales: Theoretical Perspectives: **H Lin**

0815h **H31F-02** Connectivity Dynamics in Hillslope Soil Moisture Flow: J L Nieber, **R C Sidle**, T S Steenhuis

0830h **H31F-03** Investigations on Hydrological Connectivity between Soil Mantle and Weathered Bedrock in Headwater Catchments: **K Kosugi**, S Katsura, M Fujimoto, H Kato, T Mizuyama

0845h **H31F-04** Evaluation of Heat as a Tracer to Quantify Variations in Groundwater Velocities at Hanford's Integrated Field Research Challenge (IFRC) Site: **A L Ward**, R J Versteeg, C E Strickland, F Tao, V Vermeul

0900h **H31F-05** Runoff Triggering at the Plot Scale: from Indices of Structural and Functional Connectivity to the Hydrograph Prediction: **M Antoine**, M Javaux, C Bielders

0915h **H31F-06** Effects of Micro-Topography on Flow Connectivity, Surface-Subsurface Exchange and Runoff Generation in a Riparian Wetland: **J H Fleckenstein**, S Frei

0930h **H31F-07** Using a network of shallow groundwater observations to estimate the hillslope scale lateral hydraulic conductivity and map the density of soil pipes: **S W Lyon**, A A Harpold, H E Dahlke, M T Walter

0945h **H31F-08** A simulation-based approach to characterizing surface and subsurface hydrologic connectivity in response to rainfall: **B B Mirus**, K Loague

H31 G Moscone West: 3005 Wednesday 0800h
Ecohydrology Within the Context of Global Change I (*joint with B*)

Presiding: **B R Scanlon**, University of Texas at Austin; **J B Gates**, University of Nebraska - Lincoln; **D Drewry**, University of Illinois; **T M Scanlon**, University of Virginia

0800h **H31G-01** Effects of Canopy Wetness on Evapotranspiration in Native and Invaded Tropical Montane Cloud Forest in Hawai'i: **T W Giambelluca**, J K DeLay, M Takahashi, R G Mudd, M Huang, G P Asner, R E Martin, M A Nullet

0815h **H31G-02** Thirty Year Soil Water Trends Along a 1000 Meter Elevation Gradient: **M S Seyfried**, D Chandler

0830h **H31G-03** Evaporative groundwater discharge in humid plains: The role of climate, vegetation, and farmers (*Invited*): **E G Jobbagy**, M D Noretto, S Contreras Lopez, R B Jackson, S D Calderon

0850h **H31G-04** Using Ecosystem Functional Types in land-surface modeling to characterize and monitor the spatial and inter-annual variability of vegetation dynamics: **D Alcaraz-Segura**, J Paruelo, H E Epstein, E H Berbery, E Kalnay, J Cabello, E G Jobbagy

0905h **H31G-05** Hydrologic drivers of tree biodiversity: The impact of climate change (*Invited*): **I Rodriguez-Iturbe**, M Konar, R Muneerakul, S Azale, E Bertuzzo, A Rinaldo

0925h **H31G-06** Tree-grass coexistence in the Everglades freshwater system: **P D'Odorico**, J A Carr, V Engel

0940h **H31G-07** Wetland Ecohydrology: stochastic description of water level fluctuations across the soil surface: **S Tamea**, R Muneerakul, F Laio, L Ridolfi, I Rodriguez-Iturbe

H31H Moscone West: 3009 Wednesday 0800h
Upscaling and Process Emergence: Field Experiments and Predictive Tools to Bridge Temporal and Spatial Scales in Hydrology I

Presiding: **D Tetzlaff**, University of Aberdeen; **S K Carey**, Carleton University; **J McNamara**, Boise State

0800h **H31H-01** When Does Averaging Equal Scaling? Thoughts on Isotopic and Geophysical Methods in Hydrogeology: **T A Ferre**, P G Cook

0815h **H31H-02** Linking local riverbed flow patterns and pore-water chemistry to hydrogeologic and geomorphic features across scales: **T G Ibrahim**, S Thornton, B Surridge, J Wainwright

0830h **H31H-03** Upscaling Empirically Based Conceptualisations to Model Tropical Dominant Hydrological Processes for Historical Land Use Change: **R Toohey**, J Boll, E Brooks, J Jones

0845h **H31H-04** Spatial Trends in Soil Hydraulic Properties and Their Relation to Soil Moisture and Topography in a Semi-Arid Catchment: **I Geroy**, M M Gribb, J P McNamara

0900h **H31H-05** Simulation of Streamflow in a Discontinuous Permafrost Environment Using a Modified First-order, Nonlinear Rainfall-runoff Model: **W R Bolton**, L D Hinzman

0915h **H31H-06** Predicting storage dynamics based on landscape setting in a boreal, Precambrian Shield catchment: **C Oswald**, M Richardson, B A Branfireun

0930h **H31H-07** Stream Response Similarity in Nested Catchments Based on Scaling Relationships of Flow Percentiles: **S Patil**, M Stieglitz

0945h **H31H-08** Complex stormflow behavior in hillslopes – temporal and spatial attributes (*Invited*): **R C Sidle**, J L Nieber

H31I Moscone West: 3007 Wednesday 0800h
Water in the Critical Zone: Major Elements, Trace Elements, and Isotopes as Biogeochemical Tracers I (*joint with B*)

Presiding: **L Jin**, Penn State University; **H L Buss**, U.S. Geological Survey

0800h **H31I-01** Use of Solute Isotopic and Elemental Ratios to Distinguish Between Lithogenic and Biologic Inputs to Soil Pore Water (*Invited*): **A F White**, T D Bullen, M Schulz, D V Vivit, E T Tipper

0815h **H31I-02** Sulfur as a tracer of hydrologic and biogeochemical dynamics in Northern California vineyard soils: **E S Hinckley**, P A Matson

0830h **H31I-03** Dynamics of natural system hillslope silicate weathering: coupling water transit time with REYs in solution: **A B Jardine**, P A Troch, J D Chorover, C Rasmussen, J C McIntosh, T E Huxman

0845h **H31I-04** Groundwater-silicates Reaction Kinetics in the Navajo Sandstone Aquifer, Black Mesa, Arizona (*Invited*): **C Zhu**

0900h **H31I-05** Geochemical and Sr, Ca, U Isotopic Evidence of Recent changes of Weathering Reactions in a Forested Granitic Catchment (Strengbach Watershed, France): **F J Chabaux**, M Pierret, P Stille, J Prunier

0915h **H31I-06** Integrating geochemical tracers with physics-based modeling to understand Rio Icaos storm response (*Invited*): **A C Kurtz**, F Lugolobi, G Salvucci

0930h **H31I-07** Stable Isotopes ($\delta^{18}\text{O}$ and $\delta^2\text{H}$) Help to Delineate Flow Paths and the Importance of Different Climate Patterns in Watersheds of the Luquillo Mountains, Puerto Rico: M A Scholl, J B Shanley, F N Scatena

0945h **H31I-08** The use of isotopes and major ions in a watershed model to better understand the fluxes of water through the Rio Blanco Watershed, Puerto Rico: **R M Webb**, M A Scholl

Earth and Space Science Informatics

IN31A Moscone South: Poster Hall Wednesday 0800h
Data and Informatics for Environmental Decision Making I Posters (*joint with PA*)

Presiding: **R G Raskin**, Jet Propulsion Laboratory

0800h **IN31A-0992 POSTER** Response of ecosystem services to land use change in Xiamen Island: **L Gao**

0800h **IN31A-0993 POSTER** CEOS Climate Diagnostics – Supporting Discovery of Climate Visualizations for Environmental Decision Making: **T B Stevens**, L M Olsen, M P Morahan, A Aleman, M F Meaux, S Ritz, M Holland, T Cherry

0800h **IN31A-0994 POSTER** Planning of the reforestation at abandoned coal mines using GIS: **Y Choi**, S Oh, H Park, H Kwon

0800h **IN31A-0995 POSTER** Remote Sensing and GIS for Water Resource Decision Making: **T M Stough**, P Scantlin, S L Granger, G Geller, N P Molotch, J Hyon

0800h **IN31A-0996 POSTER** Infusion of Atmospheric Dust Model Outputs into a Public Health Decision Support System: The Integration of Open Geospatial Consortium Service Products Into the New Mexico Environmental Public Health Tracking System: **W B Hudspeth**, J A Cavner

0800h **IN31A-0997 POSTER** Application of the NASA Terrestrial Observation and Prediction System for Optimization of Agricultural Water Use in California: **F S Melton**, R R Nemani, L F Johnson, E Sheffner, A Michaelis, P Votava, S H Hiatt, H Hashimoto, C Milesi, L Pierce, W Wang

0800h **IN31A-0998 POSTER** The Pelagics Habitat Analysis Module (PHAM): Decision Support Tools for Pelagic Fisheries: **E M Armstrong**, D P Harrison, D Kiefer, F O'Brien, M Hinton, S Kohin, S Snyder

0800h **IN31A-0999 POSTER** Australia's TERN – Developing a National Terrestrial Ecosystem Monitoring Program: **S R Phinn**

0800h **IN31A-1000 POSTER** Arctic Research Mapping Application 3D Geobrowser: Accessing and Displaying Arctic Information From the Desktop to the Web: **G W Johnson**, J Gonzalez, J J Brady, A Gaylord, W F Manley, R Cody, M Dover, R Score, D Garcia-Lavigne, C E Tweedie

IN31B Moscone South: Poster Hall Wednesday 0800h
Emerging Issues in e-Science: Collaboration, Provenance, and the Ethics of Data I Posters

Presiding: R Ramachandran, University of Alabama in Huntsville;
R E Duerr, National Snow and Ice Data Center

0800h **IN31B-1001 POSTER** Provenance Artifact Identification and Semantic Tagging in the Atmospheric Composition Processing System (ACPS): **C Tilmes**

0800h **IN31B-1002 POSTER** Provenance-Aware Faceted Search: **D L McGuinness**, P A Fox, C Chang, L Ding, Z Shangguan, P West, S Zednik

0800h **IN31B-1003 POSTER** Advancing Collaborative Climate Studies through Globally Distributed Geospatial Analysis: **R Singh**, G Percivall

0800h **IN31B-1004 POSTER** Identifying Communication Barriers to Scientific Collaboration: **A M Grubb**, S M Easterbrook

0800h **IN31B-1005 POSTER** Ethics, Collaboration, and Presentation Methods for Local and Traditional Knowledge for Understanding Arctic Change: **M A Parsons**, S Gearheard, C McNeave

0800h **IN31B-1006 POSTER** Lineage management for on-demand data: **J A Collins**, M Brodzik, B W Billingsley

0800h **IN31B-1007 POSTER** Experiences Developing a Collaborative Data Sharing Portal for FLUXNET: **D Agarwal**, M Humphrey, N Beekwilder, C van Ingen, D Papale, M Reichstein, D D Baldocchi

0800h **IN31B-1008 POSTER** Ignored Issues in e-Science: Collaboration, Provenance and the Ethics of Data: **J A Hourcle**

0800h **IN31B-1009 POSTER** IsoMAP (Isoscape Modeling, Analysis, and Prediction): **C C Miller**, G J Bowen, T Zhang, L Zhao, J B West, Z Liu, N Rapolu

IN31C Moscone South: Poster Hall Wednesday 0800h
Frontiers in Advanced Information Systems and Earth Observation Technology Posters

Presiding: M Albjerg; G Prescott, University of Kansas

0800h **IN31C-1010 POSTER** Operational Monitoring of GOME-2 and IASI Level 1 Product Processing at EUMETSAT: **Y Livschitz**, R Munro, R Lang, L Fiedler, R Dyer, M Eisinger

0800h **IN31C-1011 POSTER** Advanced Technologies for Measurement of Decadal Climate Change from Space (*Invited*): **M G Mlynczak**

0800h **IN31C-1012 POSTER** Superpixel Segmentation for Endmember Detection in Hyperspectral Images: D R Thompson, C De Granville, **M S Gilmore**, R Castano

0800h **IN31C-1013 POSTER** Web and Web Services based tool that provides Subsets and Visualization of MODIS land products to facilitate land validation and field site characterization: **S Santhana Vannan**, R B Cook, B E Wilson

0800h **IN31C-1014 POSTER** Geostatistical Data Fusion for Remote Sensing Applications: **A J Braverman**, N Cressie, M Katzfuss, A M Michalak, C E Miller, H Nguyen, E T Olsen, R Wang

0800h **IN31C-1015 POSTER** The Glacier and Land Ice Surface Topography Interferometer: An Airborne Proof-of-concept Mapping Sensor: **D Moller**, S Hensley, C Chuang, C Fisher, R Muellerschoen, L Milligan, G Sadowy, E J Rignot

0800h **IN31C-1016 POSTER** MAGI-L: A Space-Based High-Performance Thermal Infrared Imaging Spectrometer: **J L Hall**, J A Hackwell, D M Tratt, D W Warren, S J Young

0800h **IN31C-1017 POSTER** Extending TOPS: Knowledge Management System for Anomaly Detection and Analysis: **P Votava**, R R Nemani, A Michaelis

0800h **IN31C-1018 POSTER** An International Disaster Management SensorWeb Consisting of Space-based and Insitu Sensors: **D Mandl**, S W Frye, F S Policelli, P G Cappelaere

0800h **IN31C-1019 POSTER** Advanced Component Development to Enable Low-Mass, Low-Power High-Frequency Microwave Radiometers for Coastal Wet-Tropospheric Correction on SWOT: **S C Reising**, S Brown, T C Gaier, D J Hoppe, D E Dawson

0800h **IN31C-1020 POSTER** Development of a High-Altitude, High-Accuracy, Wide-Swath Imaging Laser Altimeter Capability for the Global Hawk UAV Aircraft: **J B Blair**

IN31D Moscone South: 102 Wednesday 0800h
Next Generation, Space-Based, Operational Global Earth Observations I (*joint with A, B, GC, OS, H*)

Presiding: D Day, Northrop Grumman; T C Spangler, UCAR/COMET

0800h **IN31D-01** NOAA Plans for Next Generation, Space-based, Operational Observations (*Invited*): **M Kicza**

0815h **IN31D-02** EUMETSAT Plans for Next Generation, Space-based, Operational Observations (*Invited*): **P Schluessel**, R Stuhlmann, J Schmetz, E Koenemann

0830h **IN31D-03** NPP/NPOESS Status: **D Stockton**

0845h **IN31D-04** The NPOESS Crosstrack Infrared Sounder (CrIS) and Advanced Technology Microwave Sounder (ATMS) as a Companion to the New Generation AIRS/AMSU and IASI/AMSU Sounder Suites: **G E Bingham**, N S Pougatchev, V Zavyalov, M Esplin, W J Blackwell, C Barnett

0900h **IN31D-05** The NPOESS VIIRS Sensor as the Follow-On to the EOS MODIS Sensor: **B Guenther**, J Xiong, R E Murphy, E Johnson, F DeLuccia

0915h **IN31D-06** Sentinel-2 Optical High Resolution Mission for GMES Land Operational Services: **M Drusch**, F Gascon, P Martimort, F Spoto

0930h **IN31D-07** EUMETSAT's approach towards an optimization of training for its current and future satellite: **V Gaertner**

0945h **IN31D-08** The ESRC: A Web-based Environmental Satellite Resource Center: **W E Abshire**, B Guarente, P N Dills

Natural Hazards

NH31A Moscone South: Poster Hall Wednesday 0800h
Drilling and Monitoring for Earthquake Disaster Mitigation I Posters

Presiding: J C Moore, UC Santa Cruz; R Kobayashi, Kagoshima University; Y Yamamoto, JAMSTEC

0800h **NH31A-1093 POSTER** Multichannel seismic profiles crossing source regions of megathrust earthquakes and slow slip events off-Boso, central Japan: **S Miura**, M Yamashita, N Takahashi, T No, S Kodaira, K Nozaki, R Kobayashi

0800h **NH31A-1094 POSTER** Pressure sources of crustal deformation associated with swarm activities in the Hakone caldera and their influence on the occurrence of the Western Kanagawa Earthquake: **M Harada**, T Tanada, Y Yukutake, A Kobayashi, A Yoshida

0800h **NH31A-1095 POSTER** California Fault Zone Orphan Borehole Database: **J Avila**, E E Brodsky

0800h **NH31A-1096 POSTER** Threshold of Breakout Formation: Stress Orientations and the Mechanics Borehole Failure: **J C Moore**, M Conin, P B Flemings, R Urgeles, G J Iturrino

0800h **NH31A-1097 POSTER** Core - log integration of petrophysical lithofacies at the Nankai Trough: **J Tudge**, S Saito, S J Davies, M Lovell, P K Harvey

0800h **NH31A-1098 POSTER** First riser drilling in Scientific Ocean Drilling history, Observatory drilling and casing in the Nankai Trough (IODP Exp 319): **S Toczko**, N O Eguchi, K Takahashi, E Araki, T B Byrne, L C McNeill, D M Saffer

0800h **NH31A-1099 POSTER** First time real-time mud gas monitoring during riser drilling in the Kumano Basin (IODP Exp 319): **T Wiersberg**, J Erzinger, K Horiguchi, D M Saffer, T B Byrne, L C McNeill, E Araki, K Takahashi, N O Eguchi, S Toczko

0800h **NH31A-1100 POSTER** Structural geology of cuttings and cores recovered from below the Kumano forearc basin, Nankai accretionary margin of Japan: Expedition 319 of the Integrated Ocean Drilling Program (IODP): **N W Hayman**, T B Byrne, G Huftile, L C McNeill, T Kanamatsu, D Saffer, E Araki, N O Eguchi, S Toczko, K Takahashi, E Scientists

0800h **NH31A-1101 POSTER** Study on the installation method for the long-term observatory based on the field test during Chikyu Expedition 319: **K Kitada**, E Araki, T Kimura, D M Saffer, T Byrne, L C McNeill, S Toczko, N O Eguchi, K Takahashi

0800h **NH31A-1102 POSTER** A "Mini-CORK" "smart bridge plug" for initial NanTroSEIZE borehole monitoring: **E E Davis**, D M Saffer, A Kopf, R Macdonald, A LaBonte, J Bennest, R Meldrum, S Toczko

NH31B Moscone South: Poster Hall Wednesday 0800h
Integrated Tsunami Risk Research II Posters (*joint with OS*)

Presiding: **H M Fritz**, Georgia Institute of Technology; **J R Goff**, University of New South Wales

0800h **NH31B-1103 POSTER** A seismic study of potential tsunami sources in Kingston Harbor, Jamaica: **K L Delbecq**, M Hornbach, P Mann, L A Brown

0800h **NH31B-1104 POSTER** Examination of enormous potential for paleo-geohazard studies with high-precision ²³⁰Th dating of emerged massive *Porites* coral boulders at Ishigaki Island in the Ryukyus, Japan: **D Araoka**, M Inoue, A Suzuki, Y Yokoyama, R Edwards, H Cheng, H Matsuzaki, H Kan, N Shikazono, H Kawahata

0800h **NH31B-1105 POSTER** Effect of Coastal Angles on Tsunami Run-up Induced by Reverse Fault Earthquake Considering the Interaction between Sea Water and Seafloor: **C An**, Y Cai

0800h **NH31B-1106 POSTER** "PLAFKER RULE OF THUMB" RELOADED: EXPERIMENTAL INSIGHTS INTO THE SCALING AND VARIABILITY OF LOCAL TSUNAMIS TRIGGERED BY GREAT SUBDUCTION MEGATHRUST EARTHQUAKES: **M Rosenau**, R Nerlich, S Brune, O Oncken

0800h **NH31B-1107 POSTER** Angles of repose of the Palisades sandspit, Port Royal, Jamaica: Potential for catastrophic submarine landslips during future earthquakes: **L A Brown**, M Hornbach, P Mann

0800h **NH31B-1108 POSTER** Interdisciplinary approach for Tsunami Hazard Mitigation in Algeria (West Mediterranean): **L A Amir**, A Cisternas, J D Vignerese

0800h **NH31B-1109 POSTER** Landslide Versus Splay: The Source of the Near-Field Tsunami of 1 April 1946: **G J Fryer**, G M McMurtry, M D Tryon

0800h **NH31B-1110 POSTER** Tsunami sediments and their foraminiferal assemblages: **B L Mamo**, L C Strotz, D Dominey-Howes

0800h **NH31B-1111 POSTER** Numerical modeling of landslide generated tsunami using adaptive unstructured meshes: **C R Wilson**, G S Collins, M D Piggott

0800h **NH31B-1112 POSTER** Tsunami scenarios for submarine landslides in the Fram Strait (North Atlantic): **C Berndt**, S Brune, E G Nisbet, J Zschau, S V Sobolev, G K Westbrook, T A Minshull, A Chabert, S Sarkar

0800h **NH31B-1113 POSTER** Large California Tsunamis From Central Coast Historians And Central Coast Newspaper Records: **E L Blanck**

0800h **NH31B-1114 POSTER** Tsunami Model of Cilacap-Indonesia: Inundation and Its Mitigation: **W Kongko**, T Schlurmann, R Khomarudin

0800h **NH31B-1115 POSTER** Numerical and Experimental Study on the Effect of Coral Reef and Beach Vegetation on Reduction of Long Wave Run-Up: **R K Mohandie**, M H Teng

0800h **NH31B-1116 POSTER** Tsunami Risk Mapping in Coastal Zones of Low Tsunami Hazard: The Case of the Balchik Town, Bulgarian Coast, Black Sea: A L Fokaefs, G Diakogianni, T Novikova, **G A Papadopoulos**, B K Rangelov

0800h **NH31B-1117 POSTER** Site-specific Earthquake-generate Tsunami Hazard Assessment in U.S. Atlantic Coast: **Y Wei**, V V Titov, C W Moore, E Gica, D Arcas, M C Spillane, H Zhou

0800h **NH31B-1118 POSTER** TSUNAMI MODELING FOR RISK ASSESSMENT IN PACIFIC ISLAND COUNTRIES: H Damlamian, S Sagar, **P R Cummins**

0800h **NH31B-1119 POSTER** Building Vulnerability Assessment Using Hybrid Assessment Approaches: Object-Based Image Analysis and In-Situ Survey: **S - Sumaryono**, G Strunz, R Ludwig, J Post, K Zosseder, M Mueck

0800h **NH31B-1120 POSTER** Geochemical signatures of palaeotsunamis: another tool in the toolkit: **C Chague-Goff**, J R Goff

0800h **NH31B-1121 POSTER** A Late Holocene record of tsunamis in the Augusta Bay area (eastern Sicily, Italy): historical vs geological data: **P De Martini**, M Barbano, A Smedile, F Gerardi, D Pantosti, P Del Carlo, C Pirrotta

0800h **NH31B-1122 WITHDRAWN**

NH31C Moscone South: Poster Hall Wednesday 0800h
Seismic Correlation and Coupling From Underground to the Surface to the Ionosphere Posters (*joint with A, AE, IN, S, P, H, GP, T, EP, V*)

Presiding: **J S Wang**, Lawrence Berkeley National Laboratory; **G Waysand**

0800h **NH31C-1123 POSTER** Seismoelectric and seismomagnetic measurements: original experiments within the Low Noise Underground Laboratory of Rustrel (France) (*Invited*): **C Bordes**, L Jouniaux, S Garambois, M Dietrich

0800h **NH31C-1124 POSTER** A New Tool for Earth-Ionosphere Interactions: [SQUID]² Ultra Low Noise 3 Axis SQUID Magnetometer, 2009 status and perspectives: **G Waysand**, J Marfaing, J Bois, E Pozzo di Borgo, R Blancon, S GAFFET, M Auguste, D Boyer, A Cavaillou, P Barroy

0800h **NH31C-1125 POSTER** Observation of Magnetic Signals from Earthquake Faulting: Co-faulting Signals in the Iwate-Miyagi Nairiku Earthquake of M 7.2, NE Japan: K Okubo, **A Takeuchi**, Y Suyama, M Utsugi, Y Sasai, Y Nakamura, N Takeuchi

0800h **NH31C-1126 POSTER** Electromagnetic fields generated by constrained rotation of structural blocks in the Earth's crust: **T V Losseva**, M Y Kuzmicheva, A A Spivak

0800h **NH31C-1127 POSTER** Numerical simulation study on earthquake-induced landslide stability evaluation: **C Li**, H Tang, L Wang, C Xiong

0800h **NH31C-1128 POSTER** Ionospheric perturbations associated with earthquakes, as seen by subionospheric VLF/LF propagation (*Invited*): M Hayakawa, O Molchanov, **Y Hobara**

0800h **NH31C-1129 POSTER** Temporal Changes in Apparent Resistivity on the Stanford-USGS Ultra-Low Frequency Electromagnetic Network: **J H Garber**, S L Klemperer, D K McPhee, J M Glen

0800h **NH31C-1130 POSTER** Metal-ion solvation and abundance in atmospheric media before strong earthquakes: **K Lemke**, J Aitchison

0800h **NH31C-1131 POSTER** Improving the modeling of ionospheric perturbations observed after large earthquakes: **L M ROLLAND**, P Lognonne, H Munekeane, F Crespon, M Murakami, E Kherani, G Occhipinti, P Coisson

0800h **NH31C-1132 POSTER** Seismic Correlation and Coupling from Underground, Surface, to the Ionosphere: **J S Wang**, G Waysand

NH31D Moscone West: 2006 Wednesday 0800h
Threat and Response: The Reality and Politics of the Near-Earth Objects Hazard I (*joint with A, B, GC, EP, P*)

Presiding: E Pierazzo, Planetary Science Institute; M M COURT, CNRS UMR 7140; J Melosh, Lunar and Planetary Lab

0800h **NH31D-01** The NEO population and impact frequency (*Invited*): **A W Harris**

0815h **NH31D-02** The Nature of Airbursts and their Contribution to the Impact Hazard (*Invited*): **M B Boslough**

0830h **NH31D-03** Tsunamis due to meteorite impacts into marine environments (*Invited*): **R Weiss**, K Wünnemann, G S Collins, P J Lynett

0845h **NH31D-04** Eltanin: Ground Truth for Kilometer-Sized Deep-Ocean Impacts (*Invited*): **F T Kyte**, R Gersonde, G Kuhn

0900h **NH31D-05** A Good Impact Is Hard To Find (and Interpret): Lessons Learned From Studying Multiple Late Archean/Early Proterozoic Spherule Layers: **B M Simonson**, S W Hassler

0910h **NH31D-06** The Relationship between the Boltysh and Chicxulub Asteroid Impacts: Implications for Celestial Mechanics at the K/Pg boundary: **S P Kelley**, D Jolley, E Gurov, I Gilmour, J Watson

0920h **NH31D-07** The Argentine Impact Record: Implications for Episodes of Increased Flux during the Last 10 Myr: **R S Harris**, P H Schultz

0930h **NH31D-08** Quantifying the Perturbation of Atmospheric Chemistry from Medium-Size Asteroid Impacts in the Ocean: **E Pierazzo**, R R Garcia, D E Kinnison, D R Marsh

0940h **NH31D-09** Earth Impact Effects Program: Estimating the Regional Environmental Consequences of Impacts On Earth: **G S Collins**, H J Melosh, R A Marcus

0950h **NH31D-10** The characteristics of burnt facies and impact debris tracing cosmic airbursts and related hazards: **M M COURT**, M Fedoroff, T Ge, Z Guo, J Raynal, J Vallverdu Poch

Near Surface Geophysics

NS31A Moscone South: Poster Hall Wednesday 0800h
Advanced Inverse Strategies for Improved Characterization and Assessment of Groundwater, Mineral, and Petroleum Resources I Posters (*joint with H, GP, S*)

Presiding: M J Yedlin, UBC; C A Zelt, Rice University

0800h **NS31A-1148 POSTER** Complexity reduction in inverse problems: Wavelet transforms, PCA and geological bases: T Mukerji, J Fernandez Martinez, Z Fernandez Muniz, D Echeverría Ciaurri

0800h **NS31A-1149 POSTER** Robust frequency-domain elastic Full Waveform Inversion: which norm?: **R Brossier**, S O Operto, J Virieux

0800h **NS31A-1150 POSTER** Contribution of thermoelectric and electrochemical effects to spontaneous potential signals induced by water injection into hydrocarbon reservoirs: **M Y Gulamali**, J H Saunders, M Jackson, C C Pain

0800h **NS31A-1151 POSTER** Eikonal-Based Inversion of GPR Data from the Vaucluse Karst Aquifer: **M J Yedlin**, D Van Vorst, Y Guglielmi, F Cappa, S GAFFET

0800h **NS31A-1152 POSTER** Audio magnetotelluric study applied to hydrogeology at Santo Tomás Valley, Baja California, México: **A C Islas**, J M Romo

0800h **NS31A-1153 POSTER** 3D Pre-Stack Depth Migration for Complicated Structure by DSR Wave Equation and Its Application: **L Li**, S Luo

0800h **NS31A-1154 POSTER** Parallel Inversion Arithmetic for 3D Multi-Wave Pre-stack Elasticity Parameters and Its Application: **S Luo**, L Li

0800h **NS31A-1155 POSTER** Frequency-Dependent Traveltime Tomography For Controlled-Source, Near-Surface Seismic Data: **C A Zelt**

NS31B Moscone South: Poster Hall Wednesday 0800h
Back to Basics: Measurement of Electrical Properties of Rocks and Sediments I Posters (*joint with H, GP, MR*)

Presiding: K E Butler, University of New Brunswick; J B Merriam, University of Saskatchewan

0800h **NS31B-1156 POSTER** Measuring the DC electrokinetic coupling coefficient of porous rock samples in the laboratory : a new apparatus: **E Walker**, E Tardif, P W Glover, J Ruel, J Hadjigeorgiou

0800h **NS31B-1157 POSTER** Multiphase Streaming Potential in a Bundle of Capillary Tubes Model: Insights Into the Impact of Fluid and Charge Distribution at the Pore-scale: **M Jackson**

0800h **NS31B-1158 POSTER** Experimental measurement of the multiphase streaming potential coupling coefficient in sandstones during drainage and imbibition: **J Vinogradov**, M Jackson

0800h **NS31B-1159 POSTER** Electrokinetics dependence on water-content in sand: **V Allègre**, F Lehmann, L Jouniaux, P Sailhac, P Matthey

0800h **NS31B-1160 POSTER** Seismoelectric experiments in a natural laboratory: investigating the permeability/frequency dependence of co-seismic effects at the Boise Hydrogeophysical Research Site: **K E Butler**, M T West, W Barrash, E A Hinz

0800h **NS31B-1161 POSTER** Seismoelectric measurements for the characterization of partially saturated porous media: **C Bordes**, S Garambois, L Jouniaux, P Senechal

0800h **NS31B-1162 POSTER** Microscale Modelling of the Frequency Dependent Resistivity of Porous Media: **J Volkmann**, N Klitzsch, O Mohnke, C Clauser

0800h **NS31B-1163 POSTER** Comparison of non-polarising electrode designs for measuring electrical properties in biogeophysics experiments: L J West, **C G Hubbard**, K Morris, S Shaw

0800h **NS31B-1164 POSTER** Effect of hydrocarbon contamination on laboratory measurements of the streaming potential coupling coefficient: **S Forté**, L R Bentley

0800h **NS31B-1165 POSTER** A two electrode apparatus for electrical impedance measurements: **J B Merriam**

0800h **NS31B-1166 POSTER** Numerical Modeling of Unconsolidated Sediments to Explore Relationships Between Electrical Conductivity and Hydrogeologic Parameters at the Pore-Scale: **R Cockett**, A Pidlisecky

0800h **NS31B-1167 POSTER** P-type Semiconductor Like Conduction Mechanism of Igneous Rocks under Non-uniform Stress: **A Takeuchi**, ÖMER Aydan, K Sayanagi, T Nagao

0800h **NS31B-1168 POSTER** A Web Interface for Software of Stochastic Inversion of Spectral Induced Polarization Data: **J Chen**, S Pullman, S S Hubbard, J Peterson

0800h **NS31B-1169 POSTER** Interpretation of Self-potential on a Tranquil Volcano in Consideration of Zeta Potential Variation of the Volcanic Rocks: **H Hase**, T Ishido, W Kanda, S Mori

0800h **NS31B-1170 POSTER** Utilizing Continuous Resistivity Profiling for Assessment and Characterization of Canal Seepage in El Paso's Lower Valley Irrigation Network System: **W A Brown**, Z Sheng

0800h **NS31B-1171 POSTER** 3D DC/IP BOREHOLE-TO-BOREHOLE IMAGING: **B Milkereit**, W Qian, E L Bongajum

0800h **NS31B-1172 WITHDRAWN**

0800h **NS31B-1173 POSTER** Using High Resolution Complex Electrical Conductivity Measurements of Heterogeneous Rocks: G N Boitnott, **G Y Bussod**

Ocean Sciences

OS31A Moscone South: Poster Hall Wednesday 0800h **Gas Hydrates: Results of Recent Field Investigations III** **Posters** (*joint with PP*)

Presiding: **T S Collett**, US Geological Survey; **R M Boswell**, US Dept of Energy

0800h **OS31A-1174 POSTER** Two Kinds of Gas Hydrate Reservoirs: Pore-filling Sand vs. Fractured Clay: **A Cook**, D Goldberg

0800h **OS31A-1175 POSTER** Sedimentological Properties of Natural Gas Hydrates-Bearing Sands in the Nankai Trough and Mallik Areas: **T Uchida**, T Tsuji, A Waseda

0800h **OS31A-1176 POSTER** The characteristics of gas hydrates occurring in natural environment: **H Lu**, I Moudrakovski, K Udachin, G Enright, C Ratcliffe, J Ripmeester

0800h **OS31A-1177 POSTER** Core lithologies and their constraints on gas hydrate occurrence in the Ulleung Basin, East Sea of Korea: **J Bahk**, U Kwon, M E Holland

0800h **OS31A-1178 POSTER** Comparison of Physical Properties of Marine and Arctic Gas-Hydrate-Bearing Deposits: **W J Winters**, M Walker, T S Collett, S L Bryant, I Novosel, R Wilcox-Cline, J Bing, M L Gomes

0800h **OS31A-1179 POSTER** The Role of Geology and Shallow Lithostratigraphy in the Distribution of Methane Flux through Shallow Sediments Across the Beaufort Shelf of Alaska: **K Rose**, J E Johnson, J P Smith, R B Coffin, W T Wood, P E Hart, J Greinert, T D Lorenson

0800h **OS31A-1180 POSTER** Discovery and Characterization of Cold Seep Vents Using a Mass Spectrometer Operating aboard an Autonomous Underwater Vehicle: **R Camilli**, L Macelloni, V Asper, M Woolsey, J Williams, A Diercks, C B Lutken, K Sleeper

0800h **OS31A-1181 POSTER** Raman spectroscopic analyses on structure and composition of gas hydrate from Kumano mud volcano, Nankai Trough, Japan: **H Tomaru**, A Ijiri, T Toki, F Inagaki

0800h **OS31A-1182 POSTER** Ethane and propane emissions to the ocean and atmosphere from 550-1200 m seeps in the Gulf of Mexico: **E A Solomon**, M Kastner, I Leifer

0800h **OS31A-1183 POSTER** DISTINCTIVE FINE-SCALE MORPHOLOGY OF HYDRATE RIDGE: **D Conlin**, C K Paull, D W Caress, H Thomas, W Ussler, E Lundsten, D Thompson

0800h **OS31A-1184 POSTER** DISTINCTIVE FINE-SCALE MORPHOLOGY OF GAS-RICH SITES ON THE CASCADIA MARGIN NEAR BULLSEYE VENT: **H Thomas**, C K Paull, D W Caress, W Ussler, E Lundsten, M Riedel

0800h **OS31A-1185 POSTER** HYFLUX: Satellite Exploration of Natural Hydrocarbon Seeps and Discovery of a Methane Hydrate Mound at GC600: **O G Garcia-Pineda**, I R MacDonald, W Shedd, B Zimmer

0800h **OS31A-1186 POSTER** Pore Water Data From Three Gas Hydrate Sites in the Gulf of Mexico: First Results From the HyFlux Project: **R A Shapiro**, T H Naehr, I MacDonald, M Kastner, G Robertson, E A Solomon

0800h **OS31A-1187 POSTER** Controls on gas hydrate stability in methane depleted sediments: Laboratory and field measurements: **L Lapham**, J Chanton, C S Martens

0800h **OS31A-1188 POSTER** New Insights from Sediment Ages and Carbon Isotopes at a Paleo-Seep/Chemosynthetic Biological Community in the Krishna-Godavari Basin, Offshore India: **E C Connolly**, J E Johnson, M E Torres, B M Teichert, L Giosan, K Rose

0800h **OS31A-1189 POSTER** Stable isotopic and molecular compositions of void and hydrate-bound gases in typical seismic chimney setting of the Ulleung Basin, East Sea, Korea: **J Chun**, J Lee, J Kim, J Bahk, B Ryu

0800h **OS31A-1190 POSTER** Availability Of Dissolved Organic Carbon (DOC) In The Northern Cascadia Margin Gas Hydrate System: Results From IODP Expedition 311: **J Pohlman**, J Kim, V Heuer, C L Osburn

0800h **OS31A-1191 POSTER** Effects of core retrieval, handling, and preservation on hydrate-bearing samples: **T J Kneafsey**, H Lu, W J Winters, R B Hunter

0800h **OS31A-1192 POSTER** High volume methane gas hydrate deposits in fine grained sediments from the Krishna-Godavari Basin: Analysis from Micro CT scanning: **E V Rees**, C Clayton, J Priest, P J Schultheiss

0800h **OS31A-1193 POSTER** X-ray CT observations of methane hydrate distribution in natural sediment and laboratory formed compacted sand samples: **Y Seol**, T J Kneafsey, E V Rees

0800h **OS31A-1194 POSTER** Comparison of Seismic Data with Shallow Resistivity Structure at Porangahau Ridge, Southern Hikurangi Subduction Margin, New Zealand: Evidence for Gas Hydrate Distribution and Fluid Flow: **S J Toulmin**, K Schwalenberg, I A Pecher, T G Caldwell, S A Henrys

0800h **OS31A-1195 POSTER** Newly Collected Multibeam Swath Bathymetry Data Herald a New Phase in Gas-hydrate Research on Lake Baikal: L Naudts, O Khlystov, A Khabuev, I Seminskiy, R Casier, M Cuylaerts, P General'chenko, J Synaev, N Vlamynck, **M A De Batist**, M A Grachev

0800h **OS31A-1196 POSTER** Geophysical Signatures of cold vents on the northern Cascadia margin: **M Riedel**, C K Paull, G Spence, R D Hyndman, D W Caress, H Thomas, E Lundsten, W Ussler, K Schwalenberg

0800h **OS31A-1197 POSTER** Acoustic Surveys of Methane Plumes by Quantitative Echo Sounder in the Eastern Margin of Japan Sea: **C Aoyama**, R Matsumoto

0800h **OS31A-1198 POSTER** Heat flow and gas hydrates on the continental margin of India: Building on results from NGHP expedition 01: **P K Kannberg**, A M Trehu

0800h **OS31A-1199 POSTER** Seismic velocity analysis for gas hydrate bearing sediments offshore southwestern Taiwan: **S Tu**, C Liu

0800h **OS31A-1200 POSTER** Policy for Environmental Impact Assessment Study in the Phase 2 of the Japan's Methane Hydrate R&D Program: S Nagakubo, **N Arata**, H Kobayashi, K Yamamoto

0800h **OS31A-1201 POSTER** Japan's Methane Hydrate R&D Program, Accomplishments and Future Challenges: **T SHIMADA**

0800h **OS31A-1202 POSTER** Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Results from the Alaminos Canyon 21 Site: **P D Godfriaux**, W Shedd, M Frye, T S Collett, M W Lee, R M Boswell, A Cook, S Mrozewski, G Guerin, D McConnell, R Dufrene, E Jones

0800h **OS31A-1203 POSTER** Delineation of the distributions of sand bodies in the offshore Sado Island, Japan: **T Furukawa**, T Saeki, O Takano, N Shimoda

0800h **OS31A-1204 POSTER** Numerical Model of Hydrate Formation and Dissociation With Free Gas Flow for a Global Inventory: **B Scandella**, R Juanes

0800h **OS31A-1205 POSTER** Relation between the deep crustal structure and accumulation of methane hydrates in the Nankai Trough indicated by the distribution of BSRs: **G Mito**, K Tamaki, T No, S Kodaira

0800h **OS31A-1206 POSTER** Stability evaluation of hydrate-bearing sediments during thermally-driven hydrate dissociation: **T Kwon**, G Cho, J Santamarina, H Kim, J Lee

0800h **OS31A-1207 POSTER** THE EFFECT OF GAS HYDRATES DISSOCIATION AND DRILLING FLUIDS INVASION UPON BOREHOLE STABILITY IN OCEANIC GAS HYDRATES-BEARING SEDIMENT: F Ning, N Wu, G Jiang, **L Zhang**

0800h **OS31A-1208 POSTER** Design of a potential long-term test of gas production from a hydrate deposit at the PBU-L106 site in North Slope, Alaska: Production predictions and sensitivity analysis: **G J Moridis**, M T Reagan, K Boyle, K Zhang

0800h **OS31A-1209 POSTER** Numerical simulation of dissociation of methane hydrate in response to depressurization by periodic uplift: **S Goto**, O Matsubayashi, S Nagakubo

0800h **OS31A-1210 POSTER** Topography within the axial channels of Monterey and Soquel Canyons: **E Lundsten**, C K Paull, D W Caress, W Ussler, H Thomas

OS31B Moscone West: 3003 Wednesday 0800h
Improvements in Tsunami Risk Assessment, Warning, and Mitigation: Five Years After Sumatra I (*joint with NH, PA*)

Presiding: N Wood, USGS; **V V Titov**, NOAA/PMEL; **P K Dunbar**, National Geophysical Data Center

0800h **OS31B-01** U.S. Tsunami Warning System: Advancements since the 2004 Indian Ocean Tsunami (*Invited*): **P Whitmore**

0820h **OS31B-02** Advances in NOAA Research Since the 2004 Indian Ocean Tsunami (*Invited*): **E N Bernard**

0840h **OS31B-03** Learning from the Survivors and Teaching the Community (*Invited*): **W C Dudley**

0900h **OS31B-04** Advances in understanding societal vulnerability to tsunamis in the United States: **N J Wood**

0915h **OS31B-05** Tsunami Forecast Progress Five Years After Indonesian Disaster: **V V Titov**, E N Bernard, S Weinstein, U Kanoglu, C W Moore, C Synolakis

0930h **OS31B-06** Improvements in NOAA's Operational Tsunami Network since December 2004: **R Bouchard**, C Kohler, S McArthur, W H Burnett, W I Wells, R Luke

0945h **OS31B-07** A first attempt in global tsunami hazard mapping and population exposure: F Lovholt, **S Glimsdal**, H C Smebye, N Zamora, C B Harbitz, G K Pedersen

Planetary Sciences

P31A Moscone South: Poster Hall Wednesday 0800h
Modeling Planetary Dynamics I Posters (*joint with G, DI, T, EP*)

Presiding: C Sotin, Jet Propulsion Laboratory

0800h **P31A-1227 POSTER** Modeling of zonal flows on gas giants and ice giants – A unified approach using 3D compressible model: **S F Sum**, K L Chan

0800h **P31A-1228 POSTER** Near-Infrared Spectroscopy and Imaging of the 2009 Jupiter impact debris field: Constraints on particle composition, size and vertical distribution: **P A Yanamandra-Fisher**, G S Orton, L N Fletcher, B Fisher, Z Greene, E Otto, N Reshetnikov, W Golisch, M B Lystrup, M Shara, N A Moskovitz, D Trilling, V Reddy, A Rivkin, W M Grundy, J P Emery, J Kim, K H Baines, D Griep, P Sears

0800h **P31A-1229 POSTER** Numerical modeling of large-scale vortices in Jupiter's atmosphere: **R Kato**, S Ko-ichiro, K Nakajima

0800h **P31A-1230 POSTER** Laboratory Observations of a New Grain Accretion Process: Implications for the Formation of Planetary Systems: P E Clark, **S A Curtis**, F Minetto, J A Nuth, J R Marshall, C Calle

0800h **P31A-1231 POSTER** Bubble stability in vigorous convection: Ramifications for magma-ocean degassing and formation of an early atmosphere: J Sethian, **J Suckale**, L T Elkins-Tanton

0800h **P31A-1232 POSTER** The effect of internal heating on plate dynamics in planetary mantle convection: **C Stein**, U Hansen, J P Lowman

0800h **P31A-1233 POSTER** A study of Venus rotation at short time scale: **L Cottureau**, J Souhay

0800h **P31A-1234 POSTER** Long-Term Polar Motion on a Quasi-Fluid Planet with an Elastic Lithosphere: Semi-Analytic Solutions of the Time-Dependent Equation: **Y Harada**

0800h **P31A-1235 POSTER** Gravitational Influence of the Sun and Moon on the Earth and Possible Geodynamic Consequences: **L A Maslov**, Y N Avsyuk

0800h **P31A-1236 POSTER** Modeling of two-phase porous flow with damage: **Z Cai**, D Bercovici

0800h **P31A-1237 POSTER** Heat Flow Scaling of Convection with Damage Theory and the Onset of Plate Tectonics: **B J Foley**, D Bercovici

0800h **P31A-1238 POSTER** Tidal Dissipation inside close-in super-Earths coupled with its Thermal and Orbital evolution: **C Tachinami**, D A Yuen

0800h **P31A-1239 POSTER** Towards high-resolution mantle convection simulations: **T Höink**, M A Richards, A Lenardic

0800h **P31A-1240 POSTER** COMPARING 2D AXISYMMETRIC AND 3D SPHERICAL MODELS OF MARTIAN MANTLE CONVECTION CONSTRAINED BY MELTING HISTORY: **P Sekhar**, S D King

0800h **P31A-1241 POSTER** CitcomSX: Robust preconditioning in CitcomS via PETSc: **D May**, M G Knepley, M Gurnis

0800h **P31A-1242 POSTER** Simulations of Uranian Circulation with the EPIC GCM: **M Sussman**, T E Dowling, N Chanover

P31B Moscone South: Poster Hall Wednesday 0800h
Planetary Cores and Subsurface Ocean Dynamics Driven by Mechanical Forcings I Posters (*joint with GP, DI*)

Presiding: J Noir, UCLA

0800h **P31B-1243 POSTER** Flows in non-spherical planetary fluid cores: Analytical and numerical model: **K Zhang**, K Chan, X Liao

0800h **P31B-1244** POSTER Tidal flow and dissipation in planetary cores: **B A Buffett**

0800h **P31B-1245** POSTER Does Core-Mantle Boundary Heat Flow Regulate Geodynamo Reversal Frequency?: **P Olson**, R S Coe, P E Driscoll, G A Glatzmaier, P H Roberts

0800h **P31B-1246** POSTER A dynamo driven by zonal winds at the upper surface: **C Guervilly**, P CARDIN

0800h **P31B-1247** POSTER The response of subsurface oceans in icy satellites to tidally driven forcing: **E M Chen**, G A Glatzmaier, F Nimmo

0800h **P31B-1248** POSTER Numerical Simulations of Core Convection with Boundary Topography: **M A Calkins**, J Noir, J Eldredge, J M Aurnou

0800h **P31B-1249** POSTER Modeling Subsurface Flows Driven by Planetary Libration: J Noir, **M A Calkins**, J Eldredge, J M Aurnou

0800h **P31B-1250** POSTER The Effects of Tidal Dissipation on the Thermal Evolution of Triton: J Gaeman, **S Hier-Majumder**, J H Roberts

0800h **P31B-1251** POSTER Numerical Simulations of Europa Hydrothermal Plumes: **J C Goodman**, E Lenferink

0800h **P31B-1252** POSTER Numerical study of librationalally driven flow in planetary interiors: O Karatekin, **R Laguerre**, J Noir, V M Dehant

0800h **P31B-1253** POSTER Dynamic ocean tides on moons of the outer planets: **R H Tyler**

P31C Moscone South: Poster Hall Wednesday 0800h
Planetary Magnetism, Core Dynamics, and Dynamo Mechanisms: Bridging the Gap Between Observations and Models, Revisited I Posters (joint with GP)

Presiding: **P H Roberts**; **A Jackson**, ETH Zuerich

0800h **P31C-1254** POSTER The Geomagnetic Field as a Transient: Constraints From Paleomagnetic Intensity Data: **K D Aldridge**, R Baker, D G McMillan

0800h **P31C-1255** POSTER Giant Impact Stratification of the Martian Core: **J Arkani-Hamed**, P Olson

0800h **P31C-1256** POSTER The Effects of Inner Core Conductivity on Planetary Dynamo Models: **G Dharmaraj**, S Stanley

0800h **P31C-1257** POSTER Towards Data Driven Geodynamo Models Using Variational Data Assimilation: **L L Dimitrova**, G D Egbert, W Kuang, A Tangborn

0800h **P31C-1258** POSTER Progress towards Taylor State Models of the Core: **A Jackson**, P W Livermore, K Li, G Ierley

0800h **P31C-1259** POSTER Heat transfer and thermal mixing in planetary dynamo models: **E M King**, K M Soderlund, U R Christensen, J Wicht, J M Aurnou

0800h **P31C-1260** POSTER Observational constraint on thermal boundary conditions in geodynamo simulation: from a data assimilation perspective: **W Kuang**, Z Wei, A Tangborn

0800h **P31C-1261** POSTER Comparison of the SGS models for dynamo simulations in rotating spherical shell and plane layer model: **H Matsui**, B A Buffett

0800h **P31C-1262** POSTER Inertial waves in spherical shells at low Ekman numbers: **J Simkanin**, P Hejda, D Saxonbergova-Jankovicova

0800h **P31C-1263** POSTER Precession in a laboratory model of the Earth's core: **S A Triana**, D S Zimmerman, D P Lathrop

0800h **P31C-1264** POSTER Dynamo Models Incorporating Iron "Snow Zones" Consistent with Mercury's Weak Observed Magnetic Field: **R Vilim**, S Stanley, S A Hauck

P31D Moscone South: 309 Wednesday 0800h
Exploring Venus I

Presiding: **J Helbert**, DLR; **N Mueller**, Institute of Planetary Research

0800h **P31D-01** VENUS EXPLORATION ANALYSIS GROUP (VEXAG): **S S Limaye**, S E Smrekar

0815h **P31D-02** On Combining Radar Altimetry and Near-Infrared Imaging for an Estimate of Venus Surface Emissivity: **N T Mueller**, J Helbert

0830h **P31D-03** Reduced Surface Weathering and Recent Activity at Hotspots on Venus from VIRTIS Data: **S E Smrekar**, E R Stofan, N Mueller, C Sotin, J Helbert, A H Treiman

0845h **P31D-04** RAVEN – High-resolution Mapping of Venus within a Discovery Mission Budget: **V L Sharpton**, R R Herrick, F Rogers, S Waterman

0900h **P31D-05** The History of Water on Venus: a Scenario Accounting for Present Neon and Hydrogen Isotopic Ratios: **C Gillmann**, E Chassefiere, P Lognonne

0915h **P31D-06** Time-Resolved Remote-Raman Spectroscopic study of Minerals at High Temperature and under Supercritical CO₂ Relevant to Venus Exploration: **S K Sharma**, A K Misra, S M Clegg, J E Barefield, R C Wiens, T Acosta

0930h **P31D-07** Remote Laser Induced Breakdown Spectroscopy (LIBS) Geochemical Investigation under Venus Atmospheric Conditions: **S M Clegg**, J E Barefield, S Humphries, R C Wiens, D Vaniman, M D Dyar, J M Tucker, S K Sharma, A K Misra

0945h **P31D-08** The final status of Japanese Venus Climate Orbiter (PLANET-C) in the integration test: **M Nakamura**, T Imamura, N Ishii, T Satoh, M Ueno, T Abe, M Suzuki, A Yamazaki, N Iwagami, M Taguchi, S Watanabe, Y Takahashi

P31E Moscone South: 307 Wednesday 0800h
Return to the Moon: Latest Science Results II: Lunar Missions (joint with SH, V)

Presiding: **D M Hurley**, Johns Hopkins University APL; **C R Neal**, University of Notre Dame

0800h **P31E-01** Scientific Achievements and Data Release by Kaguya Mission: **M Kato**, H Hoshino, Y Yamamoto, S Sobue, S Sasaki, Y Takizawa

0815h **P31E-02** First results from Mini-SAR, Chandrayaan-1 lunar mission: **P Spudis**, B Bussey, C Neish, S Nozette, B J Thomson

0830h **P31E-03** VIMS Observations of the Moon: a Recalibration in the Search for Water: **C Hibbitts**, G B Hansen

0845h **P31E-04** WITHDRAWN

0900h **P31E-05** Reflection and Neutralization of Solar Wind Ions from the Moon: IBEX Observations: P H Janzen, **H O Funsten**, F Allegrini, P A Bochsler, M Gruntman, K Henderson, R E Johnson, D J McComas, D B Reisenfeld, N A Schwadron

0915h **P31E-06** The Lunar Atmosphere and Dust Environment Explorer (LADEE) Mission: G T Delory, **R C Elphic**, T H Morgan, A Colaprete, M Horanyi, P R Mahaffy, B Hine, D Boroson, J S Salute

0930h **P31E-07** The Lunar Mapping and Modeling Project: **S K Noble**, M E Nall, R A French, K G Muery

0945h **P31E-08** Digital Moon: A three-dimensional framework for lunar modeling: **D A Paige**, R C Elphic, E J Foote, S R Meeker, M A Siegler, A R Vasavada

Paleoceanography and Paleoclimatology

PP31A Moscone South: Poster Hall Wednesday 0800h **Empirical and Modeling Reconstructions of the Tempo, Mode, and Origin of Paleocirculation and Climate Change During the Holocene and Prior Periods I Posters** (*joint with C, EP*)

Presiding: **D Ariztegui**, University of Geneva; **D R Grocke**, Durham University; **C Moy**; **P I Moreno**, Universidad de Chile; **M R Kaplan**, LDEO of Columbia University; **C J Poulsen**, University of Michigan; **D Selby**, University of Durham

0800h **PP31A-1288 POSTER** Sea level rise estimates based on the transient deconvolution of ice volume and marine benthic records: **R V Wal**, R Bintanja, B D Boer, L Lourens

0800h **PP31A-1289 POSTER** Climatic and oceanographic changes during the last two millennia in the Fram Strait: foraminiferal and isotopic evidence: **K Zamelczyk**, K Husum, M Hald

0800h **PP31A-1290 WITHDRAWN**

0800h **PP31A-1291 POSTER** Pliocene paleoceanographic change in the Arctic: foraminifers and stable isotope evidence from ODP 910: **K Husum**, J Knies, K Grosfjeld, K Fabian, M Hald

0800h **PP31A-1292 POSTER** Sensitivity of ocean mixed-layer features in North Pacific and its marginal seas to paleosalinity: **T Motoi**

0800h **PP31A-1293 POSTER** Fresh and Salty: Chemistry of Sediment Pore Water from the New Jersey Shallow Shelf: IODP Exp313: **M J Mottl**, T Hayashi

0800h **PP31A-1294 POSTER** d18O-temperature relationships modeled in the LGM and mid-Holocene simulations using MIROC AGCM: **R Ohgaito**, A Abe-Ouchi, N Kurita

0800h **PP31A-1295 POSTER** Climate cooling at the onset of the early Aptian Oceanic Anoxic Event (OAE1a): **W Kuhnt**, S Floegel, A E Holbourn, M Moullade, J Lorenzen

0800h **PP31A-1296 POSTER** Mid-Late Cretaceous Nd Isotopic Composition of Southern Ocean Deep Waters: **D P Murphy**, D J Thomas

0800h **PP31A-1297 POSTER** Seawater Os heterogeneity during the OAE 2 and across the Cenomanian-Turonian Boundary: Implications for global ocean paleocirculation: **A Du Vivier**

0800h **PP31A-1298 POSTER** EXPLORING THE FEEDBACKS BETWEEN CRETACEOUS OCEAN CIRCULATION, OCEANIC REDOX DYNAMICS AND SEDIMENT DIAGENESIS: **S Arndt**, Y Godderis, Y Donnadieu, P Regnier

0800h **PP31A-1299 POSTER** Comparisons of paleoclimatic implications of organic carbon isotope in Jiangnan plain and Lanzhou area since last glacial maximum: **H Peng**, G Yang, X Wang, H Kung

0800h **PP31A-1300 POSTER** Little Ice Age Fluctuations of Quelccaya Ice Cap, Peru: **J S Stroup**, M A Kelly, T Lowell

0800h **PP31A-1301 POSTER** ^{10}Be chronology of moraines deposited in upper Whale Stream, Ben Ohau Range, South Island, New Zealand: **M R Kaplan**, J M Schaefer, D Barrell, B Andersen, T Chinn, A Putnam, A Doughty, G Denton, R C Finkel, R Schwartz

0800h **PP31A-1302 POSTER** Non-Linear Response to Holocene Insolation Forcing Recorded by High-Resolution Lake Sediment Records Across Iceland: **A Geirsdottir**, G H Miller, Y Axford

0800h **PP31A-1303 POSTER** Late Holocene climatic record from a middle-mountain wet zone in Central Colombia: **G E GORIN**, P A Muñoz

0800h **PP31A-1304 POSTER** Middle and Late Holocene climate in the tropics : contribution of a high-resolution palynological and geochemical record in northwestern Colombia: **P Muñoz Uribe**, M Jojoa, C Velásquez, G E GORIN

0800h **PP31A-1305 POSTER** Ecological responses to mid- and late-Holocene climate variability in the Patagonian Andes (lat 34-55S): **V Iglesias**, C L Whitlock, M M Bianchi, V Markgraf, D Navarro, P J Bartlein

0800h **PP31A-1306 POSTER** Covariability of the Southern Westerlies and atmospheric CO₂ during the Holocene epoch: **P I Moreno**, J P Francois, R Villa-Martinez, C Moy

PP31B Moscone South: Poster Hall Wednesday 0800h **Merging New and Old Proxies: Techniques, Limitations, and Applications From the Geological Record I Posters** (*joint with OS*)

Presiding: **S A Robinson**, University College London; **J W Thurow**, UCL

0800h **PP31B-1307 POSTER** A paleoenvironmental sulfur-isotope gradient seen in Lower Cambrian black shales and implications for the early sulfur cycle: **L Feng**, X Chu, T W Lyons, J Huang, Q Zhang, D Cao, C Li

0800h **PP31B-1308 POSTER** Linking Fossil Fish Cyclicity and Paleoenvironmental Proxies in the mid-Devonian: **D Grogan**, J H Whiteside, N H Trewin, J E Johnson

0800h **PP31B-1309 POSTER** Variations in Os- and Mo-isotope compositions and trace element abundances across the Permo-Triassic boundary, Meishan, China: Proxy evidence for large-scale oceanic anoxia?: **A S Cohen**, A Saunders, H Zhang, J Li

0800h **PP31B-1310 POSTER** Using $\delta^{18}\text{O}$ of Conodont Apatite and Sequence Stratigraphy to Understand Early Triassic (Smithian) Sea-Level Change: S Yurchyk, M Elrick, V Atudorei

0800h **PP31B-1311 POSTER** A multi geochemical proxy approach to deciphering the Toarcian OAE: **B C Gill**, T W Lyons, J D Owens, H Brumsack, H Jenkyns

0800h **PP31B-1312 POSTER** The mid-Cretaceous water-bearer revisited: Quantification of a greenhouse hydrologic cycle in the Americas: **M B Suarez**, L A Gonzalez, G A Ludvigson

0800h **PP31B-1313 POSTER** Chemical extraction of Nd isotopes from deep-sea sediments for Cenozoic and Cretaceous paleoceanographic studies: **E E Martin**, S W Blair, G D Kamenov, H D Scher, E Bourbon, C Basak, D Newkirk

0800h **PP31B-1314 POSTER** Seawater calcium isotopic ratios across the Eocene-Oligocene Transition: **E M Griffith**, A Paytan

0800h **PP31B-1315 POSTER** Weathering Regimes at the Eocene-Oligocene Boundary Using Pb Isotopes from Kerguelen Plateau: **C Basak**, E E Martin

0800h **PP31B-1316 POSTER** Export Production Fluctuations in the Eastern Equatorial Pacific During the Late Neogene – Reconstruction Using Barite Accumulation Rates: **Z Ma**, A Paytan

0800h **PP31B-1317 POSTER** Late Neogene marine temperatures reconstruction of the Florida Platform from molluscan stable isotopic and Sr/Ca records: **K Tao**, E L Grossman

0800h **PP31B-1318 POSTER** Orbital- to Sub-Orbital-Scale Cyclicity in Seismic Reflections and Sediment Character in Early to Middle Pleistocene Mudstone, Santa Barbara Basin, California: **C D Peterson**, R J Behl, C Nicholson, L E Lisiecki, C C Sorlien

0800h **PP31B-1319 POSTER** A high-resolution 2 million year record of sea surface temperatures and productivity from the SW Atlantic: A Barrera Sansón, **A Rosell Mele**, A Martinez-Garcia

0800h **PP31B-1320** *POSTER* MID/LATE PLEISTOCENE PALEOCEANOGRAPHY OF THE CORAL SEA REGION RECONSTRUCTED FROM PAIRED $\delta^{18}\text{O}$ - Mg/Ca MEASUREMENTS: T Russon, M Elliot, T Correge, P De Deckker, G Cabioch, C Kissel

0800h **PP31B-1321** *POSTER* Millennial-Scale Oscillations in Climate and Water Character Recorded in Marine Sediment Geochemistry of Santa Barbara Basin, California at ~300ka and ~700ka: **S Afshar**, R J Behl, J Kennett, W E Dean

0800h **PP31B-1322** *POSTER* A Test for the Presence of Covariance Between Time-uncertain Series of Data with application to a Collection of Proxy Records Showing Millennial Variability: **E Haam**, P Huybers

0800h **PP31B-1323** *POSTER* Missing the forests for the trees: classical Pleistocene multiproxy records versus new geochemical tracers: **P Mudie**, A E Aksu, F M McCarthy, H Rashid

0800h **PP31B-1324** *POSTER* TIMING AND MAGNITUDE OF CLIMATE VARIABILITY DURING MARINE ISOTOPE STAGE 3: RESULTS FROM THE CARIACO BASIN: **M C McConnell**, R Thunell, L C Peterson, D E Black, D W Lea

0800h **PP31B-1325** *POSTER* Response of seawater Sr/Ca to changes in shelf-deep sea carbonate deposition during the past 160,000 years: **J Yu**, H Elderfield, W S Broecker

0800h **PP31B-1326** *POSTER* Glacial and Interglacial Climate Variability in Guaymas Basin (Gulf of California): **J W Thurow**, R S Ganeshram, H Griffin, A E Kemp, A J Nederbragt, R Pearce

0800h **PP31B-1327** *POSTER* Trace and Minor Element/Ca Ratios of Planktonic Foraminifera in the Iberian Margin During Heinrich Events: **G M Patton**, P A Martin, A Voelker

0800h **PP31B-1328** *POSTER* RECONSTRUCTING LAURENTIDE ICE SHEET MELTWATER GEOCHEMISTRY USING COMBINED STABLE ISOTOPE AND LASER ABLATION TRACE ELEMENT ANALYSES: **L Vetter**, H J Spero, S M Eggins, B P Flower, C C Williams

0800h **PP31B-1329** *POSTER* Examining the signal-to-noise ratio of oceanic temperature and salinity proxies with a focus on their potential to reconstruct density: **D Heslop**, A Paul

0800h **PP31B-1330** WITHDRAWN

0800h **PP31B-1331** *POSTER* Identification and separation of Mn-rich contaminating phases of planktonic foraminifer for Mg/Ca analysis: **K Tachikawa**, T Toyofuku, E Robin

0800h **PP31B-1332** *POSTER* Emerging Patterns of Intrashell Mg/Ca Variability of Planktonic Foraminifera Determined by Electron Microprobe Image Mapping: **J S Fehrenbacher**, P A Martin

0800h **PP31B-1333** *POSTER* Tropical Pacific Mg/Ca paleothermometry: A contribution to the core top calibration: **S Clark**, F Mekik, M Kienast, J Groeneveld

0800h **PP31B-1334** *POSTER* Temperature calibration along the Iberian-NW Africa margin, using modern planktonic foraminifera trace element and stable isotope ratios: **E Salgueiro**, P A Martin, A Voelker, F F Abrantes

0800h **PP31B-1335** *POSTER* Effect of non-thermal physiological factors on U^{K}_{37} -derived temperature estimates in the waters near the Chatham Rise, New Zealand: **L Oswald**, M L Hardee, P M Medeiros, B N Popp, E L Sikes

0800h **PP31B-1336** *POSTER* Carboxylated biomolecules control Mg/Ca of amorphous calcium carbonate by predictable relationship: Implications for calcified biominerals: **P M Dove**, D Wang, A F Wallace

0800h **PP31B-1337** *POSTER* Do Different Massive Corals from the Same Reef Record the Same Climate Signal? A Test from the Dry Tortugas, Florida Keys: **K L DeLong**, R Z Poore, C D Reich, C R Maupin, T M Quinn

0800h **PP31B-1338** *POSTER* Quantifying Carbonate Dissolution in Shallow Pelagic Seas: A New Aragonite Dissolution Proxy: **C O Vander Boon**, F Mekik

0800h **PP31B-1339** *POSTER* Amino acid racemization on planktic foraminifera from the central Arctic Ocean: **D Hanslik**, D S Kaufman, M Jakobsson

0800h **PP31B-1340** *POSTER* Equilibrium ^{13}C - ^{18}O Isotope Signatures and 'Clumped Isotope' Thermometry in Foraminifera and Coccoliths: **A K Tripathi**, N Thiagarajan, R Eagle, A C Gagnon, J M Eiler, H A Bauch

0800h **PP31B-1341** *POSTER* 'Clumped isotopes' thermometry in land gastropod carbonate shells: **S Zaarur**, H P Affek

0800h **PP31B-1342** *POSTER* A paleothermometer based on abundances of ^{13}C - ^{18}O bonds in bioapatite: Calibration and reconstruction of the body temperatures of extinct Cenozoic mammals and Mesozoic dinosaurs: **R Eagle**, E A Schauble, A K Tripathi, H C Fricke, T Tuetken, J M Eiler

0800h **PP31B-1343** *POSTER* Oxygen Isotopes of Phosphate of Different Sedimentary Pools: Water Temperature Proxy or a Diagenetic Signature?: **H Lai**, L D Anderson, A Paytan

0800h **PP31B-1344** *POSTER* Using Oxygen Isotopes in Fish Scale Apatite to Reconstruct Past Temperatures and Water Isotope Ratios: **T D Lambert**, A Paytan

0800h **PP31B-1345** *POSTER* A new aquatic gastropod stable isotopic continental paleoclimate proxy for New Zealand systems: **T W Horton**

0800h **PP31B-1346** *POSTER* Modern Distribution of Arctic Ocean Ostracodes: Implications for Applications to Paleooceanographic Reconstructions: **E M Brouwers**, L Gemery, T M Cronin, A Stepanova, E Schornikov

0800h **PP31B-1347** *POSTER* Temporal dynamics of deep-sea latitudinal species diversity gradient based on paleoceanographic/micropaleontologic data: **M Yasuhara**, G Hunt, H Okahashi

0800h **PP31B-1348** *POSTER* ^{17}O excess in meteoric water: as a new isotopic parameter to decipher water cycle processes: **A Landais**, M Guillevic, H Steen-Larsen, F Vimeux, A Bouygues, S Falourd, C M Risi, S Bony

0800h **PP31B-1349** *POSTER* The BMPix and PEAK Tools: New Methods for Automated Laminae Recognition and Counting - Application to Glacial Varves From Antarctic Marine Sediment: **M E Weber**, L Reichelt, G Kuhn, J W Thurow, W Ricken

0800h **PP31B-1350** *POSTER* Characterizing the Spatial and Temporal Variations in Organic Carbon Abundance and Stable Isotope Ratios in Lake Sediments Containing Evidence of Prehistoric Agriculture: **Z P Taylor**, D B Finkelstein, S P Horn

0800h **PP31B-1351** *POSTER* Method Evaluation: Coupling of Geochemical Proxies with Traditional Paleoecological Indicators in Marsh Sediments: **S Sritrairat**, T C Kenna, D M Peteet

0800h **PP31B-1352** *POSTER* A comparison of branched tetraethers in soils and lake sediments from the Rwenzori Mountains, Uganda: Potential for MBT/CBT paleothermometry: **S E Loomis**, J M Russell, J E Tierney, H Eggermont

0800h **PP31B-1353** *POSTER* Testing the limits of the diffusion-production-equilibrium model of soil CO_2 : The effect of rapid carbonate precipitation on the pedogenic carbonate proxy:

J G Wynn, J L Chelladurai

0800h **PP31B-1354 POSTER** Single-layer ^{230}Th dating with precision of one year on laminated stalagmites: **K Lin**, M Tan, R Edwards

PP31C Moscone South: Poster Hall Wednesday 0800h
Paleoceanography and Paleoclimatology General
Contributions Posters

Presiding: **B Hoenisch**, Lamont-Doherty Earth Observatory;
F Mekik, Grand Valley State University

0800h **PP31C-1355 POSTER** Hygroscopicity of Early Earth and Titan Laboratory Aerosol Analogs: **C A Hasenkopf**, M R Beaver, M A Freedman, O B Toon, M A Tolbert

0800h **PP31C-1356 POSTER** Organic carbon and phosphorus burial and iron limitation in hypersaline sediments of Guerrero Negro, Mexico: paleoceanographic significance and comparison to the Permian: **J J Reimer**, M A Huerta-Diaz

0800h **PP31C-1357 POSTER** Carbon isotope evidence for a vigorous biological pump in the wake of end-Permian mass extinction: **K M Meyer**, M Yu, A B Jost, J Payne

0800h **PP31C-1358 POSTER** CRETACEOUS CLIMATE SENSITIVITY STUDY USING DINOSAUR & PLANT PALEOBIOGEOGRAPHY: **A Goswami**, D J Main, C R Noto, T L Moore, C Scotese

0800h **PP31C-1359 POSTER** Calcareous nannoplankton during Oceanic Anoxic Event 2 (Cenomanian/Turonian boundary) - exceptionally-preserved records from the Tanzania Drilling Project: **J A Lees**, P R Bown, A Jimenez Berrocoso, B T Huber, K G MacLeod, S A Robinson

0800h **PP31C-1360 POSTER** Phanerozoic size history of the foraminifera: Implications for environmental and biological controls on macroevolutionary trends: **J Payne**, A B Jost, R Cummins, N Tachiki, K Ingram

0800h **PP31C-1361 POSTER** The ecology of benthic foraminifera associated with methane seeps offshore Costa Rica: **B Wrightsman**, A E Rathburn, E Perez, A Burkett, L A Levin, V Orphan, G Rouse

0800h **PP31C-1362 POSTER** Links Between Eustatic History, Sequence Architecture, and Lithofacies Associations Put to the Test: IODP Exp313 Drilling on the NJ Margin: **G S Mountain**, J Proust, D McNroy, E ScienceParty

0800h **PP31C-1363 POSTER** Downhole Logging Measurements from IODP Expedition 313: an Overview and Future Directions: **J Inwood**, J Lofi, E ScienceParty

0800h **PP31C-1364 POSTER** The GOLD IODP Project: Global Climate Changes, Extreme Events, Margins formation and the Limits of Life in the Gulf of Lion: **M Rabineau**

0800h **PP31C-1365 POSTER** Links between south Atlantic subtropical gyre and tropical upwelling region during the Pliocene and Pleistocene: **D E Wojcieszek**, P S Dekens

0800h **PP31C-1366 POSTER** California Current Sea Surface Temperatures in the Early Pliocene: **P S Dekens**, C M Reed, D E Wojcieszek

0800h **PP31C-1367 POSTER** Sea Surface Temperature and Upwelling Conditions off Northern California Coast during the early Pliocene: **C M Reed**, P S Dekens, L D White

0800h **PP31C-1368 POSTER** The Bering Sea Drilling, IODP Expedition 323 in 2009: Pliocene-Pleistocene climate change with high sedimentation rates: **K Takahashi**, C Ravelo, C A Alvarez Zarikian, I Scientific Party

0800h **PP31C-1369 POSTER** Palynological assemblage indication of environmental changes in the Ulleung Basin, East Sea since the late Pliocene: **S Yi**, J Bahk

0800h **PP31C-1370 POSTER** CLIMATE OFF PORTUGAL DURING MARINE ISOTOPE STAGES 15-9 (570 TO 300 KA): SUBORBITAL GLACIAL VARIABILITY AND INTERGLACIAL STABILITY:

T Rodrigues, A Voelker, J O Grimalt, F F Abrantes

0800h **PP31C-1371 POSTER** A cooling event during the last geomagnetic polarity reversal: synchronous occurrence with a large decrease in field intensity: **I Kitaba**, M Hyodo, S Katoh, M Matsushita

0800h **PP31C-1372 POSTER** Radiocarbon variability during the Laschamp excursion (ca. 41 ka) based on Gulf of Mexico sediments: **C C Williams**, T P Guilderson

0800h **PP31C-1373 POSTER** The Role of Topography in Glacial Inception: S J Vavrus, **G Philippon-Berthier**, J E Kutzbach, W F Ruddiman

0800h **PP31C-1374 POSTER** A New Late Glacial Site in the Central Appalachians of Virginia. Preliminary Findings From Paleobotany, Palynology, and Geomorphology: **B F Schwartz**, G R Upchurch, D A Willard, C E Bernhardt, P A Valella

0800h **PP31C-1375 POSTER** Unique Locality of Woolly Rhinoceros in Arctic Siberia: S Davydov, **A Sher**, G Boeskorov, P Lazarev, J Binladen, E Willerslev, A Tikhonov

0800h **PP31C-1376 POSTER** Testing the feasibility of sea-level reconstructions using SEALEX, a spreadsheet based reef growth model: **M Koelling**

0800h **PP31C-1377 POSTER** Reconstructing Holocene climate change in Denmark: **K Brown**, H Seppä, R S Fausto, P Rasmussen, J Birks

0800h **PP31C-1378 POSTER** India's archive of past massive erosional events: **R R Nair**

0800h **PP31C-1379 POSTER** Heavy mineral sorting and distributions within massive sandstone divisions (Bouma A divisions) of Brushy Canyon Formation turbidites: **K Motanated**, M M Tice

0800h **PP31C-1380 POSTER** Paleoenvironmental reconstruction of lagoonal strata from Sri Lanka using multiple physical properties proxies to assure stratigraphic continuity: **P N Ranasinghage**, J D Ortiz, A Moore, C Siriwardana

0800h **PP11A-1284 POSTER** The 2.6 Ma depositional sequence from the Challenger cold-water coral carbonate mound (IODP Exp. 307): a unique palaeo-record of Plio-Pleistocene NE Atlantic climate variability: **M M Thierens**, H Pirlet, J Titschack, C C Colin, B Dorschel, V A Huvenne, A J Wheeler, J W Stuut, K Latruwe, F F Vanhaecke, R D O Donnell, J Henriët

0800h **PP11D-1340 POSTER** SST-pattern in the North Atlantic reveals pronounced differences during MIS 11 and the Holocene: **E Kandiano**, H A Bauch, K Fahl, J Helmke, U Röhl

PP31D Moscone South: Poster Hall Wednesday 0800h
Younger Dryas Boundary: Extraterrestrial Impact or Not? I
Posters (joint with A, B, C, GC, P, NH)

Presiding: **M Boslough**, Sandia National Laboratories; **P F Claeys**, Vrije Univ Brussels

0800h **PP31D-1381 POSTER** What Caused the Younger Dryas? An Assessment of Existing Hypotheses: **A E Carlson**, P U Clark

0800h **PP31D-1382 POSTER** Human Population Decline in North America during the Younger Dryas: **D G Anderson**, A C Goodyear, T W Stafford, Jr., J Kennett, A West

0800h **PP31D-1383 POSTER** Problems with the Younger Dryas Boundary (YDB) Impact Hypothesis: **M Boslough**

0800h **PP31D-1384 POSTER** Oblique impacts into low impedance layers: **A M Stickle**, P H Schultz

0800h **PP31D-1385 POSTER** Beringian Megafaunal Extinctions at ~37 ka B.P.: Do Micrometeorites Embedded in Fossil Tusks and Skulls Indicate an Extraterrestrial Precursor to the Younger Dryas Event?: **J T Hagstrum**, R B Firestone, A West

0800h **PP31D-1386 POSTER** Evidence of four prehistoric supernovae <250 pc from Earth during the past 50,000 years: **R B Firestone**

0800h **PP31D-1387 POSTER** Geomorphology Of Possible Younger Dryas Boundary Impact Structure: **M E Davias**, J L Gilbride

0800h **PP31D-1388 POSTER** Positive anomaly in platinum group elements and the presence of shocked diamonds: Two question marks at the Younger Dryas: **P F Claeys**, D Schryvers, H Tian, S Goderis

0800h **PP31D-1389 POSTER** The platinum group metals in Younger Dryas Horizons are terrestrial: **Y Wu**, E Wikes, J Kennett, A West, M Sharma

0800h **PP31D-1390 POSTER** Field-Analytical approach of land-sea records for elucidating the Younger Dryas Boundary syndrome: **T Ge**, M M COURT, F Guichard

0800h **PP31D-1391 POSTER** Cometary airbursts and atmospheric chemistry: Tunguska and a candidate Younger Dryas event: **A Melott**

0800h **PP31D-1392 POSTER** Nanodiamonds and Carbon Spherules from Tunguska, the K/T Boundary, and the Younger Dryas Boundary Layer: **J H Wittke**, T E Bunch, A West, J Kennett, D J Kennett, G A Howard

0800h **PP31D-1393 POSTER** Wildfires, Soot and Fullerenes in the 12,900 ka Younger Dryas boundary layer in North America: **L Becker**, R J Poreda, J Kennett, D J Kennett, J M Erlandson, A West

0800h **PP31D-1394 POSTER** Cold Climate Related Structural Sinks Accommodate Unusual Soil Constituents, Pinelands National Reserve, New Jersey, USA: **M Demitroff**, M A LeCompte, B N Rock

0800h **PP31D-1395 POSTER** Rockyhock and Kimbel Carolina Bays: Extraterrestrial Impact or Terrestrial Genesis?: **M A LeCompte**, B D Branch, L Barnes, C Hall

0800h **PP31D-1396 POSTER** An Independent Evaluation of the Younger Dryas Extraterrestrial Impact Hypothesis: **T A Surovell**, V T Holliday

0800h **PP31D-1397 POSTER** Evidence for Widespread Biomass-Burning at the Younger Dryas Boundary at 12.9 ka: **J Kennett**, P A Mayewski, A West, T E Bunch, T W Stafford, W S Wolbach

0800h **PP31D-1398 POSTER** Climatic Control of Biomass Burning During the Last Glacial-Interglacial Transition: **J R Marlon**, P J Bartlein, A Daniau, S P Harrison

0800h **PP31D-1399 POSTER** Fire regimes during the last glacial: **A Daniau**, S P Harrison, P J Bartlein

PP31E Moscone South: I04 Wednesday 0845h
Emiliani Lecture (This session will be Webcast) (joint with OS)

Presiding: **F Mekik**, Grand Valley State University; **P A Meyers**, University of Michigan

0900h **PP31E-01** Emiliani Lecture: Holocene Changes in the Indonesian Throughflow Region (*Invited*): **D Oppo**

SPA - Aeronomy

SA31A Moscone South: Poster Hall Wednesday 0800h
Causes and Effects of Ionospheric Density Gradients IV Posters

Presiding: **K Shiokawa**, Solar-Terrestrial Environment Laboratory, Nagoya University; **C R Martinis**, Center for Space Physics

0800h **SA31A-1400 POSTER** Temporal modulations of the longitudinal structure in F2 peak height in the equatorial ionosphere as observed by COSMIC: **G Liu**, T J Immel, S England, K K Kumar, G Ramkumar

0800h **SA31A-1401 POSTER** COSMIC/FORMOSAT-3 Observations of Equatorial Ionospheric Irregularities during Solar Minimum: **H Yeh**, C Ko

0800h **SA31A-1402 POSTER** Global observations of E-region density profiles and conductances: **F S Rodrigues**, M J Nicolls, G S Bust

0800h **SA31A-1403 POSTER** Equatorial late-afternoon periodic TEC fluctuations observed by multiple GPS receivers: **T Tsugawa**, T Maruyama, S Saito, M Ishii

0800h **SA31A-1404 POSTER** Equatorial plasma irregularities: Solar cycle dependence and longitudinal variation of local time distribution: C Stolle, **H Luhr**, J Park, B G Fejer, M Rother

0800h **SA31A-1405 POSTER** Imaging Ionospheric Density and Height Gradients from Geosynchronous Orbit: **K S Wood**, K Dymond, M Kowalski, M T Wolff

0800h **SA31A-1406 POSTER** MSI Student Project to Investigate Ionospheric Disturbances: **V Shekoyan**, P Marchese, S Austin, M Peck, C Watkins, M Vittadello

0800h **SA31A-1407 POSTER** Geographic and Seasonal Distribution of Ion Temperature and Density as Measured by CINDI from the C/NOFS Spacecraft: **W R Coley**, R A Heelis

0800h **SA31A-1408 POSTER** Equatorial Ionosphere Total Electron Content measurements using whistler waves detected by the C/NOFS Satellite: **L Willcockson**, R H Holzworth, M McCarthy, R F Pfaff, D E Rowland

0800h **SA31A-1409 POSTER** First observations of large-scale wave structure and equatorial spread F using CERTO radio beacon on the C/NOFS satellite: **S Thampi**, M Yamamoto, R T Tsunoda, Y Otsuka, T Tsugawa, J Uemoto, M Ishii

0800h **SA31A-1410 POSTER** C/NOFS Morning Observations of Ion Density Depletions and Vertical Plasma Drifts – Role of the Sunrise Terminator in the Formation and Evolution of Morning Depletions: **O de la Beaujardiere**, Y Su, J M Retterer, P A Roddy, R F Pfaff, E Dao, C Roth, W J Burke, M C Kelley, J J Colman, M Vlasov

0800h **SA31A-1411 POSTER** Equatorial ionospheric plasma structures observed with the C/NOFS satellite and multiple ground-based diagnostics in October 2008: **M Nishioka**, S Basu, S Basu, C E Valladares, P A Roddy, K M Groves, J J Makela

0800h **SA31A-1412 POSTER** Comparisons of COSMIC and C/NOFS GPS Occultation Ionospheric Scintillation Measurements with Ground-based Radar and VHF Measurements: **F H Ruggiero**, K M Groves, P R Straus, R G Caton, M J Starks, K L Tanyi, M Verlinden

SA31B Moscone South: Poster Hall Wednesday 0800h
The Upper Atmosphere During the Current Solar Minimum III Posters

Presiding: **L J Paxton**; **J P Thayer**, University of Colorado

0800h **SA31B-1413 POSTER** The Thermosphere at Solar Minimum: **E K Sutton**, F A Marcos, C S Lin

0800h **SA31B-1414 POSTER** Thermospheric Density Fluctuations Derived from the Atmospheric Neutral Density Experiment Mission: **A C Nicholas**, S A Budzien, T T Finne, F Herrero, M Davis, L Healy

0800h **SA31B-1415 POSTER** THE UPPER THERMOSPHERE AT NORTHERN HIGH LATITUDES DURING THE CURRENT SOLAR MINIMUM: **R Niciejewski**, J W Meriwether, A L Aruliah, Q Wu, W Wang

0800h **SA31B-1416 POSTER** Unusual spikes in high latitude ion temperature: **P G Richards**, M J Nicolls, J J Sojka, C J Heinselman

0800h **SA31B-1417 POSTER** High Latitude M-I Coupling during the Current Solar Minimum: Observations with PFISR: **M J Nicolls**, J J Sojka, L R Lyons, S Zou, C J Heinselman

0800h **SA31B-1418 POSTER** Periodic oscillations in the ionosphere associated with recurrent geomagnetic activity during the solar minimum of 2007-2008: **T Sudarsanam**, S Su, C H Liu, J Lei, C Lin

0800h **SA31B-1419 POSTER** Ionosphere response to recurrent geomagnetic activity: local time dependency: **N M Pedatella**, J Lei, J P Thayer, J M Forbes

0800h **SA31B-1420 POSTER** Thermospheric response to periodic variation in solar wind and tidal force: **Y Zhang**, L J Paxton

0800h **SA31B-1421 POSTER** Effects of upward propagating tides on longitudinal and day-to-day variations in the thermosphere/ionosphere simulated by an atmosphere-ionosphere coupled model: **Y Miyoshi**, H Jin, H Fujiwara, H Shinagawa

0800h **SA31B-1422 POSTER** Case Studies of Ionospheric Effects of Stratospheric Sudden Warmings: **L P Goncharenko**, A J Coster, J L Chau, H Liu, W Rideout, C E Valladares

0800h **SA31B-1423 POSTER** Impact of Upward Propagating Kelvin Waves on the Thermosphere During Solar Minimum: **L C Chang**, S E Palo, H Liu, C S Lin

0800h **SA31B-1424 POSTER** Ground- and Space-Based Observations of Ionospheric Irregularities over Nigeria during Solar Minimum: **C S Carrano**, E Yizengaw, P H Doherty, C T Bridgwood, J O Adeniyi, L L Amaeshi, T R Pedersen, K M Groves, P A Roddy, R G Caton

0800h **SA31B-1425 POSTER** Space- and Ground-Based Observations of Solar Cycle and Local Time Dependence of Equatorial Plasma Bubble Activity: **E S Miller**, J Comberiate, J J Makela, L J Paxton, M C Kelley, K M Groves, R T Tsunoda

0800h **SA31B-1426 POSTER** Comparison of the Arecibo's Incoherent Scatter Radar data with the IRI model for the weakest solar minimum since 1928: S A Gonzalez, C G Brum, **D Centeno**, C Padilla, N Aponte

0800h **SA31B-1427 POSTER** Climatology of ionospheric high transition height derived from COSMIC satellites during the solar minimum of 2008: **X Yue**, W S Schreiner, J Lei, C Rocken, Y Kuo

0800h **SA31B-1428 POSTER** Analysis of Ionospheric Electron Parameters in Relation to the Geomagnetic Index Dst and Solar F10.7 Flux from RO Data of FORMOSAT-3/COSMIC: **K Wang**, S W Tam

0800h **SA31B-1429 POSTER** Extreme Ultraviolet Spectroscopy of the Thermosphere from the RAIDS Experiment on the ISS: **R L Bishop**, A W Stephan, A B Christensen, S A Budzien, P R Straus, Z Van Epps

0800h **SA31B-1430 POSTER** Remote Sensing of Neutral Temperatures in Earth's Thermosphere Using the Lyman-Birge-Hopfield Bands of N₂: Comparisons with Satellite Drag Data: **A Krywonos**, D J Murray, R Eastes, S A Budzien, F A Marcos

0800h **SA31B-1431 POSTER** Observations of Lower Thermospheric Nitric Oxide During the Current Solar Minimum: **P L Thirukoveluri**, S M Bailey, L L Gordley, M E Hervig, J M Russell, C E Randall, D E Siskind, B T Marshall, J C Burton, L E Deaver, M J McHugh, G Paxton, R E Thompson

0800h **SA31B-1432 POSTER** Thermospheric density in the Earth's magnetic cusp as observed by the Streak mission: **J H Clemmons**, R L Walterscheid

SPA - Solar and Heliospheric Physics

SH31A Moscone South: Poster Hall Wednesday 0800h
Half a Century of Collisionless Shock Physics: Open Questions and Recent Progress I Posters (*joint with SM*)

Presiding: **O Cohen**, Harvard-Smithsonian CfA; **V Krasnoselskikh**, CNRS-University of Orleans

0800h **SH31A-1448 POSTER** Interplanetary shocks close to the Sun: Helios 1 and 2 observations: **H Lai**, L Jian, C T Russell, X Blanco-Cano, A Wennmacher

0800h **SH31A-1449 POSTER** Particle Acceleration Through Self-generated Waves in a Coronal Shock: The Effect of Shock Obliquity and Pre-heated Particle Populations: **M C Battarbee**, T L Laitinen, R O Vainio, N Agueda

0800h **SH31A-1450 POSTER** Temporal & Spatial Evolution of a Modeled CME Shock and Post-shock Compression: **I Das**, M Opher, R M Evans, T I Gombosi

0800h **SH31A-1451 POSTER** Cavitons And Ultra Low Frequency Waves In the Earth's Foreshock: **P Kajdic**, X Blanco-Cano, N Omid, C T Russell

0800h **SH31A-1452 POSTER** Sources of two-dimensional supercritical perpendicular shock nonstationarity: nonlinear whistler emission versus shock front self-reformation: **B Lembege**, P Savoini, P Hellinger, P Travnicek

0800h **SH31A-1453 POSTER** Poynting flux of oblique whistler waves observed in front of a high mach number quasi-perpendicular collisionless shock: **D J Sundkvist**, V Krasnoselskikh, S Bale

0800h **SH31A-1454 POSTER** 2D PIC simulations of a curved supercritical shock: dynamics of the whistler precursor: **J Stienlet**, B Lembege, P Savoini

0800h **SH31A-1455 POSTER** Effects of a Shock Acceleration Injection Threshold On The Post-Shock Electron Energy Spectra: M E Pesses, **S H Brecht**

0800h **SH31A-1456 POSTER** On Inferring Reformation of the Quasi-Perpendicular Bow Shock by Multi-Spacecraft Data: **M Scholer**, H Comisel

0800h **SH31A-1457 POSTER** Electron Dynamics through High Mach Number Quasi-Perpendicular Collisionless Shocks as Obtained in Full Particle Simulations: **H Comisel**, M Scholer

0800h **SH31A-1458 POSTER** Hall Magnetohydrodynamics with Electron inertia: J F McKenzie, **B Dasgupta**, D Shaikh

0800h **SH31A-1459 POSTER** The kinetic structure of reconnection exhaust: **Y Liu**, J F Drake, M M Swisdak

0800h **SH31A-1460 POSTER** Dual Observations of Interplanetary Shocks Associated with Stream Interaction Regions: **E Aguilar-Rodriguez**, X Blanco-Cano, C T Russell, J G Luhmann, L Jian, J C Ramirez Velez

0800h **SH31A-1461 POSTER** Two-dimensional particle simulation of a perpendicular shock with a shock rest frame model: **M Yamao**, T Umeda, R Yamazaki, T Ogino

0800h **SH31A-1462 POSTER** Simulation and Theoretical Study of ion Acoustic Shocks: **L Lyu**, T Tsai

0800h **SH31A-1463 POSTER** SDA and SSA ion acceleration through a nonstationary perpendicular supercritical collisionless shock: **Z Yang**, Q Lu, B Lembege

0800h **SH31A-1464 POSTER** Cross-scale coupling at a perpendicular collisionless shock: **T Umeda**, M Yamao, R Yamazaki

0800h **SH31A-1465 POSTER** Supercritical Collisionless Shocks as a Mechanism for Preferential Heating in Coronal Holes: **G Zimbardo**

0800h **SH31A-1466 POSTER** Iron Ionic Charge States at Suprathermal Energies: a Tracer for Local Acceleration at ICME-Related Interplanetary Shocks: **B Klecker**, E Moebius, M Popecki, H Kucharek, A B Galvin, M Hilchenbach, R F Wimmer-Schweingruber, L Berger, M I Desai

0800h **SH31A-1467 POSTER** The Effect of Large Scale Magnetic Turbulence on the Acceleration of Electrons by Perpendicular Collisionless Shocks: **F Guo**, J Giacalone

0800h **SH31A-1468 POSTER** CME-driven shock acceleration of energetic particles, investigation with numerical simulations and data analysis: **Y Wang**, **G Qin**

0800h **SH31A-1469 POSTER** Study of diffusive shock acceleration mechanisms with simulations: **L Zhang**, **G Qin**

0800h **SH31A-1470 POSTER** Sources of energetic backstreaming particles in the electron foreshock: 2D PIC simulation of a curved supercritical shock: **P Savoini**, B Lembege

0800h **SH31A-1471 POSTER** Multi-Spacecraft Observations of Interplanetary Shock Parameters: **A Koval**, A Szabo

0800h **SH31A-1472 POSTER** Hybrid Simulations of Perpendicular Termination Shocks: Consequences of Variations in Pickup Ion Distributions: **P Wu**, D Winske, S P Gary, N A Schwadron

0800h **SH31A-1473 POSTER** heavy ion acceleration at shocks: **V I Shevchenko**, V Galinsky

0800h **SH31A-1474 POSTER** Dynamics of Particles Associated With Nonlinear Development of Shock-like Structures in the Solar Wind: **E Lee**, G K Parks, M Wilber, N Lin, A F TESTE

SH31B Moscone South: 301 Wednesday 0800h
Global Heliosphere Revealed II

Presiding: M Opher, Physics and Astronomy; **N A Schwadron**, Boston University

0800h **SH31B-01** First Global Observations of the Interstellar Interaction from the Interstellar Boundary Explorer (*Invited*): **D J McComas**

0820h **SH31B-02** Direct Observations of Interstellar H, He, and O by the Interstellar Boundary Explorer (*Invited*): **E Moebius**, P A Bochslers, M Bzowski, G B Crew, H O Funsten, S A Fuselier, A Ghielmetti, D Heirtzler, V Izmodenov, M Kubiak, H Kucharek, M A Lee, T Leonard, D J McComas, L Petersen, L A Saul, J Scheer, N A Schwadron, M Witte, P Wurz

0840h **SH31B-03** Structures and Spectral Variations of the Outer Heliosphere in the IBEX Energetic Neutral Atom Sky Maps: **H O Funsten**, F Allegrini, G B Crew, R Demajistre, P C Frisch, S A Fuselier, M Gruntman, P Janzen, D J McComas, E Moebius, B M Randol, D B Reisenfeld, E C Roelof, N A Schwadron

0855h **SH31B-04** Energy and Spatial Variation of Flux Features Observed by the Interstellar Boundary Explorer: **S A Fuselier**, F Allegrini, H O Funsten, A Ghielmetti, D Heirtzler, H Kucharek, O Lennartsson, D J McComas, E Moebius, T E Moore, S M Petrinenec, L A Saul, J Scheer, N A Schwadron, P Wurz

0910h **SH31B-05** Short timescale variation in the ENA flux emanating from the heliospheric poles: IBEX observations: **D B Reisenfeld**, T R Abell, F Allegrini, G B Crew, B DeMajestre, P C Frisch, H O Funsten, S A Fuselier, P Janzen, H Kucharek, D J McComas, E C Roelof, N A Schwadron

0925h **SH31B-06** Voyager UVS observations of the Hydrogen Wall: **E Quemerais**, B R Sandel, R Lallemand

0940h **SH31B-07** ENA Maps of the Heliosphere: Interaction with Local Interstellar Medium (LISM): **S M Krimigis**, D G Mitchell, E C Roelof, K Hsieh, D J McComas

SPA - Magnetospheric Physics

SM31A Moscone South: Poster Hall Wednesday 0800h
Interhemispheric Similarities and Asymmetries in Geospace Phenomena II Posters (*joint with SA*)

Presiding: N Sato

0800h **SM31A-1507 POSTER** Displacement of the conjugate point during the course of a substorm reproduced by a global MHD simulation: **S Saita**, A Kadokura, N Sato, S Fujita, T Tanaka, Y Ebihara, K T Murata, D Matsuoka, G Ueno, A Kitamoto

0800h **SM31A-1508 POSTER** An algorithm to estimate flux tube volume and entropy parameter for non-zero dipole tilt: **L Zheng**, F Toffoletto, R Wolf, J Yang, G M Erickson

0800h **SM31A-1509 POSTER** Hemispheric Asymmetries in Substorm Recovery Time Scales: **M O Fillingim**, D H Chua, G A Germany, J F Spann

0800h **SM31A-1510 POSTER** Seasonal and hemispheric variations of the total auroral precipitation energy flux from TIMED/GUVI: **X Luan**, W Wang, A G Burns, S C Solomon, Y Zhang, L J Paxton

0800h **SM31A-1511 POSTER** Seasonal Variations in Diffuse, Monoenergetic, and Broadband Aurora: **P T Newell**, T Sotirelis, S Wing

0800h **SM31A-1512 POSTER** Conjugate Studies of Pc3-5 ULF Waves Using SAMBA, MEASURE, and McMAC Magnetometer Chains: **N L Sterner**, E Zesta, A Boudouridis, M Moldwin, P J Chi

0800h **SM31A-1513 POSTER** Simultaneous Comparison of Birkeland Currents from the Northern and Southern Hemispheres using the Iridium Constellation: **L P Dyrd**, B J Anderson, H Korth, C L Waters

0800h **SM31A-1514 POSTER** Interhemispheric Comparisons of Global-Scale Ionospheric Convection: **S G Shepherd**, E D Pettigrew

0800h **SM31A-1515 POSTER** High-Latitude Plasma Convection from Cluster EDI Measurements: North-South Asymmetries: **S Haaland**, M Foerster, G Paschmann, R B Torbert, H Vaith

0800h **SM31A-1516 POSTER** FTE Generation for Predominantly East-West IMF: **J Raeder**

0800h **SM31A-1517 POSTER** Modeling seasonal variations of auroral particle precipitation: **M J Wiltberger**, W Lotko, R S Weigel, J A Fedder

0800h **SM31A-1518 POSTER** GNSS ionospheric scintillation and TEC at high latitudes: INGV monitoring and studies: **L Alfonsi**, G De Franceschi, L Spogli, V Romano

0800h **SM31A-1519 POSTER** Space Science in the Antarctic - The next big step in ground-based solar-terrestrial research: **A Stromme**

0800h **SM31A-1520 POSTER** Solar Sector Transitions and Their Relationship to SuperDARN Ionospheric Echoes: **K A McWilliams**, D Huyghebaert

SM31B Moscone South: Poster Hall Wednesday 0800h
Transient Solar Wind Features and Their Effects on the Magnetosphere and the Ionosphere I Posters (*joint with SH*)

Presiding: H Zhang, NASA Goddard Space Flight Center; **Q Zong**, UML CAR

0800h **SM31B-1521 POSTER** Mixture of two oxygen ion populations in the magnetosheath under northward IMF: **Y Wei**, Q Zong, Z Pu, S Fu, L Xie

0800h **SM31B-1522 POSTER** The Energetic Ion Events Measured Upstream the Earth's Bow Shock by STEREO, Cluster, ACE and Geotail: Where is the Origin?: **E Kronberg**, R Bucik, S Haaland, B Klecker, P W Daly, M I Desai, M Yamauchi, R Gómez-Herrero

0800h **SM31B-1523 POSTER** THEMIS Observations of A Series of Hot Flow Anomaly Events: **H Zhang**, D G Sibeck, Q Zong, J P McFadden, K Glassmeier, J W Bonnell, A Roux

0800h **SM31B-1524 POSTER** Small-scale Plasmoids in the Magnetosheath and the Solar Wind: **R Karlsson**, N Brenning, H Nilsson, G Spanopoulos

0800h **SM31B-1525 POSTER** Anomalous Magnetosheath Flows and Distorted Subsolar Magnetopause for Radial Interplanetary Magnetic Fields: **J Shue**, J K Chao, P Song, J P McFadden, A Suvorova, V Angelopoulos, K Glassmeier, F Plaschke

0800h **SM31B-1526 POSTER** Multipoint observations of transient event: Case study: **G I Korotova**, D G Sibeck, A T Weatherwax

0800h **SM31B-1527 POSTER** Hybrid simulations of 2D asymmetric magnetic reconnection: **N Aunai**, R Smets, G Belmont

0800h **SM31B-1528 POSTER** Propagation of CIR originated interplanetary shocks across magnetospheric boundaries: **L Prech**, J Safrankova, Z Nemecek, A Samsonov

0800h **SM31B-1529 POSTER** MHD simulation study of the interplanetary shocks under different conditions: **K Andreeva**, T I Pulkkinen, L Juusola, M M Palmroth, O Santolik

0800h **SM31B-1530 POSTER** First In-Situ Observation of Rolled-up Kelvin-Helmholtz Vortices under Southward IMF with Evidence of Reconnection: M L Goldstein, **J Hwang**, F Sahraoui, E Lee, G K Parks

0800h **SM31B-1531 POSTER** Conjugate Studies of Magnetopause Surface Waves: **F Plaschke**, J Rae, D G Sibeck, K Glassmeier

0800h **SM31B-1532 POSTER** Global MHD simulations of the relative effects of solar wind features on cold dense plasma sheet formation during the August 31 2005 storm: **P A Damiano**, W Lotko, O J Brambles, M J Wiltberger, J Lyon

0800h **SM31B-1533 POSTER** Analysis of the 2007 year CIR Events using the WINDMI Model: Energy Distribution and Ring Current Evolution: **S Patra**, E A Spencer, W Horton, J J Sojka, M L Mays

0800h **SM31B-1534 POSTER** THEMIS Observations of Field Line Resonance Excitation in Response to a Solar Wind Pressure Pulse: **T E Sarris**, W Liu, X Li, K Kabin, V Angelopoulos, J W Bonnell, K Glassmeier

0800h **SM31B-1535 POSTER** Stream Interactions in STEREO and THEMIS Data and Resulting Geomagnetic Activity: **M L Mays**, O C St Cyr, D G Sibeck, H Zhang, L Jian, C T Russell, J G Luhmann

0800h **SM31B-1536 POSTER** Correlation of solar wind and magnetospheric variations: **B J Jackel**

0800h **SM31B-1537 POSTER** Impact of North-South Asymmetry of the Sun on the Solar Wind and Geomagnetic Activity: **V A Osherovich**, J Fainberg

0800h **SM31B-1538 POSTER** High-throughput analysis of substorms during solar cycles 22 and 23: **E I Tanskanen**, A Viljanen, T I Pulkkinen, N J Partamies, K Snekvik

0800h **SM31B-1539 POSTER** Solar Wind Energy Input and the Response of the Magnetotail During Geomagnetically Disturbed Times: **N Lin**, H U Frey, F Mozer, G K Parks, V Angelopoulos, U Auster

0800h **SM31B-1540 POSTER** Comparison of dayside and nightside ionospheric convection changes following sudden enhancements in solar wind dynamic pressure: **A Boudouridis**, L R Lyons, E Zesta, J M Ruohoniemi

0800h **SM31B-1541 POSTER** Storm-time electric fields in the mid-latitude ionosphere derived from the ground and satellite observations: **Y Tsuji**, Y Nishimura, A Shinbori, T Kikuchi, T Hori, A Matsuoka, T Nagatsuma

0800h **SM34A-03 POSTER** Properties of the Magnetopause Deduced by Multi-Scale, Observations: Cluster, Themis, Double Star: **M W Dunlop**, Q Zhang, M G Taylor, Y V Bogdanova, Z Pu, C P Escoubet, J He, C Shen, J Berchem, R Fear, C Xiao, D O Constantinescu, H Hasegawa, A N Fazakerley, H U Frey, M Volwerk, J P Eastwood, B Lavraud, J A Wild, D G Sibeck

SM31C Moscone South: 305 Wednesday 0800h
Advances in Cusp and Polar Cap Dynamics I (*joint with SA*)

Presiding: **M Lessard**, University of New Hampshire; **K Oksavik**, UNIS

0800h **SM31C-01** Ionospheric Ion Outflow from the Cusp and the Polar Cap Ionosphere: Current Observations, Knowledge Gaps, and Planned Observations (*Invited*): **A W Yau**, T Abe, W K Peterson

0815h **SM31C-02** Cluster observations of ion dispersion discontinuities in the polar cusp: **C P Escoubet**, J Berchem, F Pitout, R L Richard, K J Trattner, B Grison, M G Taylor, A Masson, M W Dunlop, I S Dandouras, H Reme, A N Fazakerley

0830h **SM31C-03** On The Origin of High-Energy Electrons in Cusp Diamagnetic Cavities: **K Nykyri**, A Otto, E T Adamson, E Kronberg, P W Daly, B Lavraud

0845h **SM31C-04** 3D MHD Simulations of Reconnection in the Magnetospheric Cusps: **E T Adamson**, A Otto, K Nykyri

0900h **SM31C-05** Cluster- and Ground-Based Observations of Pc 1-2 waves Poleward of the Cusp: **M J Engebretson**, N Pettit, D P Nguyen, J L Posch, D Murr, M Lessard, K Glassmeier, A Keiling, H Reme

0915h **SM31C-06** Observations of high latitude ion outflows with the EISCAT incoherent scatter radars and the FAST spacecraft: **D M Wright**, S V Badman, R J Strangeway, P Gallop, I McCrea

0930h **SM31C-07** Ion Outflow in the Dayside Cusp Ionosphere and its Dependence on Soft Electron Energy Flux: **J K Burchill**, D J Knudsen, J H Clemmons, K Oksavik, R F Pfaff, C T Steigies, A W Yau, T K Yeoman

0945h **SM31C-08** Sounding Rocket and Satellite Observations of Lower Hybrid and Ion-Bernstein Mode Waves Generated by Downflowing Ions in the Cusp: **E T Lundberg**, P M Kintner, K A Lynch, M R Mella, M Lessard

SM31D Moscone South: 303 Wednesday 0800h
Saturn's Magnetosphere: A Laboratory for Plasma-Gas Interactions II (*joint with P, SH*)

Presiding: **C S Paty**, Georgia Institute of Technology; **A Rymer**, JHU-APL

0800h **SM31D-01** SOURCES AND SINKS OF NEUTRALS AND PLASMA IN THE SATURNIAN MAGNETOSPHERE (*Invited*): **J D Richardson**

0820h **SM31D-02** Overview of Cassini CAPS observations of thermal plasma in Saturn's magnetosphere (*Invited*): **M F Thomsen**

0840h **SM31D-03** Latitudinal Distribution of Electron Populations in Saturn's Magnetosphere: **P Schippers**, N andre, A M Persoon, M Blanc, G Lewis, A J Coates, D T Young, S M Krimigis, D A Gurnett

0852h **SM31D-04** Multi-fluid simulations of plasmoid development at Saturn: **A Kidder**, R Winglee, E M Harnett

0904h **SM31D-05** Characteristics of periodic plasma escape from Saturn: **K C Hansen**, B Zieger, X Jia, D De Zeeuw, T I Gombosi

0916h **SM31D-06** Plasma Sources in Saturn's Inner Magnetosphere: **J L Burch**, A D DeJong, J Goldstein, D T Young

0928h **SM31D-07** Enceladus plume constraints and implications for global neutral particle distribution: **H T Smith**, R E Johnson, M E Perry, T A Cassidy, A Rymer, D T Young, J H Waite

Study of Earth's Deep Interior (DI)

DI31A Moscone South: Poster Hall Wednesday 0800h **Grand Challenge Computational Problems in Geophysics II** **Posters** (joint with A, C, OS, S)

Presiding: J Brown, ETH Zurich

0800h **DI31A-1595 POSTER** Improved Algorithms and Methods for Solving Strongly Variable-Viscosity 3D Stokes flow and Strongly Variable Permeability 3D D'Arcy flow on a Parallel Computer:

J P Morgan, J Hasenclever, C Shi

0800h **DI31A-1596 POSTER** Scalable robust solvers for unstructured FE geodynamic models, with an application to geoid calculations from high resolution tomography models in a subduction setting: **T Geen**, M ur Rehman, S MacLachlan, G Segal, K Vuik, A P Van Den Berg, W Spakman

0800h **DI31A-1597 POSTER** Robust, Scalable Methods for Incompressible Stokes Flow with Yielding Rheologies: **W Landry**

0800h **DI31A-1598 POSTER** Using Spectral Element Method to Simulate Mantle Convection: **D Oldham**, J H Davies

0800h **DI31A-1599 POSTER** Commodity CPU-GPU System for Low-Cost, High-Performance Computing: **S Wang**, S Zhang, R M Weiss, G A Barnett, D A Yuen

0800h **DI31A-1600 POSTER** GPU implementation for three-dimensional mantle convection at high Rayleigh number:

G A Barnett, G B Wright, D A Yuen

0800h **DI31A-1601 POSTER** GPU-Based Visualization of 3D Fluid Interfaces using Level Set Methods: **B J Kadlec**

0800h **DI31A-1602 POSTER** An efficient compact fourth order FD method for simulating 3-D mantle convection at high Rayleigh number: **G B Wright**, G A Barnett, D A Yuen

0800h **DI31A-1603 POSTER** Scaling Underworld - building up from personal clusters to high performance centers: **C M Cooper**, L N Moresi

0800h **DI31A-1604 POSTER** Kinematic Thermal Model for Tonga Descending Slab: A Case Study on the Influence of Velocity Boundary Layers: **K Zhang**, D Wei

0800h **DI31A-1605 POSTER** High-order accurate solution of acoustic-elastic interface problems on adapted meshes using a discontinuous Galerkin method: **L C Wilcox**, C Burstedde, O Ghattas, G Stadler

Mineral and Rock Physics

MR31A Moscone South: Poster Hall Wednesday 0800h **Computational Approaches and Applications in Mineral** **Physics III Posters** (joint with DI)

Presiding: B B Karki, Louisiana State University; L P Stixrude, University College London; R M Wentzcovitch, Univ Minnesota

0800h **MR31A-1626 POSTER** First principles study on phase relations of MgAl₂O₄ spinel polymorphs at mantle conditions: **K Yin**, H Zhou, S Xu

0800h **MR31A-1627 POSTER** Structural Evolution and Elasticity of YAlO₃ Perovskite: **D Wang**, R J Angel, Y G Yu, J Zhao, R M Wentzcovitch

0800h **MR31A-1628 POSTER** High pressure phase transitions in NiS₂ by LDA studies: **Y G Yu**, N Ross, J Gibbs

0800h **MR31A-1629 POSTER** Effect of Pressure on the core structures of dislocation 1/2<110> in MgO: **P Carrez**, P Cordier

0800h **MR31A-1630 POSTER** Advanced Techniques for Simulating the Behavior of Sand: **M Clothier**, M Bailey

0800h **MR31A-1631 POSTER** Iron spin transitions in high-pressure magnetite: **A K Bengtson**, D Morgan, U Becker

0800h **MR31A-1632 POSTER** Influence of dihedral angle on the contiguity of partially molten aggregates: M E Abbott, **S Hier-Majumder**

0800h **MR31A-1633 POSTER** The WURM project – a web-based freely accessible database of computed physical properties for minerals: E Bobocioiu, **R Caracas**

0800h **MR31A-1634 POSTER** New data model with better functionality for VLab: **P R da Silveira**, R M Wentzcovitch, B B Karki

0800h **MR31A-1635 POSTER** On the Stable Ground State of Mackinawite: **K Kwon**, K Refson, G Sposito

0800h **MR31A-1636 POSTER** Early stage spin-state transition in LaCoO₃ investigated by first principles: C Leighton, **H Hsu**, M Cococcioni, R M Wentzcovitch

0800h **MR31A-1637 POSTER** *ab initio* MD simulations of geomaterials with ~1000 atoms: **G B Martin**, B Kirtman, F J Spera

0800h **MR31A-1638 POSTER** Prediction of a new metastable sp³-carbon allotrope at ambient conditions: **S Saito**, K Umemoto, R M Wentzcovitch

0800h **MR31A-1639 POSTER** Interactive calculations of thermodynamics properties of minerals in VLab: N Kelly, **P R da Silveira**, R M Wentzcovitch

0800h **MR31A-1640 POSTER** The classification of sulfides based on the increment method: **Y Li**, Y Shi, J Liu

0800h **MR31A-1641 POSTER** *Ab Initio* Molecular Dynamics simulations of Grain Boundaries for crystalline Silica: A Vargas, **G Morra**, G Santarossa, M Iannuzzi

0800h **MR31A-1642 POSTER** The MgSiO₃ majorite-perovskite-ilmenite triple point and the problem of the Mg/Si disorder in majorite: **V L Vinograd**, Y G Yu, R M Wentzcovitch, R J Angel, B Winkler

0800h **MR31A-1643 POSTER** Fundamentals of elasticity for Fe-bearing forsterite: **M Nunez Valdez**, K Umemoto, R M Wentzcovitch

0800h **MR31A-1644 POSTER** *Ab initio* density determination of subducting basalt: **M Thompson**, D Weidner

0800h **MR31A-1645 POSTER** Theoretical study of high- to low-spin transition in (Mg,Fe)O under pressure: **N Skorodumova**

MR31B Moscone South: Poster Hall Wednesday 0800h **High-Pressure and High-Temperature Crystallography:** **Challenges and Novel Technological Developments I Posters** (joint with DI, V)

Presiding: T Boffa Ballaran, Bayerisches Geoinstitut

0800h **MR31B-1646 POSTER** Principal Hugoniot at all pressures: **L Burakovsky**, D L Preston, J D Johnson

0800h **MR31B-1647 POSTER** Measuring temperatures in a laser-heated diamond-anvil cell at Yale University: **K K Lee**, G Amulele, L R Benedetti

0800h **MR31B-1648 POSTER** In situ high-pressure single-crystal X-ray diffraction study of chromite: **A Kyono**, P K Dera, T Yamanaka, D Ikuta, J Shu, H Mao, R J Hemley

0800h **MR31B-1649 POSTER** Determination of the Phase Boundary Fe₃O₄ – h-Fe₃O₄ at high Temperature and Pressure using in situ Synchrotron Radiation: **K Schollenbruch**, A B Woodland, D J Frost, Y Wang, T Sanehira

0800h **MR31B-1650 POSTER** Stability of CO₂ hydrate under very high pressure and low temperature: **H Hirai**, M Honda, T Kawamura, Y Yamamoto, T Yagi

0800h **MR31B-1651 POSTER** The Thermal Expansion Of Feldspars: **G L Hovis**, A Medford, M Conlon

0800h **MR31B-1652 POSTER** Determining the phase transition boundary in highly-ordered pyrolytic graphite with time-dependent resistance measurements: **J M Montgomery**, K K Lee, B Kiefer

0800h **MR31B-1653 POSTER** Highly-Ordered Pyrolytic Graphite under High Pressure: **Y Wang**, J E Panzik, B Kiefer, J M Montgomery, K K Lee

0800h **MR31B-1654 POSTER** High-Pressure Deformation of Single-Crystal Garnet in the D-DIA using Quasi Laue Diffraction: **Y Wang**, **P K Dera**, N Hilairat, T Sanehira, T Yu

0800h **MR31B-1655 POSTER** A new hydrogen rich aluminosilicate phase stable at the Earth's lower mantle conditions: **T Boffa Ballaran**, D J Frost, N Miyajima

MR31C Moscone West: 2003 Wednesday 0800h
Masters of Terrestrial Igneous Activity: Magmas, Melts, and Fluids I (joint with DI, T, V)

Presiding: **S Keshav**, Bayerisches Geoinstitut; **C E Leshner**, UC Davis

0800h **MR31C-01** Unique Chemical Signatures Returned by Crystallization of a Basal Magma Ocean and Constraints upon the Thermal Evolution of the Early Earth (*Invited*): **J W Hernlund**, R Caracas, M Manga, N Coltice, S J Labrosse

0815h **MR31C-02** A six-pack of silicates: generalized properties of silicate liquids at lower mantle pressure based on Silica, Enstatite, Forsterite, Diopside, Anorthite, and Di-An eutectic compositions (*Invited*): **P D Asimow**

0830h **MR31C-03** The Roles of Temperature and Composition in High-Pressure Structural Changes in Aluminosilicate Melts: **J F Stebbins**

0845h **MR31C-04** Effect of CO₂ on the Second Critical Endpoint in the System Peridotite-CO₂-H₂O (*Invited*): **K Mibe**, T Kawamoto, S Ono

0900h **MR31C-05** Absence of singularity along the wet solidus of carbonated peridotite: **S Keshav**, G H Gudfinnsson

0915h **MR31C-06** H₂O and CO₂ bearing silicate melts at high pressure (*Invited*): **M Mookherjee**, N de Koker, L P Stixrude, B B Karki

0930h **MR31C-07** Pressure Dependence of Komatiite Liquid Viscosity and Implications for Magma Ocean Rheology: **L O'Dwyer Brown**, C E Leshner, H G Terasaki, A Yamada, T Sakamaki, Y Shibazaki, E Ohtani

0945h **MR31C-08** A Molecular Link to Thermodynamic Properties of Multi-component Silicate Melts in the Earth's Interior: **S Lee**

Seismology

S31A Moscone South: Poster Hall Wednesday 0800h
Earthquake Source Modeling I Posters (joint with T, G)

Presiding: **M Reyners**, GNS Science; **E T Coon**, Columbia University

0800h **S31A-1681 POSTER** The M_w 7.6 Dusky Sound, New Zealand, Earthquake of 15 July 2009: **M Reyners**, S C Bannister, R J Beavan, L Bland, N Fournier, C Francois-Holden, B Fry, N Palmer, J P Ristau, R Robinson, S Samsonov, N Welch, G Team

0800h **S31A-1682 POSTER** Source mechanisms of the 2009 seismic sequence in the northwest of New Guinea Island, Indonesia: **M Nakano**, H Kumagai, T Yamashina, H Inoue, _ Sunarjo

0800h **S31A-1683 POSTER** The 11th August 2009 Andaman earthquake (Mw 7.6): A plausible cause of its genesis: **O P Mishra**, D Ghosh

0800h **S31A-1684 POSTER** Rupture Dynamics Simulation of Mw 7.9 Wenchuan Earthquake by Curved Grid Finite Difference Method: **Z Gengshang**, X Chen

0800h **S31A-1685 POSTER** Statistical Analysis of the Surface Slip Profiles and Slip Models for the 2008 Wenchuan Earthquake: **D Lavallee**, G Shao, C Ji

0800h **S31A-1686 POSTER** Determination of broadband moment magnitude (Mwp) for August 11, 2009 Suruga-Bay earthquake (MJMA=6.5): **S Tsuboi**, B F Hirshorn

0800h **S31A-1687 POSTER** Rupture-process images deduced from array back-projection analysis using data of a dense strong ground-motion seismograph network: **R Honda**, Y Yukutake, T Tanada, A Yoshida

0800h **S31A-1688 POSTER** Kinematic Source Inversion using Strong Motion Data Considering Three-Dimensional Fault Geometry: **K Asano**, T Iwata

0800h **S31A-1689 POSTER** Moment Tensor Inversions of 20 October 1999 Taiwan earthquake sequence: **K Chang**, W Chi, Y Gung, H Chiu

0800h **S31A-1690 POSTER** Rupture pattern of a moderate earthquake in South Korea: **S Park**, I Hahm

0800h **S31A-1691 POSTER** RELATIVE SOURCE TIME FUNCTION STUDIES OF EARTHQUAKES IN SOUTHEASTERN ALASKA-NORTHWESTERN CANADA: **C R Escudero**, D I Doser

0800h **S31A-1692 POSTER** THE MAY 23TH 2007 GULF OF MEXICO EARTHQUAKE: **J Yamamoto**, Z Jimenez

0800h **S31A-1693 POSTER** The 4.8 mb Intraplate Earthquake of 2009 in the Pantanal Wetlands, Western Brazil: **G S Franca**, M Assumpcao, E Facincani, C Fernandes, D Caixeta, M G Von Huelsen, R C Dantas

0800h **S31A-1694 POSTER** RUPTURE CHARACTERISTICS OF THE TWO MODERATE SIZE EARTHQUAKES ON SOUTHERN MARMARA, TURKEY: **F N Bekler**, N Meral Ozel, G Birgore Tanircan

0800h **S31A-1695 POSTER** Dynamic Rupture of Shallow 3D Dipping Fault Earthquakes Using a New BIEM Technique for Half-Space Medium: **S Hok**, E Fukuyama

0800h **S31A-1696 POSTER** Steady-state solutions of rupture propagation in an earthquake simulator governed by rate and state dependent friction: **G Zoeller**, M Holschneider, S Hainzl, G B Brietzke

0800h **S31A-1697 POSTER** High-Order Treatment of Fault Boundary Conditions Using Summation-By-Parts Finite Difference Methods: **J E Kozdon**, E M Dunham, J Nordström

0800h **S31A-1698 POSTER** Impacts of Fault Geometry on Fault System Behaviors: **E T Coon**, B E Shaw, M W Spiegelman

0800h **S31A-1699 POSTER** Properties of Steady State Dynamic pulse-like ruptures with off-fault plasticity: **A Gabriel**

0800h **S31A-1700 POSTER** Effects of Apparent Supersonic Ruptures for Strike-slip Rupture: Should We Consider it in the Seismic Hazard Analysis?: **M B Barrows**, G Shao, C Ji

0800h **S31A-1701 POSTER** Highly accurate computations of slip eigenmodes for faults in half space: **D Volkov**, I R Ionescu

0800h **S31A-1702 POSTER** Subduction zone megathrust ruptures and trench parallel gravity anomalies: Evaluating their relationship with relocated aftershocks and background seismicity: **A Teel**, C H Thurber, G Lin

S31B Moscone South: Poster Hall Wednesday 0800h
Research and Development in Nuclear Explosion Monitoring I Posters (joint with A, H, PA)

Presiding: S Tsuboi, Japan Agency for Marine Sci & Tech

0800h **S31B-1703 POSTER** Development of a regional body-wave magnitude scale for the Korean Peninsula: **K Lee**, T Hong

0800h **S31B-1704 POSTER** Regional waveform modeling for 1D crustal velocity model based on the full-grid search and its application to the southern Korean Peninsula: **S Kim**, J Rhie

0800h **S31B-1705 POSTER** Seismic Event Relocation in Northeastern Russia: M D Romero-Yeske, **L Steck**, M L Begnaud, K G Mackey, K Fujita, R Stead

0800h **S31B-1706 POSTER** CRUST AND UPPER MANTLE TOMOGRAPHY ACROSS EURASIA FOR IMPROVED REGIONAL SEISMIC TRAVEL TIME PREDICTION: **S C Myers**, M L Begnaud, S Ballard, M E Pasyanos, W S Phillips, A L Ramirez, M S Antolik, K Hutchenson, J Dwyer, C A Rowe, G Wagner

0800h **S31B-1707 POSTER** A NEW APPROACH TO CORRECT FOR REGIONAL SOURCE SCALING VARIATIONS IN SEISMIC DISCRIMINATION: **K M Mayeda**, L Malagnini

0800h **S31B-1708 POSTER** RAPID DETERMINATION OF FOCAL DEPTH USING A GLOBAL NETWORK OF SMALL-APERTURE SEISMIC ARRAYS: **K Seats**, K Koper, H Benz

0800h **S31B-1709 POSTER** SIMULTANEOUS RETRIEVAL OF SEISMIC MOMENTS OF A COMPLEX SEISMIC PROCESS AND DEPTH USING LEAST-SQUARES INVERSION OF REGIONAL SURFACE WAVES - ALGORITHM: **C K Saikia**

0800h **S31B-1710 POSTER** Effects of waveguide heterogeneity on Pn amplitude decay: **M S Avants**, T Lay, X Xie, X Yang

0800h **S31B-1711 POSTER** Time-Reversal Location of Small Mining Explosions and Earthquakes: **H E Hartse**, H Denli, L Huang

0800h **S31B-1712 POSTER** Underground structure characterization using motor vehicles as passive seismic sources: **H A Kuzma**, Y Liu, Y Zhao, J Rector, S Vaidya

0800h **S31B-1713 POSTER** Vertically Integrated Seismological Analysis II : Inference: **N S Arora**, S Russell, E Sudderth

0800h **S31B-1714 POSTER** Improved Automated Seismic Event Extraction Using Machine Learning: **L Mackey**, A Kleiner, M I Jordan

0800h **S31B-1715 POSTER** Looking for underlying features in automatic and reviewed seismic bulletins through a neural network: **R Carluccio**, R Console, M Chiappini, S Chiappini

0800h **S31B-1716 POSTER** Seismic Search Engine: A distributed database for mining large scale seismic data: **Y Liu**, S Vaidya, H A Kuzma

0800h **S31B-1717 POSTER** OPEN DATA EXCHANGE IN SUPPORT OF CTBT RESEARCH: **R J Willemann**, D W Simpson, G Suarez, T K Ahern

0800h **S31B-1718 POSTER** IMS Data Applied to Tsunami Warning: **V Hsu**, S Weinstein, C S McCreery

0800h **S31B-1719 POSTER** Detection, location, and characterization of hydroacoustic signals using seafloor cable networks offshore Japan (Invited): **H Sugioka**, K Suyehiro, M Shinohara

0800h **S31B-1720 POSTER** Development and Application of First- and Second-Pass Clutter-Reduction Techniques for Nuclear Blast Detection at Infrasound Stations: **C H Hetzer**, R Waxler

0800h **S31B-1721 POSTER** Theoretical and experimental studies of the waveforms associated with stratospheric infrasonic returns: **R Waxler**, C L Talmadge, P Blom

0800h **S31B-1722 POSTER** Infrasound Calibration Experiment at Sayarim, Israel: preliminary tests: **Y Gitterman**, A Hofstetter, M Garces, J R Bowman, D Fee, H Israelsson

0800h **S31B-1723 POSTER** Sayarim Infrasound Calibration Explosion: conducting, near-source and local observations: A Hofstetter, **A Hofstetter**

0800h **S31B-1724 POSTER** Sleeman Coherence to Determine Digital Recorder and Infrasound Sensor Noise: **D M Hart**, B J Merchant

0800h **S31B-1725 POSTER** In-situ comparison calibration of infrasound array elements: **T B Gabrielson**

0800h **S31B-1726 POSTER** Optical Fiber Infrasound Sensor Arrays: An Improved Alternative to Arrays of Rosette Wind Filters: M A Zumberge, **K T Walker**, S DeWolf, J Berger, M A Hedlin

0800h **S31B-1727 POSTER** Application of a New Infrasound Sensor Technology in a Long Range Infrasound Propagation Experiment: **C L Talmadge**, R Waxler, C H Hetzer, D E Kleniert, Jr, K Dillion, J Assink, A Aydin

0800h **S31B-1728 POSTER** New digitizer for International Monitoring System (IMS) waveforms technology stations: **Y O Starovoit**, A Kramer, R P Kromer, N Pearce

S31C Moscone South: Poster Hall Wednesday 0800h
Studies of North Korean Explosions and Implications for Nuclear Explosion Monitoring I Posters (joint with A, OS, PA)

Presiding: T Hong, Yonsei University; **W R Walter**, Lawrence Livermore National Lab.

0800h **S31C-1729 POSTER** Analysis of the Anomalous Surface Wave Magnitudes for the North Korean Nuclear Explosions: **J L Bonner**, R B Herrmann

0800h **S31C-1730 POSTER** The DPRK event of May 25, 2009: an analysis carried out at INGV from a multidisciplinary perspective: **R Console**, R Carluccio, M Chiappini, S Chiappini, F D'Ajello Caracciolo, K Damiani, A Giuntini, V Materni, A Pignatelli

0800h **S31C-1731 POSTER** Characteristics of regional seismic waves from the 2006 and 2009 North Korean nuclear explosion tests: **S Rhee**, T Hong

0800h **S31C-1732 POSTER** Regional Observations of the 2006 and 2009 Declared North Korea Nuclear Explosions: **W R Walter**, S R Ford, M E Pasyanos

0800h **S31C-1733 POSTER** Regional source properties of the North Korean nuclear explosions: **T Hong**

0800h **S31C-1734 POSTER** An Evaluation of North Korea's Nuclear Test by Belbasi Nuclear Tests Monitoring Center-KOERI: **O NECMIOGLU**, N Meral Ozel, K Semin

0800h **S31C-1735 POSTER** UK National Data Centre Analysis of the 2006 and 2009 DPRK Nuclear Tests, and Implications for Event Screening in the Context of the CTBT: **N D Selby**, D Bowers

0800h **S31C-1736 POSTER** Relative relocations of the 2006 and 2009 North Korean nuclear tests using Hi-net data: **A R Hutko**

S31D Moscone West: 2016 Wednesday 0800h
Development of 3-D Models for Seismic Monitoring I (joint with DI, T)

Presiding: **L Steck**, Los Alamos National Laboratory; **C J Young**, Sandia National Laboratories

0800h **S31D-01** Advanced Multivariate Inversion Techniques for High Resolution 3D Geophysical Modeling (Invited): **M Maceira**, H Zhang, C A Rowe

0815h **S31D-02** A new Approach to Global Seismic Tomography that Promotes Sparsity with a new Three-Dimensional Wavelet Transform in Spherical Geometry: I Loris, **F J Simons**, I C Daubechies, G Nolet, M Fornasier, P A Vetter, S J Judd, S Voronin
 0830h **S31D-03** Different Discretization Approaches for Complicated 3D Models and Their Effect on Synthetic Seismograms: **C Pelties**, M Kaeser, C Castro
 0845h **S31D-04** Simultaneous global- and regional-scale seismic tomography: Techniques and example (*Invited*): **N A Simmons**, S C Myers, G Johannesson, A L Ramirez
 0915h **S31D-06** Transdimensional Seismic Tomography: **T Bodin**, M Sambridge
 0945h **S31D-08** Full-wave finite-frequency tomography of the southeast Tibetan plateau: **Z Zhang**, Y Shen, W Zhang

S31E Moscone West: 2005 Wednesday 0800h
Observation and Analysis of Natural and Induced Microearthquakes II (*joint with H, NS, T*)

Presiding: **V Oye**, NORSAR; **J Chavarria**, SR2020 Inc.

0800h **S31E-01** Temporal Distributions of Microearthquake Magnitudes During Fluid Injection in Rocks (*Invited*): **S A Shapiro**, C Dinske
 0815h **S31E-02** Frequency-Magnitude Relationship of Hydraulic Fracture Microseismicity (*Invited*): **S Maxwell**
 0830h **S31E-03** Monitoring Induced Seismicity at an Oil/Gas Field: **H S Kuleli**, S Sarkar, M N Toksoz, F Al-Kindy, I W El Hussain, S Al-Hashmi
 0845h **S31E-04** Analysis of Recent Earthquakes in the Ft. Worth Basin near Dallas, Texas: **C A Frohlich**, E Potter, C Hayward, B Stump
 0900h **S31E-05** Moment Tensors, Stress, Strain and b-values in Hydraulic Fractures: V Shumila, **A M Baig**, T I Urbancic
 0915h **S31E-06** Automatic Event Detection and Improved Moment Estimates Reveal that Repeating Earthquakes are Sometimes Time- and Slip-Predictable: **J L Rubinstein**, W L Ellsworth
 0930h **S31E-07** Rupture directivity of micro-earthquakes along the San Andreas fault: **E Wang**, A M Rubin
 0945h **S31E-08** Active Seismic Imaging Using Microseismic Events: Results From the San Andreas Fault System at SAFOD: A Reshetnikov, **S Buske**, S A Shapiro

Tectonophysics

T31A Moscone South: Poster Hall Wednesday 0800h
Gulf of California-Salton Trough Rift Margin: Recent Findings and Remaining Questions I Posters (*joint with S*)

Presiding: **S E Bennett**, Univ. of California, Davis; **J W Kluesner**, Scripps Inst. of Oceanography; **D S Brothers**, Scripps Institution of Oceanography

0800h **T31A-1779 POSTER** Seismicity and Faulting in the Southern Gulf of California: **D F Sumy**, J B Gaherty, J A Collins, C Huerta, R R Castro
 0800h **T31A-1780 POSTER** Late Quaternary Alluvial Fans of Southern Baja California, Mexico: Relation to Eastern Pacific Tropical Cyclones: **J Antinao**, E McDonald
 0800h **T31A-1781 POSTER** Crust and upper-mantle structure in the Gulf of California from ambient noise Rayleigh waves recorded on land and ocean-bottom seismographs: **N Carriero**, J B Gaherty, J A Calkins

0800h **T31A-1782 POSTER** Dynamics of Slab Detachment Due to Ridge-Trench Collision: 2D and 3D Implications: **E R Burkett**, M I Billen

0800h **T31A-1783 POSTER** Constraints on early Gulf of California rifting from seismic images across the eastern margin of Guaymas Basin: **N C Miller**, D Lizarralde, A J Harding, G Kent

0800h **T31A-1784 POSTER** Confirmation of Late Miocene Age for Marine Strata on Isla Tiburón, Gulf of California, México: **N G Buckmaster**, S E Bennett, M E Oskin, J A Ford

0800h **T31A-1785 POSTER** Seismic-Stratigraphic Framework for the Northern Gulf of California: M S Steckler, Y Sagy, **G S Mountain**, J M Stock, A Martin Barajas

0800h **T31A-1786 POSTER** Faulting, Seismicity and Stress Interaction in the Salton Sea Region of Southern California: **D L Kilb**, D S Brothers, G Lin, G Kent, R L Newman, N Driscoll

0800h **T31A-1787 POSTER** Analysis of Earthquake Source Spectra in Salton Trough: **X Chen**, P M Shearer

0800h **T31A-1788 POSTER** Thermal Infrared Airborne Hyperspectral Detection of Fumarolic Ammonia Venting on the Calipatria Fault in the Salton Sea Geothermal Field, Imperial County, California: **D K Lynch**, D M Tratt, K N Buckland, J L Hall, B P Kasper, M G Martino, L J Ortega, K R Westberg, S J Young, P D Johnson

0800h **T31A-1789 POSTER** CO₂ and CH₄ degassing from vents and soil in the Salton Sea Geothermal System (California, USA): **A Mazzini**, G Etiope, H Svensen, S Polteau, S Planke

0800h **T31A-1790 POSTER** The Salton Seismic Imaging Project (SSIP): Rift Processes and Earthquake Hazards in the Salton Trough (*Invited*): **J A Hole**, J M Stock, G S Fuis, M J Rymer, J M Murphy, R R Sickler, C J Criley, M Goldman, R D Catchings, J W Ricketts, A Gonzalez-Fernandez, N Driscoll, G Kent, A J Harding, S L Klemperer

0800h **T31A-1791 POSTER** Calibration Shots Recorded for the Salton Seismic Imaging Project, Salton Trough, California: **J M Murphy**, M J Rymer, G S Fuis, J M Stock, M Goldman, R R Sickler, S A Miller, C J Criley, J W Ricketts, J A Hole

0800h **T31A-1792 POSTER** Crustal Structure of the Salton Trough: Integration of Receiver Functions, Gravity and Magnetic data: **M J Hussein**, A A Velasco, D I Doser, L F Serpa

0800h **T31A-1793 POSTER** A "mesh" of crossing faults: Fault networks of southern California: **S U Janecke**

0800h **T31A-1794 POSTER** Structure of the low velocity zone and crust in southwestern North America: **B Savage**

0800h **T31A-1795 POSTER** A NEW (or old) RIFT IN EASTERN CALIFORNIA: **J Calzia**

T31B Moscone South: Poster Hall Wednesday 0800h
East Africa Rift System: Links Between the Surface and Depth I Posters (*joint with G, S, DI, V*)

Presiding: **C Pagli**, University of Leeds; **J O Hammond**, University of Bristol; **D Keir**, University of Leeds; **A Ayele**

0800h **T31B-1796 POSTER** Earthquakes along the East African Rift System: A multi-scale, continent-wide perspective: **Z Yang**, W Chen

0800h **T31B-1797 POSTER** Effective elastic thickness of Africa and its relationship to other proxies for lithospheric structure and surface tectonics: M Perez-Gussinye, M Metois, M Fernandez, J Verges, J Fulla, **A R Lowry**

0800h **T31B-1798 POSTER** Crustal Structure In Africa From Combined Interpretation Of Satellite Gravity And Seismological Data: M van der Meijde, **G Ebuy Tedla**

0800h **T31B-1799 POSTER** Large-scale dynamics of the East African Rift: **D S Stamps**, L M Flesch, E Calais

0800h **T31B-1800 POSTER** Using 2D and 3D Modeling to Infer the Depth of the Okavango Dyke Swarm: **M K dailey**, D Mortimer, E A Atekwana

0800h **T31B-1801 POSTER** Mid-Miocene Uplift of the East African Plateau: **H Wichura**, R Bousquet, R Oberhänsli, M R Strecker, M H Trauth

0800h **T31B-1802 POSTER** Upper Mantle Structure of the Eastern Africa from Body Wave Tomography: **G D Mulibo**, A Nyblade, R W Ferdinand, A M Reusch, A N Adams, F A Tugume

0800h **T31B-1803 POSTER** Rayleigh Wave Phase Velocity and Shear Wave Velocities in the Western Branch of the East African Rift System: **A N Adams**, A Nyblade

0800h **T31B-1804 POSTER** The crustal structure of Uganda inferred from joint inversion of receiver functions and Rayleigh wave group velocities: **F A Tugume**, J Julia, A Nyblade, A N Adams

0800h **T31B-1805 POSTER** Seismic Structures for the Rwenzori Region in Western Uganda Derived from Local and Teleseismic Events: I Woelbern, **G Rumpker**, M Lindenfeld, A Yakovlev

0800h **T31B-1806 POSTER** Anisotropic Stratification Beneath Africa From Joint Inversion of SKS and P Receiver Functions: S Kiselev, **M J Obrebski**, L P Vinnik, J Montagner

0800h **T31B-1807 POSTER** Crustal and Uppermost Mantle Velocities Beneath Ethiopia from Pn and Surface Wave Tomography: **S D Rouse**, A Nyblade, R A Brazier

0800h **T31B-1808 POSTER** Seismic Imaging of the crust and upper mantle beneath Afar, Ethiopia: **J O Hammond**, J M Kendall, G W Stuart, C J Ebinger

0800h **T31B-1809 POSTER** Crustal structure across Afar, Ethiopia, from surface wave tomography: **M Guidarelli**, G W Stuart, J Hammond, J M Kendall, C J Ebinger

0800h **T31B-1810 POSTER** Seismic and geodetic constraints on magma emplacement in the Main Ethiopian rift and Red Sea rift in Afar: **D Keir**, A Ayele, C Pagli, T J Wright, I J Hamling, M Guidarelli, C J Ebinger, M Belachew, E Calais

0800h **T31B-1811 POSTER** Comparison of dike intrusions in Afar: Seismic perspective for source and extent: **M Belachew**, C J Ebinger, D Keir, D M Cote, A Ayele

0800h **T31B-1812 POSTER** Unique Tremor observed coincident with the major emplacement phase of the September 2005 dike in Afar, Ethiopia: **A Ayele**, D Keir, T J Wright, C J Ebinger, G W Stuart, J Neuberg

0800h **T31B-1813 POSTER** Inflation, Pause, Erupt, Recharge: the 2008 Alu eruption in the Erta 'Ale volcanic system (Ethiopia): **C Pagli**, T J Wright, C J Ebinger, T D Barnie, A Ayele

0800h **T31B-1814 POSTER** Post-rifting relaxation processes in the Afar region (Ethiopia) from geodetic measurements and numerical modeling: **L Bennati**, E Calais, A M Freed, I J Hamling, T J Wright, E Lewi, S L Nooner, W R Buck

0800h **T31B-1815 POSTER** Rift-Related Volcanism in Afar: **D J Ferguson**, T D Barnie, D M Pyle, C Oppenheimer, G Yirgu, I J Hamling

0800h **T31B-1816 POSTER** Tectonic-magmatic interplay during the early stages of oceanic rifting: temporal constraints from cosmogenic ³He dating in the Dabbahu rift segment, Afar: **A Williams**, R Pik, P Burnard, S Medynski, G Yirgu

0800h **T31B-1817 POSTER** Dynamics of Rifting in two Active Rift Segments in Afar - Geodetic and Structural Studies - DoRA Project: **C Doubre**, A Socquet, F Masson, E Jacques, R Grandin, A Nercessian, M Kassim, J Vergne, M Diamant, J Hinderer, A Ayele, E Lewi, E Calais, G Peltzer, R Toussaint, J De Chaballier, V S Ballu, B Luck, G C King, C Vigny, R Cattin, C Tiberi, T Kidane, M Jalludin, A Maggi, C Dorbath, G Manatschal, J Schmittbuhl, N Le Moigne, S Deroussi

0800h **T31B-1818 POSTER** Surface Morphology of Active Normal Faults in Hard Rock: Implications for the Mechanics of the Asal Rift, Djibouti: **P Pinzuti**, A Mignan, G C King

0800h **T31B-1819 POSTER** Two-dimensional, average velocity field across the Asal Rift, Djibouti from 1997-2008 RADARSAT data: **J Tomic**, C Doubre, G Peltzer

0800h **T31B-1820 POSTER** Testing models of dike intrusion during rifting episodes: The role of heating in triggering earthquakes in Afar: K Kulpinski, **D M Cote**, C J Ebinger, D Keir, A Ayele

0800h **T31B-1821 POSTER** Numerical Modelling of the Heat Flow from Multiple Dyke Injection Events in Afar, Ethiopia: **K A Daniels**, T Menand, S Sparks

T31C Moscone South: Poster Hall Wednesday 0800h Tectonic, Sedimentary, Magmatic, and Thermal Evolution of Lithospheric Extension Leading to Continental Breakup and Seafloor Spreading III Posters

Presiding: **S Leroy**, CNRS UMR 7193; **C Robin**; **P J Umhoefer**, Northern Arizona University

0800h **T31C-1822 POSTER** LA-ICP-MS Dating and Tectonic Setting of Yeba Formation Lavas in Qulong Area east Part of the Gangdise Belt, Xizang China: **D Liu**

0800h **T31C-1823 POSTER** Igneous Intrusion Control on Stress in Continental Rift Zones and the Impact on Rift Evolution: **E K Beutel**

0800h **T31C-1824 POSTER** Continental crust spreading: a process for synextensional creation of continental crust inferred from analysis of the evolution of Death Valley: **I O Norton**

0800h **T31C-1825 POSTER** THE ELDORADO DIKE SWARM, ELDORADO MOUNTAINS, SOUTHERN NEVADA - ACCOMMODATING UPPER CRUSTAL EXTENSION IN THE COLORADO RIVER EXTENSIONAL CORRIDOR: **N Hinz**, J E Faulds

0800h **T31C-1826 POSTER** Structural Evolution of a Large Extensional Basin Near Charleston, SC, Illuminated By Seismic-Reflection Profiling: **J N Beale**, M C Chapman

0800h **T31C-1827 POSTER** Geophysical Investigation of Cenozoic Extension in Higley Basin, Southern Arizona: **M Warren**, R A Johnson

0800h **T31C-1828 POSTER** Detachment tectonics and hangingwall sedimentation: the Late Pliocene-Holocene Los Barriles Basin, Baja California Sur (Mexico): **L Geoffroy**, E Masini, C Robin, P Strzeczynski

0800h **T31C-1829 POSTER** The Supra-Detachment Sedimentary Evolution of Deep-Water Magma-Poor Rifted Margins: the Example of the Fossil Distal Alpine Tethys Margin Exposed in the Alps (SE Switzerland): **E Masini**, G Mohn, G Manatschal, J Ghiene, F Lafont

0800h **T31C-1830 POSTER** How does the crust thin during final rifting: evidence from the Bernina/Campo domain in the Central Alps (SE-Switzerland and N-Italy): **G Mohn**, G Manatschal, E Masini, M Beltrando, O Muntener, N J Kusznir

0800h **T31C-1831 POSTER** Interactions between magma and the lithospheric mantle during Cenozoic rifting in Central Europe: **R Meyer**, X Song, L T Elkins-Tanton

0800h **T31C-1832 POSTER** Magmatism During Rifting Controls the Polarity of Tilted Blocks: F Chauvet, **O Bourgeois**, O Dauteuil

0800h **T31C-1833 POSTER** Constraints On Lithospheric Extension From Break-Up Of The Proterozoic Siberia-Laurentia Connection: **J W Sears**

0800h **T31C-1834 POSTER** Plate boundaries in the Woodlark Basin and Solomon Sea Region, Papua New Guinea: A M Goodliffe, **M Cameron**

0800h **T31C-1835 POSTER** Structural Analysis of the Louisiade Archipelago, Southeastern Papua New Guinea: **L E Webb**, S Baldwin, P G Fitzgerald, L Castellani, N A Zirakparvar

0800h **T31C-1836 POSTER** Continental break-up history of conjugate poor magmatic margins from seismic reflection and analogue modelling (oriental Gulf of Aden): **J Autin**, S Leroy, E D'Acremont, M Beslier, N Bellahsen, L Husson, A Ribodetti, P Razin, C Robin, K Al Toubi

0800h **T31C-1837 POSTER** Ocean-continent-transition and oceanic ridge structural evolution (eastern Gulf of Aden): Implications for rift to seafloor spreading processes: **E D'Acremont**, S D Leroy, M Beslier, J Autin, L Watremez, M A Maia, P Gente

0800h **T31C-1838 POSTER** Contrasted styles of rifting in the eastern Gulf of Aden: **S Leroy**, F Lucazeau, E d'Acremont, L Watremez, J Autin, S Rouzo, N Bellahsen, C J Ebinger, M Beslier, C Tiberi, J Perrot, P Razin, F Rolandone, G W Stuart, A I Al-Lazki, K I Al-Toubi, A Bonneville, B Goutorbe, P Huchon, P Unternehr, K Khanbari

0800h **T31C-1839 POSTER** POST-RIFT UPLIFT OF THE RIFTED MARGIN OF THE GULF OF ADEN: **F Bache**, S Leroy, C Baurion, C Gorini, F Lucazeau, P Razin, J Robinet, E d'Acremont, J Autin

0800h **T31C-1840 POSTER** Cenozoic evolution of the Socotra Island: opening of the Gulf of Aden: **P Razin**, C Robin, J Serra Kiel, S Leroy, N Bellahsen, K Khanbari

0800h **T31C-1841 POSTER** Proterozoic inheritance in the Gulf of Aden: the example of the Socotra island (Yemen): **D Yoann**, S Leroy, J Champanhet, N Bellahsen, R Pik

0800h **T31C-1842 POSTER** Structure and Geochemistry of the Continental-Oceanic Crust Boundary of the Red Sea and the Rifted Margin of Western Arabia: **Y Dilek**, H Furnes, R Schoenberg

0800h **T31C-1843 POSTER** Morpho-tectonic Evolution of the Western Afar Margin (southern Red Sea, Ethiopia): **R Pik**, J Lave, J Foeken, J Carignan, D Ayalew, G Yirgu

0800h **T31C-1844 POSTER** Stratigraphy and structure of Liyue Basin and its implication for South China Sea break-up: **L Sun**, Z Sun

0800h **T31C-1845 POSTER** Inconsonant Structures Near the Continent-oceanic Boundary of the Northern South China Sea: Origin and Implications: **D Zhou**, Z Sun, X Pang, X Wu

0800h **T31C-1846 POSTER** Mechanisms for crustal thinning along the ultraslow spreading Mid-Cayman Spreading Center: **N Grindlay**, N W Hayman, M R Perfit, P Mann, S Leroy, B F Mercier De Lepinay

0800h **T31C-1847 POSTER** The crustal structure of the Flemish Cap Continental Margin (E Canada): New Evidence for Asymmetric Rifting from Goban Spur (NW Europe): **J Gerlings**, K E Loudon, H R Jackson

0800h **T31C-1848 POSTER** Miocene to present-day strain variation and extension patterns at the hinge zone of the Gibraltar Arc (Western Mediterranean): **I Exposito**, J Balanyá, A Crespo-Blanc, M Diaz, F Torcal, J V Perez Pena, G Booth-Rea

0800h **T31C-1849 POSTER** Lithospheric scale density heterogeneity across the ocean-continent transition of the Iberia and Newfoundland conjugate rifted margins: **C J Cooper**, N J Kuszniir, G Manatschal

0800h **T31C-1850 POSTER** Built-up of the continental margin offshore Central Mozambique from marine geophysical investigations: **I Heyde**, M Block, A Ehrhardt, C J Reichert, B Schreckenberger

0800h **T31C-1851 POSTER** Chronology of magmatism and Eureka deformation in the High-Arctic Large Igneous Province: 40Ar-39Ar age of the Kap Washington Volcanics, North Greenland: **P M Holm**, C Tegner, M Storey, X Zhao, M Faurschou Knudsen, S B Thorarinsson, C Lo

0800h **T31C-1852 POSTER** U-Pb geochronology of the Kap Washington Volcanic Province, North Greenland: Constraints on the timing of continental rifting and implications for the development of the Arctic Basin: **S B Thorarinsson**, P M Holm, S Tappe, L Heaman, C Tegner

0800h **T31C-1853 POSTER** The importance of rift history for volcanic margin formation: **J J Armitage**, J Collier, T A Minshull

0800h **T31C-1854 POSTER** Focus and redistribution of the lithospheric deformation by emplacement of underplated mafic bodies: **T Yamasaki**, L Gernigon

0800h **T31C-1855 POSTER** The Deformation Mode of Continental Lithosphere Thinning Leading to Continental Breakup: **N J Kuszniir**, G Manatschal

0800h **T31C-1856 POSTER** A quantitative comparison between the formation of oceanic crust and 'transitional' crust on rifted margins based on gravity roughness: **P Thangaraj**, D J Shillington, A Malinverno

0800h **T31C-1857 POSTER** Three-dimensional numerical modelling of crustal extension: **V S Allken**, R S Huismans, C Thieulot

0800h **T31C-1858 POSTER** Differential thinning and small scale convection during formation of non-volcanic conjugate Morocco - Nova Scotia passive margins: Insights from thermo-mechanical modeling: **M Gouiza**, R S Huismans, G Bertotti

T31D Moscone West: 2009 Wednesday 0800h
Arc Systems, Ophiolites, and Continental Crust Formation III
(joint with V)

Presiding: T Plank, Columbia University; Y Tatsumi, JAMSTEC

0800h **T31D-01** Implications of Sediment Diapirs on the H₂O Flux into the Mantle at Arcs (*Invited*): **M D Behn**, G Hirth, P B Kelemen, B R Hacker

0815h **T31D-02** Constraints on Subduction Zone Temperatures and Chemical Fluxes from Accessory Phase Saturation in Subducted Sediments (*Invited*): **J Blundy**, S Skora

0830h **T31D-03** Slab dehydration versus melting: primary arc magma genesis for arc crust formation: **J Kimura**, B R Hacker, P E Van Keken, H Kawabata, T Yoshida, R J Stern

0845h **T31D-04** Changing conditions of mantle wedge melting across arc as illustrated by changing iron isotopes compositions: **J D Foden**, G P Halverson, P Sossi, M A Elburg

0900h **T31D-05** Evolution of mantle flow and melting beneath a migrating back-arc spreading center: **P Hall**, L B Cooper, T Plank

0915h **T31D-06** The Missing Oligocene Izu-Bonin Arc Crust: Consumed or Rejuvenated During Collision?: **Y Tamura**, K Aoiike, O Ishizuka, H Kawabata, Q Chang, S Saito, S Kawate, M Arima, Y Tatsumi, M Takahashi, S Kodaira, R S Fiske

0930h **T31D-07** Rear Arc Contributions to Continental Crust (*Invited*): **J B Gill**, S Kodaira, Y Tamura

0945h **T31D-08** Crustal rifting and magmatic underplating in the Izu-Ogasawara (Bonin) intra-oceanic arc detected by active source seismic studies: **N Takahashi**, S Kodaira, M Yamashita, S Miura, T Sato, T No, Y Tatsumi, Y Kaneda

T31E Moscone West: 2011 Wednesday 0800h
Cenozoic Mountain Building in Asia and South America: Impact on Surface Processes, Erosion, Climate Change, and Deep Earth Processes I (*joint with H, PP, S, EP, V, DI*)

Presiding: J Nie, UT Austin; W Burgess, University of California, Los Angeles; B K Horton, UT Austin

- 0800h **T31E-01** A Glacial Upper Limit to Mountain Range Elevation: V K Pedersen, D Egholm, S B Nielsen
- 0815h **T31E-02** The India-Asia collision and the Cenozoic slowdown of the Indian plate; implications for the forces driving plate motions: A Copley, J Avouac, J Royer
- 0830h **T31E-03** Stratigraphic and provenancial evidence for recognition of an underfilled foreland basin in central Himalaya: implication for timing of India-Asia initial collision: X Hu, J Wang, L Jansa, F Wu, J Yu
- 0845h **T31E-04** Timing of Deformation, Sedimentation, Surface Uplift and Climate Change in the Northern Tibetan Plateau (*Invited*): B D Ritts, M L Kent-Corson, J K Hourigan, G Zhuang, S A Graham, P M Bovet, B J Darby, S A Johnstone, Y Yue, M Zhu
- 0900h **T31E-05** Does tectonics drive topography? Insights from low – temperature thermochronology and numerical modeling along the Himalayan range: X Robert, P Van Der Beek, J Braun, C Perry, J L Mugnier
- 0915h **T31E-06** Topographic and Exhumational History of Taiwan Based on Detrital Zircon Fission-Track Thermochronometry: M Fellin, S D Willett, R C Thiede, Y Chen
- 0930h **T31E-07** Uplift and Exhumation along the Arun River (Eastern Nepal): Implications for the Mechanism of Uplift of the High Himalaya and the Coupling between Erosion and Tectonics (*Invited*): I Haviv, J Avouac, K A Farley, M T Harrison, M T Heizler, N C Prabhakar, G Mahéo
- 0945h **T31E-08** Glacial asymmetry in response to tectonic and climate gradients in the Pamir Mountains, Western China: L M Schoenbohm, J E Stutz, J Chen

T31F Moscone West: 2007 Wednesday 0800h
Continental Deformation and Rheological Complexity I

Presiding: N Mancktelow, ETH Zurich; K Regenauer-Lieb, University of Western Australia

- 0800h **T31F-01** Viscoelastic Lithosphere Response and Stress Memory of Tectonic Force History (*Invited*): N J Kusznir
- 0820h **T31F-02** The long-term rheology of continental lithosphere: Can coupled models validate the experimental data?: E B Burov
- 0835h **T31F-03** High Stress and Strength of the Lithosphere (*Invited*): Y Podladchikov
- 0855h **T31F-04** Earthquake depth distributions in the lithosphere: a summary: J A Jackson, D McKenzie, K F Priestley, S W Roecker
- 0910h **T31F-05** Thermal self-regulation of continental strength: R F Weinberg, K Regenauer-Lieb, G Rosenbaum
- 0925h **T31F-06** Interaction between mantle and crustal detachments: a non-linear system controlling lithospheric extension: G Rosenbaum, K Regenauer-Lieb, R F Weinberg
- 0940h **T31F-07** Rheology, deformation, shear localization and strength of the lithosphere: S M Schmalholz, B J Kaus, F Crameri, G Lu

Volcanology, Geochemistry and Petrology

V31A Moscone South: Poster Hall Wednesday 0800h
Forecasting and Monitoring Volcanic-Cloud Hazards: Scientific Contributions to Aviation Safety II Posters (*joint with A*)

Presiding: M Guffanti, U.S. Geological Survey; M Coltelli, INGV

- 0800h **V31A-1938 POSTER** The monitoring and forecasting system of Etna volcanic plumes for reinforcement of the aviation safety on the central Mediterranean: M Coltelli
- 0800h **V31A-1939 POSTER** Volcanic Ash and SO₂ plume retrievals at Mt. Etna using polar and geostationary satellite measurements: S Corradini, L Merucci, C Spinetti, M Silvestri, M Musacchio, A Piscini, M Buongiorno
- 0800h **V31A-1940 POSTER** ASH FORECASTING OF ETNA VOLCANIC PLUME BY THE PUFF MODEL: M Prestifilippo, M Coltelli, R Peterson, S Scollo, G Spata
- 0800h **V31A-1941 POSTER** The FALL3D Ash Cloud Dispersion Model and its Implementation at the Buenos Aires VAAC: A FOLCH, M Suaya, A Costa, J Viramonte
- 0800h **V31A-1942 POSTER** Preliminary investigation of the effects of eruption source parameters on volcanic ash transport and dispersion modeling using HYSPLIT: B Stunder
- 0800h **V31A-1943 POSTER** 3D VOLCANIC AEROSOL DISPERSAL: A COMPARISON BETWEEN MISR DATA AND NUMERICAL SIMULATIONS: S Scollo, A Folch, M Coltelli, V J Realmuto
- 0800h **V31A-1944 POSTER** Application of weather radar to the basaltic phreatomagmatic eruption in Grímsvötn in 2004, comparison with models of plume transport: B Oddsson, M T Gudmundsson, G Larsen, S Karlsdóttir
- 0800h **V31A-1945 POSTER** Plume Height Analysis of Two Major Alaskan Eruptions: Implications for Operational Use of Satellite Data: A L Ekstrand, K G Dean, P Webley, J Dehn
- 0800h **V31A-1946 POSTER** Ash detection in the thermal infrared: towards best practice using a combination of high temporal resolution multispectral data, hyperspectral data and radiative transfer forward modelling: M I Watson
- 0800h **V31A-1947 POSTER** Results from Volcanic Ash Aerosol Collection and Analysis from the Recent Eruptions of Pavlof, Okmok, and Kasatochi Volcanoes, Alaska: P G Rinkleff, C F Cahill
- 0800h **V31A-1948 POSTER** Infrasonic source parameters for stratospheric volcanic ash injection: A M Steffke, D Fee, M Garces, K Arnoult
- 0800h **V31A-1949 POSTER** Volcanic Ash Impacts on Air Traffic from the 2009 Mt. Redoubt Eruption: J J Murray, A V Matus, L A Hudnall, A J Krueger, J A Haynes, M R Pippin
- 0800h **V31A-1950 POSTER** The GOES-R Approach to Imager Based Sulfur Dioxide Detection: A C Parker, M J Pavolonis
- 0800h **V31A-1951 POSTER** Reconstructing the Emission Height of Volcanic SO₂ from Back Trajectories: Comparison of Explosive and Effusive Eruptions: E J Hughes, L C Sparling, S A Carn, A J Krueger, K Yang, S G Trahan
- 0800h **V31A-1952 POSTER** The NOAA-NASA OMI/GOME-2 Near-Real-Time Monitoring System of Volcanic SO₂ and Aerosol Clouds: G Vicente, W Schroeder, A J Krueger, K Yang, S A Carn, N A Krotkov, M Guffanti, P Levelt
- 0800h **V31A-1953 POSTER** NRL Satellite Volcanic Ash Plume Monitoring: J Hawkins, A P Kuciauskas, K Richardson, J Solbrig, S D Miller, M J Pavolonis, R Bankert, T Lee, J Kent, T Tsui

0800h **V31A-1954 POSTER** Measuring Volcanic Emissions Using Hyper-spectral UV Observations from Satellite: **K Yang**, X Liu, N A Krotkov, A J Krueger, S A Carn, E J Hughes, S G Desouza-Machado, L Strow

0800h **V31A-1955 POSTER** The SO₂ camera: Functionality, applications, and limitations of this novel technique for remote sensing of volcanic plumes: **L Vogel**, C Kern, F Kick, M Wöhrbach, U Platt

0800h **V31A-1956 POSTER** Influence of particle shape on tephra dispersal: **A C Volentik**, C Bonadonna, C Connor

0800h **V31A-1957 POSTER** Attracting structures in volcanic ash transport: **J Peng**, R Peterson

0800h **V31A-1958 POSTER** Numerical determination of the efficiency of entrainment in volcanic eruption columns: **Y J Suzuki**, T Koyaguchi

0800h **V31A-1959 POSTER** Shallow magma pathway geometry at Mt. Etna volcano: **D Patanè**, G Di Grazia, A Cannata, P Montalto, E Boschi

0800h **V31A-1960 POSTER** Infrasound signals as a discriminating tool for the volcanic activity: Mt. Etna volcano, 16 November 2006: M Sciutto, **A Cannata**, E Privitera, G Di Grazia, S Gresta, P Montalto

V31B Moscone South: Poster Hall Wednesday 0800h
Generation of High-Mg Andesitic and Adakitic Magmas: Petrogenetic Models and Ways Forward I Posters (*joint with S, T*)

Presiding: S M Kay, Cornell University; **J M Garrison**

0800h **V31B-1961 POSTER** Experimental constraints on the origin of high-Mg andesites: the effect of H₂O and silica activity on mantle melt compositions: **G M Moore**, K Roggensack

0800h **V31B-1962 POSTER** Genesis of high-Mg andesites through shallow fractionation of primitive arc basalts at elevated oxygen fugacities: **G F Zellmer**, J G Shellnutt

0800h **V31B-1963 POSTER** The Relationship Between Amphibole Cumulates and Adakite Magma: **T O Rooney**

0800h **V31B-1964 POSTER** Why are High Mg# Andesites Dominantly Erupted in the Western Aleutians?; A Numerical Model Approach: **C Lee**, S D King

0800h **V31B-1965 POSTER** Primitive Magnesian Andesites at Mt. Shasta, California: A Real Mix-up: **J A Barr**, T L Grove, R W Carlson, M J Krawczynski

0800h **V31B-1966 POSTER** The Origin of 'OIB-Type' Magmas in the Central Mexican Volcanic Belt: **S M Straub**, A Gomez-Tuena, G F Zellmer, Y Cai, F M Stuart, R Espinasa-Perena, C H Langmuir, S L Goldstein

0800h **V31B-1967 POSTER** Evolving metasomatic agent in the North Andean subduction, deduced from magma composition of the long-lived Pichincha volcanic complex (Ecuador): **P Samaniego**, C Robin, G Chazot, E P Bourdon, C Jo

0800h **V31B-1968 POSTER** Constraining slab input into magma sources of Ecuadorian magmatism by oxygen isotopes data: **S Hidalgo**, M C Gerbe, H Martin, P Samaniego

0800h **V31B-1969 POSTER** (226Ra/230Th) excesses and the formation of high Mg andesitic lavas in the Western Bismarck arc, Papua New Guinea: **H S Cunningham**, S Turner, J B Gill, S J Day

0800h **V31B-1970 POSTER** Arc magmatism at the incipient stage of formation of subduction zone: geochemistry of Eocene volcanic rocks from the Bonin Islands: **K Kanayama**, S Umino, O Ishizuka

0800h **V31B-1971 POSTER** CRETACEOUS AMPHIBOLE-RICH INTRUSIVES WITH HIGH-MG ANDESITE AFFINITY FROM JAPAN: A PETROLOGICAL AND GEOCHRONOLOGICAL STUDY: **A Langone**, M Tiepolo, T Morishita, R Tribuzio

0800h **V31B-1972 POSTER** Geochemical contrast of early Cretaceous adakitic rocks in central-eastern China: implications for petrogenesis and mineralization: **S Liu**, S Li, Y He

0800h **V31B-1973 POSTER** Effects of partial melting and crystallization differentiation on zircon U-Pb and Lu-Hf isotope systems in early Cretaceous high-K and low-Mg adakitic granite during the collapse of over-thickened Dabie orogen, China: **H Xu**, J Zhang, Y Song, H Wang

0800h **V31B-1974 POSTER** Miocene adakitic magmatism, south Tibet: product of partial melting of subducted Indian continental crust and its tectonic implication: **H Zhang**, W Xu, H Yuan

V31C Moscone South: Poster Hall Wednesday 0800h
Innovations in Isotope Mass Spectrometry and Isotope Metrology in Geosciences I Posters

Presiding: C Shen, Natl Taiwan Univ; **L E Borg**, Lawrence Livermore National Laboratory

0800h **V31C-1975 POSTER** The impact of the correlation between reference materials on the metrological compatibility of isotope amount ratios measured by different MS techniques (*Invited*):

R Kessel, O Pereira de Oliveira Junior, W De Bolle, S Richter, R Wellum, E Ponzevera

0800h **V31C-1976 POSTER** Overview of New Uranium Isotopic Reference Materials at IRMM: **S Richter**, A Alonso, Y Aregbe, R Eykens, U Jacobsson, H Kuehn, A Verbruggen

0800h **V31C-1977 POSTER** In situ Th and U isotope determinations of low-U geological samples using laser ablation single-collector sector-field ICPMS: **R Mertz-Kraus**, K P Jochum, W D Sharp, B Stoll, U Weis, M O Andreae

0800h **V31C-1978 POSTER** Comparison of cyclonic and impact bead spray chambers in inductively coupled plasma-quadrupole mass spectrometry (ICP-QMS): application in natural U and Th isotopes: **A Gourgoutis**, M Bourgeois, H Isnard, F Chartier, V Geertsen

0800h **V31C-1979 POSTER** High-precision and high-resolution Th-230 dating for coral and speleothem carbonates by MC-ICP-MS with SEM protocols: **C Shen**, C Wu, H Cheng, R Edwards, Y Hsieh, T Li, A Kano, M Hori

0800h **V31C-1980 POSTER** High Precision Fe Isotope Analysis in low Concentration Samples by High Resolution MC-ICPMS: **C Chung**, J Wu, C You

0800h **V31C-1981 WITHDRAWN**

0800h **V31C-1982 POSTER** Assay of S for Quantitation of PEG and TNF Ligated Au Nanoparticles using ID-HR-MC-ICP-MS: **J L Mann**, R D Vocke, J D Newman, W R Kelly

0800h **V31C-1983 POSTER** Stable Nitrogen and Oxygen Isotope Analysis of Nitrate using Denitrifying Bacteria: **L Edenburn**, G M Michalski

0800h **V31C-1984 POSTER** Isotopic Compositions of Uranium Reference Materials: **B Jacobsen**, L E Borg, R W Williams, G Brennecke, I D Hutcheon

V31D Moscone South: Poster Hall Wednesday 0800h
Major Geochemical Cycles on Earth III Posters (*joint with PP*)

Presiding: S L Goldstein, Columbia University; **W M White**; **R A Cliff**, University of Leeds; **C Chauvel**, University of Grenoble

0800h **V31D-1985 POSTER** Two-component Mixing in MORB: Evidence from the Quebrada-Discovery-GoFar Fracture Zone (EPR 3°-5°S): **A N Nagle**, A Saal, R C Pickle, D W Forsyth, S R Hart

0800h **V31D-1986 POSTER** Perspective on the genesis of E-MORB from chemical and isotopic heterogeneity at 9°-10°N East Pacific Rise: C L Waters, K W Sims, M R Perfit, J Blichert-Toft, J Blusztajn

0800h **V31D-1987 POSTER** Present day versus Temporal Heterogeneity of the Subridge Mantle in the Central Atlantic: M Ligi, **E Bonatti**, D Brunelli, A Cipriani

0800h **V31D-1988 POSTER** A possible mechanism to produce the 'Loa' and 'Kea' trends at Hawaii: **W J Morgan**, J P Morgan

0800h **V31D-1989 POSTER** Carbonate-fluxed Melting of Silica-excess, MORB-like Pyroxenite and Genesis of Alkaline Ocean Island Basalts: **C N Gerbode**, R Dasgupta

0800h **V31D-1990 POSTER** The Effects of Acid Leaching on the Sr-Nd-Hf Isotopic Compositions of Ocean Island Basalts: **I G Nobre Silva**, D A Weis, J S Scoates

0800h **V31D-1991 POSTER** Ultrapotassic quenched enclaves in basanites: Trapped melts from metasomatized lithospheric mantle: **L Chen**, G Zeng, A W Hofmann, S Jiang, X Xu, S Hu

0800h **V31D-1992 POSTER** An Integrated Geochemical and Isotopic Model for Late Proterozoic to Recent Super-Continent Dispersal Associated with Large Igneous Provinces (LIPS) of Eastern North America: **B B Hanan**, A Sinha, J W Shervais

0800h **V31D-1993 POSTER** Sources of Cenozoic alkaline basalts in eastern China: Enriched asthenosphere produced by carbonatite metasomatism: **G Zeng**, L Chen, A W Hofmann, X Xu

0800h **V31D-1994 POSTER** New age, isotopic composition, and geodynamic constraints on the Neoproterozoic Fiskensætt anorthosite complex, SW Greenland: **A Polat**, R Frei

0800h **V31D-1995 POSTER** Radiogenic isotope geochemical and geochronological studies on the origins and break-up of Gondwana: **M Kurhila**, O T Ramo, T Andersen, K Folland, A V Luttinen, I Romu, J Heinonen

0800h **V31D-1996 POSTER** The role of eclogite in the metasomatism and Cenozoic magmatism of Northern Victoria Land, Antarctica: **M Coltorti**, C Bonadiman, B Faccini, W Griffin, M Melchiorre, S O'Reilly, N Pearson

0800h **V31D-1997 POSTER** Tectonic settings and water distribution in mantle pyroxenes: **C Bonadiman**, Y Hao, M Coltorti, L Dallai, B Faccini, Y Huang, Q Xia

0800h **V31D-1998 POSTER** The influence of phase equilibria on mineral Fe/Mn ratios in mantle peridotite: **M B Baker**, A K Matzen, C E Leshner, E M Stolper

0800h **V31D-1999 POSTER** Hafnium Isotopic Compositions of Central American Lavas: J A Walker, **R Anderson**, M J Carr, D W Peate, C Lundstrom

0800h **V31D-2000 POSTER** Three-dimensional laboratory modeling of the Tonga trench and Samoan plume interaction: **K A Druken**, C R Kincaid, R A Pockalny, R W Griffiths, S R Hart

0800h **V31D-2001 POSTER** Implications of Plume-Trench Interaction Models for the Formation of Niue Trough: **R A Pockalny**, K A Druken, C R Kincaid, K A Kelley, D W Graham

0800h **V31D-2002 POSTER** Inverse modeling of Central American lavas: old lithospheric and young asthenospheric heterogeneities: **M Feigenson**, E Gazel, M J Carr

0800h **V31D-2003 WITHDRAWN**

0800h **V31D-2004 POSTER** Wide distribution of thermal brines along Median Tectonic Lines SW Japan: Their chemical nature and origin: **K Kazahaya**, N Morikawa, M Yasuhara, H Tsukamoto, H Takahashi, T Sato, M Takahashi, M Ohwada, A Inamura, Y Oyama

0800h **V31D-2005 POSTER** Role of Mineral Deposits in Global Geochemical Cycles: **S Kesler**, B Wilkinson

0800h **V31D-2006 POSTER** Global recycling system of sulfur from the thermodynamic viewpoint: **T Takagi**, K Tsukimura

0800h **V31D-2007 POSTER** U-Th isotopic systematics and ages of carbonate chimneys at the Lost City Hydrothermal Field: **K A Ludwig**, C Shen, D S Kelley, H Cheng, R Edwards

V31E Moscone South: Poster Hall Wednesday 0800h Standards for Microanalysis: EPMA, LA-ICPMS, and SIMS: Where Are We and Where Do We Need to Go? I Posters (joint with MR)

Presiding: J Fournelle, University of Wisconsin; **N Kita**, UW-Madison

0800h **V31E-2008 POSTER** The impurities in the Rockport fayalite microbeam standard: How bad are they?: **T R Rose**, S S Sorensen, J E Post

0800h **V31E-2009 POSTER** Notes on Some Crystals of San Carlos Olivine and EPMA Standards: **J Fournelle**

0800h **V31E-2010 POSTER** ID3506, a New/Old Lipari Obsidian Standard for Characterization of Natural Glasses and for Tephrochronology: **S C Kuehn**, D G Froese, N J Pearce, F F Foit

0800h **V31E-2011 POSTER** Evaluating ion implants as trace-element reference material for EPMA: **Y Thibault**, A Pratt

0800h **V31E-2012 POSTER** Ablation performances in natural and synthetic quartz using an Infra Red femtosecond laser system: C Courtieu, **F d'Abzac**, A Seydoux-Guillaume, D Guillaume

0800h **V31E-2013 POSTER** Study of Infra Red femtosecond laser induced aerosols using Transmission Electron Microscopy and Low Pressure Impactor: implications for LA-ICP-MS measurements: **F d'Abzac**, A Seydoux-Guillaume, F Poitrasson, R Freydier, L Datas

0800h **V31E-2014 POSTER** Matrix effects on oxygen isotopic measurements in carbonates: D Mangin, **J Marin**, C Rollion-Bard

0800h **V31E-2015 POSTER** Reference Materials for Trace Element Microanalysis of Carbonates by SIMS and other Mass Spectrometric Techniques: **G D Layne**

0800h **V31E-2016 POSTER** Hydrous Glass Standards for Microanalysis of Hydrogen: **A C Withers**, M M Hirschmann, H Behrens

0800h **V31E-2017 POSTER** Assessment of Alternative [U] and [Th] Zircon Standards for SIMS: **B D Monteleone**, M C Van Soest, K Hodges, G M Moore, J W Boyce, R L Hervig

0800h **V31E-2018 POSTER** The Potential Utility of High-P, High-T Synrock Standards Made by Ultracomminution of Natural Materials: **J W Boyce**, B D Monteleone, G M Moore

0800h **V31E-2019 POSTER** *In situ* Sulfur Isotope Analysis of Sphalerite by SIMS: Precision vs. Accuracy: **R Kozdon**, N Kita, J Huberty, J Fournelle, J W Valley

0800h **V31E-2020 POSTER** Evaluation of Anorthite Glass Standards for High Precision SIMS Al-Mg Dating of Early Solar System Materials: **N Kita**, J Fournelle, R Mendybaev, K Knight, A M Davis, F M Richter, T Ushikubo

0800h **V31E-2021 POSTER** Element-Doped Polyacrylic Acid Thin Films as SIMS Standards for Organic Materials: **M Davisson**, D L Phinney, P K Weber

0800h **V31E-2022 POSTER** The application of LA-ICP-MS to tephrochronology: advantages and methodology: M A Menzies, **E Tomlinson**, W Mueller, M Thirlwall, T Thordarson

V31F Moscone West: 2018 Wednesday 0800h
Mantle Heterogeneity: Origin, Scales, and Caveats I (*joint with MR, DI, T*)

Presiding: P Armienti, E Hellebrand, University of Hawaii;
J G Konter, University of Texas at El Paso

0800h **V31F-01** Major elements heterogeneities in the Earth's mantle: perspectives from mantle outcrops and transition metal systematic of basalts: **V Le Roux**, C Lee, J Bodinier

0815h **V31F-02** Scale and nature of the mantle heterogeneities at the Vema Lithospheric Section (Mid Atlantic Ridge 11°N) (*Invited*): **D Brunelli**, E Bonatti, A Cipriani, M Ligi, M Seyler, L Ottolini

0830h **V31F-03** Chlorine Isotopic Heterogeneity in Mantle Peridotites from the Ivrea Zone: **M A Halick**, J Selverstone, Z D Sharp, J Barnes

0845h **V31F-04** The composition of low-degree partial melts of garnet peridotite at 3 GPa by modified iterative sandwich experiments (MISE): **F A Davis**, M M Hirschmann, M Humayun

0900h **V31F-05** Helium Isotope Variations in Basalts Along Gakkel Ridge and Heterogeneity of the Arctic Upper Mantle: **D W Graham**, J E Lupton, S L Goldstein, C H Langmuir, P J Michael

0915h **V31F-06** The enigmatic high ³He/⁴He mantle: Characteristics and Origins. (*Invited*): **M G Jackson**

0930h **V31F-07** Small length scale heterogeneity beneath the East Pacific Rise: **S Mallick**, V J Salters, M R Perfit

0945h **V31F-08** A Spectrum of EM-Type Mantle Endmembers (*Invited*): **C Class**, S L Goldstein, S B Shirey, A P le Roex, J M O'Connor, W Jokar

V31G Moscone West: 2020 Wednesday 0800h
Volcanic Dynamics: Temporal Changes of Physical Properties at Volcanoes With and Without Surficial Activity II (*joint with A, G, H, NH, S, NS*)

Presiding: M K Savage, Victoria Univ. Wellington; M M Haney, Boise State University

0800h **V31G-01** Using seismic noise to monitor volcanic activity (*Invited*): **F Brenguier**, N M Shapiro, M Campillo, V Ferrazzini, Z Duputel, D S Clarke, L Zaccarelli

0815h **V31G-02** Seismic anisotropy and its time variation on active volcanoes: **M K Savage**, T Ohkura, K Umakoshi, H Shimizu, M Iguchi, J H Johnson, T Ohminato, D C Roman

0830h **V31G-03** A High Resolution Benchmark of Spatial Variations in Seismic Anisotropy Around Mount Ruapehu Volcano, New Zealand: **J H Johnson**, M K Savage, J Townend

0845h **V31G-04** Forward modeling of split S-wavelet polarizations images inflation of a mid-level volcanic conduit system months prior to eruption: **D C Roman**, M K Savage, S De Angelis, J Latchman

0900h **V31G-05** Seismic precursors of the July 29, 2008 explosions at Soufriere Hills Volcano: **S De Angelis**

0915h **V31G-06** The Prominence and Behavior of Multiplets Prior to and During Volcanic Eruptions at Bezymianny Volcano, Russia and Mount St. Helens, Washington: **W A Thelen**, S D Malone, M E West

0930h **V31G-07** Time-Varying Lags between Short-Period and Very Long Period Strombolian Eruption Seismic Signals at Erebus Volcano, Antarctica: **H A Knox**, J A Chaput, R C Aster, P R Kyle

0945h **V31G-08** Relative Slowness Estimates for Locations of Repeating Low-Frequency Earthquakes and Narrow-Band Tremor at Fuego Volcano, Guatemala: **G P Waite**, J J Lyons

Union

U32A Moscone South: 103 Wednesday 1020h
Terra at 10: Our Changing Atmosphere, and Land Surface I

Presiding: J C Gille, National Center for Atmospheric Research;
M L Imhoff, NASA

1022h **U32A-01** Geological mapping and hazards monitoring using ASTER data (*Invited*): **H Tsu**, M Abrams, Y Yamaguchi

1037h **U32A-02** Using Terra observations to quantify sources and intercontinental transport of pollution (*Invited*): **D J Jacob**, C L Heald, Y Liu, E Drury, M Kopacz

1052h **U32A-03** What 10 Years of MOPITT Data Have Taught Us About Tropospheric Chemistry: **J C Gille**, J R Drummond, D P Edwards, M N Deeter, D S Masters, L K Emmons, G Pfister, V A Yudin

1107h **U32A-04** MISR at 10: Looking back, ahead, and in between: **D J Diner**, T Ackerman, A J Braverman, C Bruegge, M J Chopping, E E Clothiaux, R Davies, L Di Girolamo, R A Kahn, Y Knyazikhin, Y Liu, R Marchand, J V Martonchik, J Muller, A W Nolin, B Pinty, M M Verstraete, D L Wu, M J Garay, O V Kalashnikova, A B Davis, E Davis, R A Chipman

1122h **U32A-05** Measurements of Carbon Monoxide with the MOPITT Instrument 1999-2009: **J R Drummond**, J C Gille, D P Edwards, M N Deeter, J Zou, F Nichitui

1137h **U32A-06** Ten years of ASTER thermal infrared data from Terra: Discoveries, lessons learned, and insights into future missions: **M S Ramsey**, J Dehn, K Duda, C G Hughes, R Lee, S Rose, S P Scheidt, R L Wessels

1152h **U32A-07** Variations and Trends of Terrestrial Primary Production Observed by MODIS from 2000 to 2008: **M Zhao**, S W Running

1206h **U32A-08** Evapotranspiration Estimation Using Multispectral Thermal Infrared Data from ASTER and MODIS: **A N French**, T J Schmugge, W P Kustas, J H Prueger

Atmospheric Sciences

A32A Moscone West: 3002 Wednesday 1020h
Atmospheric Feedbacks and Climate Change: Necessary Observations and Modeling Improvements I

Presiding: A E Dessler, Texas A&M University; E Fetzer, Jet Propulsion Laboratory; B H Kahn, Jet Propulsion Laboratory

1020h **A32A-01** Physical mechanisms of low-latitude cloud feedback on climate change (*Invited*): **C S Bretherton**

1035h **A32A-02** Robust Responses of Tropical High Clouds in CGMs: **M D Zelinka**, D L Hartmann

1050h **A32A-03** On the Diagnosis of Radiative Feedback in the Presence of Unknown Radiative Forcing (*Invited*): **R W Spencer**, W D Braswell

1105h **A32A-04** Observational and model evidence for positive low-level cloud feedback (*Invited*): **A C Clement**, R Burgman, J R Norris

1120h **A32A-05** Relationships Between Tropical Deep Convection, Tropospheric Mean Temperature and Cloud-Induced Radiative Fluxes on Intraseasonal Time Scales: H S Ramey, **F R Robertson**

1135h **A32A-06** Structural similarities and differences in climate feedback processes between two perturbed physics ensembles: **T Yokohata**, M J Webb, M Collins, K D Williams, M Yoshimori, J C Hargreaves, J D Annan

1150h **A32A-07** Putting Water Vapor Feedback Back On It's Feet (*Invited*): **G L Stephens**, M Cai, P W Stackhouse, T S L'Ecuyer

1205h **A32A-08** Quantifying Contributions to Polar Warming Amplification in a Coupled General Circulation Model: **M Cai**, J Lu

A32B Moscone West: 3004 Wednesday 1020h
Composition of the Arctic Atmosphere: Sources, Transport, Chemistry, and Impacts on Clouds and Climate II

Presiding: **W R Simpson**, University of Alaska Fairbanks; **K Law**, CNRS

1020h **A32B-01** Plume processing during long-range transport of pollutants to the Arctic in summer 2008: **K Law**, A Auby, F Ravetta, J Burkhart, A Stohl, A Roiger, H Schlager, G Ancellet, M Pommier, S R Arnold, S Turquety

1035h **A32B-02** Springtime halogen oxidation determines the variability in surface ozone concentrations throughout the Arctic and subarctic: **J B Gilman**, B M Lerner, W C Kuster, P D Goldan, S A Montzka, B R Miller, L Miller, S J Oltmans, T B Ryerson, J F Burkhart, A Stohl, E J Williams, J deGouw

1050h **A32B-03** VOCs as indicators of halogen chemistry during ARCTAS A and OASIS: **E C Apel**, D D Riener, R S Hornbrook, J J Orlando, L Mauldin, P Weibring, A Fried, F M Flocke, W Zheng, B C Sive, R S Russo, K Haase, D R Blake, K A Gorham, N J Blake, J Liao, L G Huey

1105h **A32B-04** Emissions, transport, and chemistry downwind of oil extraction facilities in the Alaskan Arctic: **T B Ryerson**, J W Peischl, J B Nowak, J Holloway, J Brioude, O R Cooper, J Neuman, M Trainer, C A Brock, J M Roberts, C Warneke, J P Schwarz, P P Tans, E J Dlugokencky, P C Novelli, S A Montzka, R Pierce, A J Weinheimer, S A Vay, G S Diskin, D R Blake, L G Huey, P O Wennberg, A Stohl, J L Jimenez, H Sodemann, J R Spackman

1120h **A32B-05** Chemistry of hydrogen oxide (HOx) radicals in the Arctic troposphere in spring: **J Mao**, D J Jacob, J R Olson, X Ren, W H Brune, P O Wennberg, A Fried, M Cubison, J L Jimenez, A J Weinheimer, R C Cohen

1135h **A32B-06** Comparison of BrO observed by ground-based MAX-DOAS and satellite for Barrow, Alaska during ARCTAS, March and April 2008: **D Donohoue**, D Carlson, W R Simpson, T P Kurosu, K Chance, T P Canty, R J Salawitch

1150h **A32B-07** Airborne, Ground-based, and Satellite Measurements of BrO during ARCTAS and ARCPAC: **R J Salawitch**, T P Canty, T P Kurosu, K Chance, Q Liang, S Pawson, X Liu, G Huey, J Liao, R E Stickel, D Tanner, J E Dibb, A J Weinheimer, F M Flocke, D J Knapp, D D Montzka, J Neuman, W R Simpson, D Donohoue, D Carlson, D R Blake, D E Kinnison, S Tilmes, L Pan, R Pierce, F Hendrick, K Kreher, Y Wang, S Choi, E L Atlas

1205h **A32B-08** NEW ESTIMATE OF METHANE EMISSIONS FROM THE HUDSON BAY LOWLANDS USING AIRCRAFT OBSERVATIONS FROM THE ARCTAS AND PRE-HIPPO AIRBORNE CAMPAIGNS: **C Pickett-Heaps**, D J Jacob, K Wecht, J Drevet, G S Diskin, S Wofsy, D Worthy, E A Kort, R Jimenez, B Daube, S Park

A32C Moscone West: 3006 Wednesday 1020h
High-Resolution Active Optical Remote Sensing of Atmospheric Processes I

Presiding: **S Ismail**, NASA Langley Research Center; **D M Tratt**, The Aerospace Corporation; **S Lolli**, Leosphere; **G S Peng**

1020h **A32C-01** Assimilation of LASE data, during the NAMMA field phase, in a high resolution mesoscale model. (*Invited*): **T N Krishnamurti**

1035h **A32C-02** New Lidar Remote Sensing Capabilities at the Atmospheric Radiation Measurement Climate Research Facilities (*Invited*): **R Newsom**, J M Comstock, D D Turner, R A Ferrare, C Flynn, J Goldsmith, V R Morris, R Coulter

1050h **A32C-03** Multiple-Wavelength Satellite Lidar Sensing Approach Incorporating Both Atmospheric and Surface Returns: **J A Reagan**, C J McPherson

1105h **A32C-04** Wind Profiling from a High Energy, Pulsed, 2-Micron, Coherent-Detection Doppler Lidar during Field Campaign: **U N Singh**, G J Koch, M J Kavaya, J Yu, J Y Beyon, B Demoz

1120h **A32C-05** LASE Observations of Saharan Air Layer and African Easterly Waves During NAMMA: **S Ismail**, R A Ferrare, E V Browell, S Kooi, J Dunion, G M Heymsfield, A Notari, C F Butler, S P Burton, M A Fenn, T N Krishnamurti, M Biswas, G Chen, B Anderson

1135h **A32C-06** Simultaneous wind and temperature measurements in lower atmosphere by a 3-frequency Doppler lidar with a Na double-edge magneto-optic filter: **W Huang**, X Chu, Z Wang, B Roberts, T Yuan, J Yue, S Harrell, C She

1150h **A32C-07** 3-D Real Time Lidar scanning measurements to assess and determine the impact of aerosol sources in highly densely-populated cities in south France: **S Lolli**, L sauvage, S Loaec, B Guinot, M Fofana

1205h **A32C-08** Lidar observations by circling the London orbital motorway: **J Raut**, P Chazette, J M Haywood, P Royer

Atmospheric and Space Electricity

AE32A Moscone West: 3008 Wednesday 1020h
From Cloud Electrification to Lightning: Initiation, Development, and Effects III (*joint with A, SA*)

Presiding: **V A Rakov**, University of Florida; **O Pinto**, INPE

1020h **AE32A-01** Compact Intracloud Lightning Discharges: Conceptual Mechanism, Modeling, and Electrical Parameters (*Invited*): **A Nag**, V A Rakov

1050h **AE32A-02** Observations of Precursor Breakdown Prior to Intracloud Lightning Discharges: **W Rison**, P R Krehbiel, R J Thomas, M F Brown

1105h **AE32A-03** On the (mis-) Behavior of Thunderstorms at the Grand Canyon, Arizona: **K L Cummins**, M M Saba, W Schulz, C Noggle, M G Quick, A C Saraiva, E P Krider

1120h **AE32A-04** Initial Results From the Huntsville, Alabama Field Change Array: **P M Bitzer**, H J Christian Jr., M Stewart, J Burchfield

1135h **AE32A-05** Observations of the Electrical Activity of the Redoubt Volcano in Alaska: P R Krehbiel, **S A Behnke**, R J Thomas, H E Edens, W Rison, S R McNutt, B Higman, R H Holzworth, J N Thomas

1150h **AE32A-06** The World Wide Lightning Location Network (WWLLN): A Review and Update on Global Lightning Research: **R H Holzworth**, C J Rodger, J Brundell, A R Jacobson, E H Lay, J N Thomas, J A Weinman

1205h **AE32A-07** A Ten Year Record of Space Based Lightning Measurements: H Conover, **D M Hardin**, M Goodman, R Blakeslee, S Graves, S Jones, S Harrison, M Drewry, M Nair

Biogeosciences

B32A Moscone West: 3016 Wednesday 1020h
Climate Change and Biogeophysical Impacts Across Elevation and Latitude: Are Mountains Different From Poles? I (*joint with A, C, H, GC*)

Presiding: J S Littell, University of Washington; J A Hicke, University of Idaho; J D Lundquist, University of Washington; C T Driscoll; J L Campbell, USDA Forest Service; G T Pederson, U.S. Geological Survey

1020h **B32A-01** Expectations and reality for high latitude versus high elevation global change (*Invited*): A G Bunn, A H Lloyd

1035h **B32A-02** The Persistent Life of Snow (*Invited*): C A Hiemstra, G E Liston, K Elder, M Sturm

1050h **B32A-03** Interactions of climate, vegetation, and fire during the Holocene: lessons from high-latitude and high-elevation ecosystems (*Invited*): P E Higuera, M L Chipman, J Allen, L Brubaker, C L Whitlock, F Hu

1105h **B32A-04** Patterns of cold-air drainage and microclimate in mid-latitude versus high-latitude mountains: contrasts and implications for climate change (*Invited*): N C Pepin

1120h **B32A-05** Relationships of Periglacial Processes to Habitat Quality and Thermal Environment of Pikas (*Lagomorpha, Ochotona*) in Alpine and High-Latitude Environments (*Invited*): C I Millar, A T Smith, D S Hik

1135h **B32A-06** Water and geochemical responses to seasonal changes across the rain-snow transition in the Southern Sierra Nevada (*Invited*): R C Bales, C T Hunsaker, M Meadows, B Kerkez, S D Glaser, F Liu

1150h **B32A-07** Hydrochemical responses to climate change in high-elevation catchments of the Colorado Front Range. (*Invited*): M W Williams

1205h **B32A-08** Potential effects of Rising CO₂ and Climate Change Interactions with Atmospheric Deposition in Northeastern U.S. over the 21st Century Using a Dynamic Biogeochemical Model (PnET-BGC) (*Invited*): A Pourmokhtarian, C T Driscoll, J L Campbell, K Hayhoe

B32B Moscone West: 3018 Wednesday 1020h
Trace Metal Bioavailability and Toxicity to Biota II (*joint with B*)

Presiding: M Croteau, USGS; A L Foster, U.S. Geological Survey

1020h **B32B-01** Arsenic as an energy source for microbial growth. (*Invited*): R S Oremland

1035h **B32B-02** Bioavailability, Bioaccumulation and Biotransformation of arsenic in coral reef organisms surrounding an arsenic-rich marine shallow-water hydrothermal vent system in the coastal waters of Ambitle Island, Papua New Guinea: T Pichler, D Wallschlager, R E Price

1050h **B32B-03** Determination of Metal Localization and Speciation Using Synchrotron X-ray Fluorescence Imaging (*Invited*): S Webb

1105h **B32B-04** Arsenic Species in Scute (Shell Plate) and Lung Tissues of Desert Tortoises: A L Foster, K Berry, E R Jacobson, J J Rytuba

1120h **B32B-05** Whale baleen trace element signatures: a predictor of environmental life history?: E Wilcox Freeburg, S Brault, C Mayo, S Oktay, R Hannigan

1135h **B32B-06** Metal Inhibition of Growth and Manganese Oxidation in *Pseudomonas putida* GB-1: J Pena, G Sposito

1150h **B32B-07** Analyses of Methanobactin, a Novel Copper-Binding Compound, or Chalkophore, from Methanotrophs:

J D Semrau, S Yoon, A DiSpirito, S Kraemer

1205h **B32B-08** Assessing the bioavailability and toxicity of isotopically modified ZnO nanoparticles using enriched isotope tracers and biodynamic modeling: M Croteau, A Dybowska, S N Luoma, E Valsami-Jones

Cryosphere

C32A Moscone West: 3014 Wednesday 1020h
Climatic Versus Internal Dynamical Forcing of Glacial Systems in the Past, Present, and Future II (*joint with GC, H, PP*)

Presiding: J Knight, University of Exeter; N F Glasser, Aberystwyth University

1020h **C32A-01** Calculating snowfall on central Himalayan glaciers: significant winter snowfall on "summer accumulation" glaciers:

B Pratt-Sitaula, J Putkonen

1035h **C32A-02** Tracing Multi-Scale Climate Change at Low Latitude from Glacier Shrinkage: T Moelg, N J Cullen, D R Hardy, G Kaser

1105h **C32A-04** Contributions of climate and dynamics to mass wastage and accumulation zone thinning of Eklutna Glacier, Alaska: L C Sass, S O'Neel, M G Loso, J A MacGregor, G A Catania, C F Larsen

1120h **C32A-05** Response of Jakobshavn Isbræ, west Greenland, to Little Ice Age climate change: H A Stewart, B M Csatho, J P Briner

1135h **C32A-06** Thermal forcing of ice sheets (*Invited*): R B Alley, S Anandakrishnan, D Pollard, B R Parizek, R T Walker

1150h **C32A-07** The relative importance of interannual vs. persistent climate fluctuations in driving glacier variability at decadal and centennial timescales: E E Burke, G Roe

1205h **C32A-08** Climate model performance and its implications for future glacier mass balance in southwestern Canada: V Radic, F S Anslow, A Jarosch, C Reuten, G K Clarke

Education and Human Resources

ED32A Moscone West: 3020 Wednesday 1020h
Education and Communication for Climate Literacy and Energy Awareness II (*joint with PA, GC*)

Presiding: T S Ledley, TERC; C D Howell, National renewable Energy Laboratory

1020h **ED32A-01** National Labs Host Classroom Ready Energy Educational Materials: C D Howell

1035h **ED32A-02** On Teaching Energy: Preparing Students Better for their Role as Citizens: J D Myers, M E Lyford, A Buss

1050h **ED32A-03** Teaching about Climate Change and Energy with Online Materials and Workshops from On the Cutting Edge: K B Kirk, C A Manduca, J D Myers, F Loxsom

1105h **ED32A-04** Energy Choices and Climate Change: A New Interactive Feature on Windows to the Universe: L S Gardiner, R M Russell, D Ward, R M Johnson, S Henderson, S Q Foster

1120h **ED32A-05** Promoting Climate Literacy through Collaborative Temperature Investigations at Local, Regional, and Global Scales: E E Geary, D Charlevoix, M Hoffman

1135h **ED32A-06** Improving Teacher Content Knowledge about the Physical Basis of Climate Change: M Gaboardi

1150h **ED32A-07** Using Content-Aligned Assessments to Find Gaps in Understanding of Fundamental Concepts for Weather and Climate: **J Wertheim**, G E DeBoer

1205h **ED32A-08** Measuring Ocean Literacy: What teens understand about the ocean using the Survey of Ocean Literacy and Engagement (SOLE): **T M Greely**, A Lodge

Earth and Planetary Surface Processes

EP32A Moscone West: 2008 Wednesday 1020h
Advances in Riverine Morphodynamics I (*joint with H*)

Presiding: **C Podolak**, Johns Hopkins University; **S Tjerry**, DHI; **D E Rupp**, Cooperative Institute for Marine Resources Studies; **R Saleh**, Alameda County Public Works Agency

1020h **EP32A-01** Modeling the morphodynamics of the lower Mississippi River as a quasi-bedrock river (*Invited*): **G Parker**, J A Nittrouer, D C Mohrig, M A Allison, W E Dietrich, V R Voller
1035h **EP32A-02** A Morphodynamic Routing Model of the Maple River, Minnesota (*Invited*): **P Belmont**, E Viparelli, J W Lauer, G Parker

1050h **EP32A-03** Interactions between Channel Morphology and the Propagation of Coarse Sediment Augmentations Downstream from Dams: **D A Gaeuman**, S Dickenson, M Pyles

1105h **EP32A-04** Quantification of Knickpoint Migration in Western Iowa: **C G Wilson**, J T Thomas, T Papanicolaou, M Elhakeem

1120h **EP32A-05** The International River Interface Cooperative: Public Domain Software for River Flow and Morphodynamics (*Invited*): **J M Nelson**, Y Shimizu, R McDonald, H Takebayashi

1135h **EP32A-06** NEW TOOLS FOR STREAM MORPHODYNAMIC MODELING (*Invited*): **D Tonina**, J A McKean, O R Maturana, C Luce, J M Buffington

1150h **EP32A-07** Channel Change and Bed-Material Transport in the Lower Chetco River, Oregon: **J E O'Connor**, R Wallick, S Anderson, C Cannon

1205h **EP32A-08** Geomorphic and sediment supply controls on transitions between single-thread and braided channel planforms, Sunlight Creek, Wyoming: **E R Mueller**, J Pitlick

EP32B Moscone West: 2004 Wednesday 1020h
Coastal Geomorphology and Morphodynamics II (*joint with NG, OS*)

Presiding: **D McNamara**, UNC Wilmington; **H F Stockdon**

1020h **EP32B-01** Dramatic beach and nearshore morphological changes due to extreme flooding at a wave-dominated river mouth (*Invited*): **P L Barnard**, J A Warrick

1035h **EP32B-02** OBSERVATIONS OF THE MOVEMENT OF COARSE SEDIMENT ON THE MIXED-GRAIN SIZE BEACH OF THE ELWHA DELTA, WASHINGTON: **I M Miller**, J A Warrick

1050h **EP32B-03** Process-based, morphodynamic hindcast of decadal deposition (1856-1887) and erosion (1951-1983) patterns in San Pablo Bay, California: **M V Wegen**, B E Jaffe, J Roelvink

1105h **EP32B-04** WITHDRAWN

1120h **EP32B-05** The response of tidal morphologies to changing physical and biological forcings: **A D'Alpaos**, C Da Lio, M Marani

1135h **EP32B-06** Planform Morphology of Tide-Dominated Rivers: Satellite Morphometrics: **M A Wolinsky**, J M Metz

1150h **EP32B-07** Threshold sea level rise rates for wetland survival: limits to ecogeomorphic feedbacks (*Invited*): **M Kirwan**, G Guntenspergen, A D'Alpaos, J T Morris, S M Mudd, S Temmerman

1205h **EP32B-08** Stochastic description of salt-marsh inundation from mixed astronomical-wind driven tides, with implications for macrophyte growth: **S M Howell**, D J Furbish, J T Morris

Geodesy

G32A Moscone West: 3022 Wednesday 1020h
Detection and Characterization of Transient Crustal Deformation I (*joint with S, NH, T, IN*)

Presiding: **J R Murray-Moraleda**, U.S. Geological Survey; **J O Langbein**, US Geological Survey; **R B Lohman**, Cornell University

1020h **G32A-01** Instrumental, Theoretical, Temporal, and Statistical Challenges in the Search for Transient Deformations (*Invited*): **D C Agnew**

1035h **G32A-02** Transient signal detection using GPS measurements: state estimation and principal component analysis (*Invited*): **K Ji**, T Herring

1050h **G32A-03** Simultaneous Inversion of GPS and InSAR for Regional Kinematics and Transients: **R McCaffrey**

1105h **G32A-04** Rapid Detection and Characterization of Medium to Large Earthquakes Using Absolute Displacement Waveforms from GPS and Seismic Data: **Y Bock**, B W Crowell

1120h **G32A-05** Detecting Strain Transients in the Salton Trough (*Invited*): **J J McGuire**, P Segall, T Herring

1135h **G32A-06** Development of a deformation transient detection algorithm using a particle-based online filter (*Invited*): **J Fukuda**, P Segall, K M Johnson

1150h **G32A-07** A Multiscale Approach to InSAR Time Series Analysis: **M Simons**, E A Hetland, P Muse, Y Lin, C J DiCaprio

1205h **G32A-08** Transient volcanic events need more frequent InSAR measurements: **S Yun**, P A Rosen, P Lundgren

Global Environmental Change

GC32A Moscone West: 3001 Wednesday 1020h
Challenges in Understanding and Modeling Global-Regional Climate Connections I (*joint with A, C, H, PP, OS, NG*)

Presiding: **G Magnusdottir**, University of California Irvine; **P D Sardeshmukh**, CIRES Climate Diagnostics Center

1020h **GC32A-01** Challenges in the detection and attribution of climate change on regional scales. (*Invited*): **F W Zwiers**

1035h **GC32A-02** Bridging the global-regional climate gap through statistical adjustment of multi-model, ensemble integrations. (*Invited*): **P J Webster**, C Hoyos, H Kim

1050h **GC32A-03** The Misrepresentation of Tropical SSTs in Climate Models: **P D Sardeshmukh**, S Shin

1105h **GC32A-04** Does Uncertainty in the Pattern of Tropical SST Changes Underlie Uncertainty Tropical Precipitation Trends?: **L M Goddard**, C A Coelho

1120h **GC32A-05** Regional Precipitation Trends 1977-2006: Ocean Impacts, Natural Variability and Anthropogenic Forcing: **J Perlwitz**, M Hoerling, J Eischeid

1135h **GC32A-06** Tropical Biases in Next-Generation Climate Models: **S N Tulich**

1150h **GC32A-07** Indian Ocean dipole response to global warming: Analysis of ocean-atmospheric feedbacks in a coupled model: **X Zheng**, S Xie, G A Vecchi, Q Liu, J Hanfer

1205h **GC32A-08** Assessing Low Frequency Variability in North Atlantic Ocean Sea Surface Temperatures in Global Climate Models: **N G Heavens**, M Liang, L Lin, K Li, K K Tung, Y L Yung

Geomagnetism and Paleomagnetism

GP32A Moscone West: 2002 Wednesday 1020h
Subannual to Billion-Year Geomagnetic Field Variations: Observations, Modeling, and Interpretation II (*joint with DI*)

Presiding: C Constable, IGPP; M C Korte, Helmholtz Centre Potsdam GFZ German Research Center for Geosciences

1020h **GP32A-01** WITHDRAWN

1020h **GP23A-0784** Time evolution of zonal motions within the Earth's core under the Taylor's constraint: **D Jault**, N Gillet

1035h **GP32A-02** Modeling of geomagnetic field evolution at the core surface 1999-2009 (*Invited*): **C C Finlay**, N Gillet, A Jackson

1050h **GP32A-03** Stationary, oscillating or drifting mantle-driven geomagnetic flux patches? (*Invited*): **H Amit**, J Aubert, G Hulot

1105h **GP32A-04** Leading Modes of Torsional Oscillations within the Earth's Core: **J O Dickey**, O de Viron

1120h **GP32A-05** Centennial geomagnetic field strength change recorded in Iron Age (1000-1800 AD) ceramics from southern Africa: **L P Neukirch**, J A Tarduno, M K Watkeys, R D Cottrell, T Huffman, A K Wendt, J Voronov

1135h **GP32A-06** Testing North Atlantic relative paleointensity correlations for the Brunhes Chron with oxygen isotope data and markers for (Heinrich-type) detrital layers (*Invited*): **J E Channell**, D A Hodell, O E Romero, C Hillaire-Marcel, A de Vernal, J S Stoner, A Mazaud

1150h **GP32A-07** An examination of dipole moment variations for 0-2 Ma: **L B Ziegler**, C Constable

1205h **GP32A-08** Proterozoic/Archean secular variation: **A V Smirnov**, J A Tarduno

Hydrology

H32A Moscone West: 301 I Wednesday 1020h
Defining, Measuring, and Modeling Hydrological Connectivity Across Scales: Macropores to Landscapes II (*joint with B, NS, NG*)

Presiding: S M Reaney, Durham University; L Hopp, Oregon State University

1020h **H32A-01** Mesoscale Connectivity Through a Natural Levee: **A Newman**, R Keim

1035h **H32A-02** Spatial and Temporal Influences on Hydrologic Connectivity: A Mathematical Formalization: **S G Leibowitz**, J J McDonnell, T Sayama, L Hopp, S M Reaney

1050h **H32A-03** Controls on surface connectivity and vegetation patterns in semiarid areas: The role of evolving soil depth profiles: **P M Saco**, G R Willgoose

1105h **H32A-04** Addressing Connectivity in Process-Based Hydrologic Models: **K Rosin**, M Weiler, G Jost

1120h **H32A-05** Hillslope hydrologic connectivity controls riparian groundwater turnover: Implications of landscape structure and organization for catchment scale source water dynamics (*Invited*): **K G Jencso**, B L McGlynn, M N Gooseff, S M Wondzell

1140h **H32A-06** Towards minimum information requirements for representing hydrological connectivity at the landscape scale (*Invited*): **S N Lane**, S M Reaney, L Heathwaite, D Milledge

1200h **H32A-07** Black, grey and white-box approaches to understanding catchment-wide hydrologic connectivity: **G A Ali**, A G Roy

H32B Moscone West: 3005 Wednesday 1020h
Ecohydrology Within the Context of Global Change II (*joint with B*)

Presiding: B R Scanlon, University of Texas at Austin; J B Gates, University of Nebraska - Lincoln; T M Scanlon, University of Virginia

1020h **H32B-01** Hysteresis of Soil Moisture Spatial Heterogeneity and the "Homogenizing" Effect of Vegetation: **V Y Ivanov**, S Fatichi, D G Jenerette, J F Espeleta, P A Troch, T E Huxman

1035h **H32B-02** Woody Plant Encroachment Paradox: Rivers Rebound as Degraded Grasslands Convert to Woodlands: **B P Wilcox**, Y Huang

1050h **H32B-03** Unraveling the hydrological implications of regional vegetation die-off (*Invited*): **P A Troch**, M Guardiola-Claramonte, M Durcik, M B Switanek

1110h **H32B-04** An eco-hydrological approach to sustainable irrigation of managed ecosystems (*Invited*): **A Porporato**, G Vico

1130h **H32B-05** Predicting regional-scale ecosystem response to changes in precipitation: Not all rain is created equal: **P D Brooks**, P A Troch, M Durcik, E L Gallo, B G Moravec, M E Schlegel, M Carlson

1145h **H32B-06** Vegetation Dynamics and Soil Water Balance Interactions in a Water-limited Mediterranean Ecosystem on Sardinia Under Climate Change Scenarios: **N Montaldo**, J D Albertson

1200h **H32B-07** The Role of Structural, Biochemical and Ecophysiological Plant Acclimation in the Eco-Hydrologic Response of Agro-Ecosystems to Global Change in the Central US: **D Drewry**, P Kumar, S Long, M Sivapalan, C Bernacchi, X Liang

H32C Moscone West: 3007 Wednesday 1020h
Reactive Transport and Mixing in Complex Environments: Recent Advances in Theory and Experiments I (*joint with NG, OS*)

Presiding: J Cushman, Purdue University; X B Hu, Florida State University

1020h **H32C-01** Anomalous Transport from Pore to Field Scale - Capturing the Impact of Heterogeneity (*Invited*): **B Bijeljic**

1050h **H32C-02** Modeling Field-Scale Uranium Reactive Transport in Physically and Chemically Heterogeneous Media (*Invited*): **C Zheng**, R Ma, H Prommer, J Greskowiak, C Liu, J M Zachara, M L Rockhold

1120h **H32C-03** Compound dependent hydrodynamic and (hydro)mechanical transverse dispersion: evidence from multi-tracer laboratory experiments and transport simulations: **M Rolle**, G Chiogna, C Eberhardt, O A Cirpka, P Grathwohl

1135h **H32C-04** Reactions along Transverse Mixing Zones in Heterogeneous Aquifers: Using Effective Dispersion Coefficients and Multi-Scale Finite Element Methods: **A J Valocchi**, K Nakshatrala

1150h **H32C-05** Mixing enhanced by kinetic mass transfer and dynamic forces in coastal aquifers: **C Lu**, P K Kitanidis, J Luo

1205h **H32C-06** Comparison of a Physics-Based Lagrangian Reaction Algorithm and a Randomized Gillespie Algorithm To Simulate Bimolecular Reactions in Mixing-Limited Regimes: **D A Benson**

H32D Moscone West: 3009 Wednesday 1020h
Upscaling and Process Emergence: Field Experiments and Predictive Tools to Bridge Temporal and Spatial Scales in Hydrology II

Presiding: **D Tetzlaff**, University of Aberdeen; **S K Carey**, Carleton University; **J McNamara**, Boise State

1020h **H32D-01** Catchment Dynamics Revealed by High-frequency Chemical and Isotopic Time Series at Plynlimon, Wales: **J W Kirchner**, C Neal

1035h **H32D-02** Influence of network properties on routing within a catchment: **A Åkesson (née Gustafsson)**, A Wörman, G Lindström

1050h **H32D-03** Modeling of Runoff Formation Processes at Basins Of Different Scales Using Small Experimental Watershed Data: the Kolyma Basin as an Example: **O M Semenov**, P J Restrepo

1105h **H32D-04** Investigating variability in small multi-scale catchment response using lumped conceptual modelling of storm-based runoff and stable isotope data: **C Segura**, A L James

1120h **H32D-05** Can high-resolution isotope data help identify and model dominant runoff processes at different catchment scales?: **C Birkel**, D Tetzlaff, S M Dunn, C Soulsby

1135h **H32D-06** Impact of space-time variability in rainfall on emergent hydrological processes: H K McMillan, **B M Jackson**, M P Clark, D Kavetski, R A Woods

1150h **H32D-07** Up-scaling plot measures in a distributed watershed modeling framework: **Z M Easton**, T S Steenhuis, M T Walter

1205h **H32D-08** Hydrological Stores and Fluxes Along Elevation Gradients a Semi-Arid Catchment: **J P McNamara**

Earth and Space Science Informatics

IN32A Moscone South: 102 Wednesday 1020h
Next Generation, Space-Based, Operational Global Earth Observations II (*joint with A, B, GC, OS, H*)

Presiding: **J J Bates**, NOAA; **C Hoffman**, NPOESS IPO

1020h **IN32A-01** Progress on NOAA's New Climate Data Record Initiatives (*Invited*): **J L Privette**, J J Bates, E J Kearns, T R Karl

1035h **IN32A-02** Challenges in Creating Trend Quality Data from Satellites: **P K Bhartia**, S Taylor, M T DeLand

1050h **IN32A-03** Science Data Processing and Distribution of Clouds and the Earth's Radiant Energy System (CERES) data for the NPOESS Preparatory Project (NPP): **J W Closs**, J L Robbins, W F Miller

1105h **IN32A-04** The NPOESS Community Collaborative Calibration/Validation Program for the NPOESS Preparatory Project: **H Kilcoyne**, J Feeley, B Guenther, C W Hoffman, B Reed, K St. Germain, L Zhou, M Plonski, B Hauss

1120h **IN32A-05** NPOESS Preparatory Project Validation Program for the Visible/Infrared Imager/Radiometer Suite: **T Kopp**, R A Arnone, K Hutchison, J M Jackson, H Kilcoyne, M Plonski, B Reed, A Sei, D Starr, E Wong, J L Privette

1135h **IN32A-06** NPOESS Preparatory Project Validation Program for the Cross-track Infrared Sounder: **C Barnett**, D Gu, N R Nalli

1150h **IN32A-07** NPOESS Preparatory Project Validation Program for the Ozone Mapping and Profiler Suite: **L E Flynn**, D F Rault, S J Janz, I V Petropavlovskikh, C S Long, E Beach, S V Farrow, S Yang

1205h **IN32A-08** The Expected Impacts of NPOESS Microwave and Infrared Sounder Radiances on Operational Numerical Weather Prediction and Data Assimilation Systems: **S D Swadley**, N Baker, J Derber, A Collard, F Hilton, B Ruston, W Bell, B Candy, T J Kleespies

Nonlinear Geophysics

NG32A Moscone South: 309 Wednesday 1020h
Lorenz Lecture

Presiding: **S Lovejoy**, McGill University; **J B Rundle**, University of California

1025h **NG32A-01** Complexity of Earth's Magnetosphere: Coherence in a Multiscale Open System (*Invited*): **A S Sharma**

NG32B Moscone South: 309 Wednesday 1125h
Turcotte Award and General Contributions

Presiding: **S Lovejoy**, McGill University; **J B Rundle**, University of California; **S W Morris**, University of Toronto; **A S Sharma**, University of Maryland

1125h **NG32B-01** Solidification in the fast lane: flow-induced morphological instability in geological systems (*Invited*): **J A Neufeld**

1145h **NG32B-02** Tests of Models for Wind-Generated Ripple and Megaripple Growth: New Models are Needed: **A B Murray**, P Claudin, B Andreotti, R Hoyle, O Pouliquen

1200h **NG32B-03** Global earthquake catalogs and long-range correlation of seismic activity (*Invited*): **Y Ogata**

Natural Hazards

NH32A Moscone West: 2006 Wednesday 1020h
Threat and Response: The Reality and Politics of the Near-Earth Objects Hazard II (*joint with A, B, GC, EP, P*)

Presiding: **D Morrison**, NASA Ames Research Center; **M S Race**, SETI Institute

1020h **NH32A-01** The Impact Hazard: **D Morrison**

1035h **NH32A-02** Issues That Drive Near-Earth Object Mitigation Responses: **D K Yeomans**, A Chamberlin, S Chesley, P W Chodas

1050h **NH32A-03** Current Issues in NEO Detection and Threat Mitigations (*Invited*): **C R Chapman**

1105h **NH32A-04** Update on International Decision Making Infrastructure for Threat Mitigation (*Invited*): **R Schweickart**

1120h **NH32A-05** Is An Asteroid Impact A Disaster? (*Invited*): **R H Davies**

1135h **NH32A-06** Explore NEOs: The Warm Spitzer NEO survey: **J P Emery**, D Trilling, B Bhattacharya, W F Bottke, S Chesley, M Delbo, G Fazio, A W Harris, J Hora, A Mainzer, M Mueller, B Penprase, H Smith, T Spahr, J Stansberry

1140h **NH32A-07** Radiation Hydrocode Models of Asteroid Deflection by Stand-Off Burst: **C S Plesko**, R P Weaver, P A Bradley, R R Clement, W F Huebner

1145h **NH32A-08** Planetary Defense is More Than Science and Technology: Policy, People, and Disaster Management: **A A Harrison**

Ocean Sciences

OS32A Moscone West: 3003 Wednesday 1020h **Improvements in Tsunami Risk Assessment, Warning, and Mitigation: Five Years After Sumatra II** (*joint with NH, PA*)

Presiding: N Wood, USGS; V V Titov, NOAA/PMEL; P K Dunbar, National Geophysical Data Center

1020h **OS32A-01** Multiple data types used to analyze the 15 July, 2009, Mw=7.8 earthquake south of New Zealand: P R Cummins, J H Dawson, M de Kool, M Jia, J Zhao

1035h **OS32A-02** Radiated Seismic Energy for Rapid Determinations of Large Earthquake Size, Duration, and Tsunami Earthquake Potential, and long-term Tsunami Earthquake Hazard Assessment: J A Convers, A V Newman

1050h **OS32A-03** Towards a simple quantification of far-field tsunami amplitudes from parameters of the seismic source: H Hebert, D Reymond, E Okal

1105h **OS32A-04** Far-Field Simulations of Tele-tsunami Observed in the Atlantic Ocean: Impact on the Lesser Antilles: M Viana-Baptista, J ROGER, H Hebert

1120h **OS32A-05** Tsunami Early Warning: Introducing single frequency GPS receiver into the Tsunami Early Warning System: M Ramatschi, C Falck

1135h **OS32A-06** LIVE DEMONSTRATION OF DISTANT EARLY WARNING SYSTEM: M Hammitzsch, M Lendholt, J Wächter

1150h **OS32A-07** THE TSUNAMI SERVICE BUS, AN INTEGRATION PLATFORM FOR HETEROGENEOUS SENSOR SYSTEMS: J Fleischer, R Häner, S Herrnkind, U Kriegel, H Schwarting, J Wächter

1205h **OS32A-08** Satellite Observations Defying the Long-Held Tsunami Genesis Theory: Y Song, S Han

Planetary Sciences

P32C Moscone South: 104 Wednesday 1120h **Outer Planets I**

Presiding: J Liu, Caltech; F Herbert, University of Arizona

1125h **P32C-01** Non-LTE analysis of Uranus Observations from Spitzer: X Zhang, F Martin-Torres, Y L Yung, G S Orton, L N Fletcher

1139h **P32C-02** The EUV Spectrum of the Uranian Aurora: F Herbert

1153h **P32C-03** Emitted Power of Saturn Based on Cassini/CIRS Observations: L Li, B J Conrath, P J Gierasch, R K Achterberg, C A Nixon, F M Flasar, A A Simon-Miller, L N Fletcher, P L Read, K H Baines, R A West, A P Ingersoll, A R Vasavada, G S Orton

1207h **P32C-04** Mechanisms of jet formation on the giant planets: J Liu, T Schneider

P32A Moscone South: 307 Wednesday 1020h **Return to the Moon: Latest Science Results III: The Lunar Environment** (*joint with SH, V*)

Presiding: K D Retherford, Southwest Research Inst; T J Stubbs, University of Maryland, Baltimore County

1020h **P32A-01** The solar wind - Moon interaction discovered by MAP-PACE on KAGUYA: Y Saito, S Yokota, T Tanaka, K Asamura, M N Nishino, T Yamamoto, H Tsunakawa, H Shibuya, H Shimizu, F Takahashi

1035h **P32A-02** Intrusion of the solar wind protons into the near-Moon wake revealed by SELENE (KAGUYA) (*Invited*): M N Nishino, K Maezawa, M Fujimoto, Y Saito, S Yokota, K Asamura, T Tanaka, H Tsunakawa, H Shibuya, M Matsushima, H Shimizu, F Takahashi, T Terasawa

1050h **P32A-03** Dynamics of solar wind protons reflected by the Moon: M Holmstrom, M Wieser, S Barabash, Y Futaana, A Bhardwaj

1105h **P32A-04** Impact Generated Plasmas on the Lunar Surface: M Horanyi, T Munsat, S H Robertson, Z Sternovsky, X Wang

1120h **P32A-05** Lunar Dust Simulant Under Electron and Ion Bombardments: J Pavlu, J Vaverka, M Vysinka, M Beranek, Z Nemecek, J Safrankova

1135h **P32A-06** Investigation of dust transport on the lunar surface in laboratory plasmas: X Wang, M Horanyi, S H Robertson

1150h **P32A-07** Griffith Theory Applied to Dust Lofting on the Moon: J R Marshall, D Richard, S S Davis, A Colaprete

1205h **P32A-08** Lunar Airborne Dust Toxicity Hazard Assessments (*Invited*): B L Cooper, D S McKay, L A Taylor, W T Wallace, J James, L Riofrio, C P Gonzalez

P32B Moscone South: 104 Wednesday 1020h **Sagan Lecture**

Presiding: B M Jakosky, University of Colorado; W B Banerdt, Jet Propulsion Laboratory

1020h **P32B-01** Life at the Common Denominator: Mechanistic and Quantitative Biology for the Earth and Space Sciences (*Invited*): T Hoehler

SPA - Solar and Heliospheric Physics

SH32A Moscone South: 301 Wednesday 1020h **Global Heliosphere Revealed III**

Presiding: D B Reisenfeld, University of Montana; E Moebius, University of New Hampshire

1020h **SH32A-01** Comparison of Interstellar Boundary Explorer Observations with 3-D Global Heliospheric Models: N A Schwadron, M Bzowski, G B Crew, M Gruntman, H Fahr, H Fichtner, P C Frisch, H O Funsten, S A Fuselier, J Heerikhuisen, V Izmodenov, H Kucharek, M A Lee, G Livadiotis, D J McComas, E Moebius, T E Moore, J Mukherjee, N V Pogorelov, C L Prested, D B Reisenfeld, E C Roelof, G P Zank

1035h **SH32A-02** ENA fluxes from inner and outer heliosheath: results of kinetic-gasdynamic modeling (*Invited*): V Izmodenov, D Aleksashov, Y Malama

1055h **SH32A-03** Toward calculating heliospheric filtration of interstellar oxygen on its way to IBEX: H Mueller, E Moebius, M Bzowski, N V Pogorelov, J Heerikhuisen

1110h **SH32A-04** Orientation and Magnitude of the Interstellar Magnetic Field from Heliosheath Flows: M Opher, F Alouani Bibi, G Toth, J D Richardson, V Izmodenov, T I Gombosi

1125h **SH32A-05** The statistical mechanics basis of non-equilibrium stationary states in the solar wind and outer heliosphere: G Livadiotis, D J McComas

1140h **SH32A-06** IBEX observations in the context of a global heliospheric model: J Heerikhuisen, N V Pogorelov, G P Zank, D J McComas, H O Funsten, E Moebius, S A Fuselier, N A Schwadron, P C Frisch

1155h **SH32A-07** Pick-up ions, the termination shock, and energetic neutral atoms (*Invited*): **G P Zank**, J Heerikhuisen, N V Pogorelov, R Burrows, D J McComas, N A Schwadron, P C Frisch, H O Funsten, E Moebius, S A Fuselier, M Gruntman

SPA - Magnetospheric Physics

SM32A Moscone South: 305 Wednesday 1020h
Advances in Cusp and Polar Cap Dynamics II (*joint with SA*)

Presiding: **H Carslon**, USAF; **J M Holmes**, Air Force Research Lab

1020h **SM32A-01** Ionospheric Cusp Polar Cap phenomena of particular relevance for generation of HF radar backscatter targets (*Invited*): **J Moen**

1035h **SM32A-02** Simultaneous observations of the dayside magnetosphere by Auroral Imaging and by the THEMIS satellites. (*Invited*): **S B Mende**, H U Frey, V Angelopoulos, H Zhang

1050h **SM32A-03** Relationships between dayside field-aligned currents and particle precipitation: **S Wing**, S Ohtani, T Higuchi, G Ueno, J M Weygand

1105h **SM32A-04** Multi-instrumental comprehensive study of polar cap tongue of ionization during magnetic storm on December 15, 2006: **K Hosokawa**, T Tsugawa, K Shiokawa, N Nishitani, Y Otsuka, T Ogawa, M R Hairston

1120h **SM32A-05** UV Emissions Observed By the SCIFER2 Sounding Rocket: A N Jaynes, **M Lessard**, P M Kintner, F Sigernes, K A Lynch

1135h **SM32A-06** Large-Scale Instabilities of the Lower Thermosphere During an Active Period: **R L Walterscheid**, G Crowley

1150h **SM32A-07** Primary heating mechanisms for the substantial neutral density enhancement in the cusp region: **Y Deng**, T J Fuller-Rowell, D J Knipp, D S Evans, A J Ridley

1205h **SM32A-08** Dayside Thermospheric Upwelling Driven by Magnetospheric Energy Input: **G R Wilson**, D M Ober

SM32B Moscone South: 303 Wednesday 1020h
Saturn's Magnetosphere: A Laboratory for Plasma-Gas Interactions III (*joint with P, SH*)

Presiding: **H T Smith**, JHU APL; **A Rymer**, JHU-APL

1020h **SM32B-01** Saturn Auroral Movies from Cassini UVIS: **W R Pryor**, I Stewart, L W Eposito, A Jouchoux, W E McClintock, G Holsclaw, S Eriksson, J Gustin, D Grodent, J M Gerard, J Ajello, R A West, C J Hansen, A Hendrix, X Zhou, D E Shemansky, J T Clarke, F J Crary, J E Colwell, J D Nichols, S W Cowley, L Lamy, D G Mitchell, W S Kurth

1033h **SM32B-02** Cassini Plasma Spectrometer Ion Observations Close to Enceladus: E3, E5 and E7: **R L Tokar**, R E Johnson, M F Thomsen, R J Wilson, F J Crary, D T Young, R Goldstein, D B Reisenfeld, E C Sittler, A J Coates, C S Paty, Y Jia, N Omid, C Russell

1046h **SM32B-03** Dusty Plasma observed in the E-ring and near Enceladus: **M Morooka**, J Wahlund, M Shafiq, W S Kurth, D A Gurnett, W Farrell, M Hormberg, S Sakai

1059h **SM32B-04** Plasma-neutral interactions: Enceladus' plume as a case study: **C S Paty**, D Santos-Costa, R Tokar, C Dong, F J Crary, J Redfern, D T Young

1112h **SM32B-05** Modeling the Enceladus Plume—Plasma Interaction: **B L Fleshman**, P A Delamere, F Bagenal

1125h **SM32B-06** Neutral H₂O density in the Enceladus plume: **Y Dong**, T W Hill

1138h **SM32B-07** Spreading of Saturn's Neutral Torus: **T A Cassidy**, R E Johnson, C Kuo

1151h **SM32B-08** Particle pressure and current density in the magnetosphere of Saturn: Origin of the Saturnian ring current: **N Sergis**, S M Krimigis, E C Roelof, D G Mitchell, A M Rymer, C S Arridge, N Krupp, M F Thomsen, D C Hamilton, H J McAndrews, A J Coates, R J Wilson, M K Dougherty, D T Young

1204h **SM32B-09** PLASMA DYNAMICS NEAR SATURN'S RING CURRENT: **D Santos-Costa**, N André, C S Paty, C S Arridge, B Zieger, J Redfern, D T Young, P Schippers, K C Hansen, F J Crary, A J Coates, S J Bolton, C Paranicas, A M Rymer, N Krupp, B Cecconi, L Lamy, P M Zarka, J D Menietti, G B Hospodarsky, M K Dougherty

Study of Earth's Deep Interior (DI)

DI32A Moscone West: 2003 Wednesday 1020h
Linking Earth's Deep Interior to the Surface Environment I (*joint with MR, PP, S, EP, V, T*)

Presiding: **P D Clift**, University of Aberdeen; **C P Conrad**, University of Hawaii

1020h **DI32A-01** Linking the stratigraphic record with mantle convection in time and space (*Invited*): **M Gurnis**, S Spasojevic, L Liu, L DiCaprio, D Müller, R Sutherland

1035h **DI32A-02** Reconstructing African topography over the past 30 Myrs with high-resolution tomography-based convection modelling: **R Moucha**, A M Forte, D B Rowley, J Braun, J X Mitrovica, N A Simmons, S P Grand

1050h **DI32A-03** SURFACE SUBSIDENCE INDUCED BY MANTLE PLUMES BEFORE FLOOD BASALT ERUPTIONS: **W Leng**, S Zhong

1105h **DI32A-04** Topographic Change due to Sea Level Induced Asthenospheric Flow: A New Consideration in the Timing and Extent of the Bering Land Bridge: **A D Wickert**, R S Anderson

1120h **DI32A-05** Seismic evidence connecting western Pacific volcanism to thermo-chemical structures in the core-mantle boundary region: **C T Houser**, Q Williams

1135h **DI32A-06** Diamonds sampled by plumes from the core-mantle boundary (*Invited*): **T H Torsvik**, K C Burke, S J Webb, L D Ashwal, B M Steinberger

1150h **DI32A-07** Indications for control of the Iceland plume on the Eocene-Oligocene "greenhouse-icehouse" climate transition: M Abelson, **A Agnon**, A Almogi-Labin

1205h **DI32A-08** Episodic Instabilities of Thick Continental Lithosphere (*Invited*): **C P Jaupart**, L Fourel, C G Farnetani

Seismology

S32A Moscone West: 2016 Wednesday 1020h
Development of 3-D Models for Seismic Monitoring II (*joint with DI, T*)

Presiding: **L Steck**, Los Alamos National Laboratory; **C J Young**, Sandia National Laboratories

1020h **S32A-01** Tera3D: A Computational Platform for Tera-Scale Full-3D Waveform Tomography (F3DT) in Southern California: **E Lee**, P Chen, T H Jordan, P J Maechling

1035h **S32A-02** Investigating the limits of ray-based global surface-wave tomography: **V Hjorleifsdottir**, G Ekstrom, C A Dalton

1050h **S32A-03** Accurate and Efficient Modeling of Global Seismic Wave Propagation on a Whole Cross Section of the Earth: **G Toyokuni**, H Takenaka

- 1105h **S32A-04** Multiscale Waveform Tomography with Two-step Model Parameterization: **Y Gung**, L Chiao, Y Hsu
- 1120h **S32A-05** Significance of lateral variations of upper crust structure in the 3-D tomographic analysis using local earthquake data – case example from Taiwan: **J Chiu**, K Kim, B Huang, K Chen, W Liang, J M Pujol
- 1135h **S32A-06** Trans-Alborz Passive Seismic Experiment; Probing of the Lithosphere in Northern Iran: **A Alinaghi**
- 1150h **S32A-07** Central United States Velocity Model Version 1: Description and Validation: **L Ramirez Guzman**, R A Williams, O S Boyd, S Hartzell
- 1205h **S32A-08** The Influence of Laterally Variable Heterogeneity on the Propagation of Lg-Waves in the Pyrenees: **C Sens-Schönfelder**, L Margerin, M Campillo

S32B Moscone West: 2005 Wednesday 1020h
Observation and Analysis of Natural and Induced Microearthquakes III (*joint with H, NS, T*)

Presiding: **S Buske**, Freie Universität Berlin; **J T Rutledge**, Los Alamos National Laboratory

- 1020h **S32B-01** Location of microearthquakes in a hot, permeable and noisy geothermal production environment - a challenge (*Invited*): **S C Bannister**, S Sherburn, S Bourguignon, D S Clarke, S Parolai
- 1035h **S32B-02** Microearthquake Analysis Techniques For Geothermal Applications (*Invited*): **G R Foulger**
- 1050h **S32B-03** Estimation of response of fracture system to hydraulic stimulation by induced microseismic multiplet analysis: **H Asanuma**, Y Kenmoku, Y Kawamura, H Niitsuma, D Wyborn
- 1105h **S32B-04** Automated Event Location for Noisy Microearthquake Data Using Envelope Stacking and Robust Global Optimization: **H Gharti**, V Oye, M Roth
- 1120h **S32B-05** Deep underground recording of induced and natural earthquakes to investigate rupture processes and fault-zone strength: **A McGarr**, M S Boettcher, J B Fletcher, M J Johnston
- 1135h **S32B-06** REAL-TIME MONITORING OF A SALT SOLUTION MINING CAVERN: FROM PRECURSORY SIGNS TO GENERAL COLLAPSE: **E Klein**, I Contrucci, N Cao, P Bigarré
- 1150h **S32B-07** Crustal heterogeneity and earthquake generating properties in and around the Yamasaki fault zone, Southwest Japan: **K Nishigami**, T Shibutani, S Ohmi, H Katao, K Yoshikawa, S Yamaguchi, Y Mamada
- 1205h **S32B-08** The Twin Character of the 2000 and 2008 West Bohemia Earthquake Swarms: **T Fischer**, J Horálek, J Michálek

Tectonophysics

T32A Moscone West: 2009 Wednesday 1020h
Arc Systems, Ophiolites, and Continental Crust Formation IV (*joint with V*)

Presiding: **S Kodaira**, JAMSTEC; **R J Stern**

- 1020h **T32A-01** Ultra-deep drilling to the middle crust of the Izu-Bonin-Mariana arc: **Y Tatsumi**, K A Kelley
- 1035h **T32A-02** A Comparison of Deep Seismic Reflection Images from the Mariana and Aleutian Island Arcs: **A J Calvert**
- 1050h **T32A-03** The forearc crustal evolution of Izu-Bonin (Ogasawara) region obtained by seismic reflection and refraction surveys: **M Yamashita**, S Kodaira, N Takahashi, Y Tatsumi, Y Kaneda

- 1105h **T32A-04** Yin of birthing and the Yang of destroying continental crust at ocean-margin and crust-suturing subduction zones—exploring evidence about processes, amounts, and the Phanerozoic balance: **D W Scholl**, R J Stern
- 1120h **T32A-05** In-situ arc crustal section formed at the initial stage of oceanic island arc –Diving survey in the Izu-Bonin forearc: **O Ishizuka**, M Yuasa, K Tani, S Umino, M K Reagan, K Kanayama, Y Harigane, Y Miyajima
- 1135h **T32A-06** Evidence for Constructing Continental Crust by Deep Accretion of Sedimentary Rocks: **J K Hourigan**, M T Brandon
- 1150h **T32A-07** Spatial and temporal variations in subduction angle: a role for subduction erosion processes?: **D F Keppie**, C A Currie, C J Warren, A Hynes
- 1205h **T32A-08** Serpentine-eclogite complex in the Ohmachi Seamount, Izu-Bonin arc: a fossil subduction channel in the Philippine Sea plate: **H Ueda**, T Usuki, K Hirauchi, M Meschede, K Niida

T32B Moscone West: 2011 Wednesday 1020h
Cenozoic Mountain Building in Asia and South America: Impact on Surface Processes, Erosion, Climate Change, and Deep Earth Processes II (*joint with H, PP, S, EP, V, DI*)

Presiding: **J Nie**, UT Austin; **W Burgess**, University of California, Los Angeles; **B K Horton**, UT Austin

- 1020h **T32B-01** Tectonic versus climatic control on exhumation and relief development in the Venezuelan Andes: M A Bermudez-Cella, P Van Der Beek, **M Bernet**
- 1035h **T32B-02** Preliminary neotectonic shortening rates across the eastern Foothills of the Colombian Andes: Examples from the Yopal region of the Llanos basin: **M H Taylor**, A Mora, J Gosse, D F Stockli, B Mocek
- 1050h **T32B-03** Evolution of the Altiplano-Puna Margin in the Central Andes – Construction and Erosion (*Invited*): **M R Strecker**, R Alonso, B Bookhagen, G E Hilley, E R Sobel
- 1105h **T32B-04** Response of a thrust belt to the onset of glacial erosion in the Patagonia Andes: **K F Ma**, M T Brandon
- 1120h **T32B-05** Timing and Style of Deformation in the Floresta Massif, Axial Eastern Cordillera, Colombia: **J Saylor**, D F Stockli, A Mora
- 1135h **T32B-06** Kinematic history of the retroarc thrust belt in the central Andes of Argentina at 24-25°S: significant Andean shortening and sporadic foreland-ward deformation propagation: **D M Pearson**, P A Kapp, P G DeCelles, P W Reiners
- 1150h **T32B-07** Thermochronometer and Numerical Modeling Constraints on Canyon Incision and Topographic Evolution, SW Peru (*Invited*): **T F Schildgen**, G Balco, D L Shuster, T A Ehlers, K Hodges, K X Whipple
- 1205h **T32B-08** Short- and long-term deformation and the earthquake cycle in the southern Bolivia Subandes: Implications for orogenic wedge processes: **B A Brooks**, M G Bevis, K X Whipple, E C Kendrick, R Smalley, R Arrowsmith, T Zapata

T32C Moscone West: 2007 Wednesday 1020h
Continental Deformation and Rheological Complexity II

Presiding: **G Rosenbaum**, The University of Queensland; **R F Weinberg**, Monash University

- 1020h **T32C-01** Water-Weakening of Quartz and Variable Strength of the Crust: Direct Field Evidence from the Relative Strength of Calcite and Quartz (*Invited*): **N Mancktelow**, G Pennacchioni
- 1035h **T32C-02** Strain localization through the continental lithosphere: toward a new mantle rheology.: **J Précigout**, F Gueydan

1050h **T32C-03** Hydration of a crustal-scale shear zone through fracturing and dike emplacement: **J H Marsh**, N Culshaw, C C Gerbi
 1105h **T32C-04** Varying crustal compositions on the role of continental collision in forming Archean sub-continental lithospheric mantle: **R Gray**, R N Pysklywec
 1120h **T32C-05** STRAIN LOCALIZATION DUE TO RHEOLOGICAL HETEROGENEITY ACROSS A CRUSTAL-SCALE INTRACONTINENTAL SHEAR ZONE: **G Dumond**, P Goncalves, K H Mahan, M L Williams, M J Jercinovic
 1135h **T32C-06** The Ultimate Fate of Continental Crust is to Melt: **D L Whitney**, C Teyssier, P F Rey
 1150h **T32C-07** The Rheologic Implications of Partial Melting in Continental Plateaux: **C Teyssier**, D L Whitney, P F Rey
 1205h **T32C-08** High Temperature Solid-State Coeval Brittle and Ductile Deformation during Cooling of Lake Edison Granodiorite (Sierra Nevada, California): **G Pennacchioni**

Volcanology, Geochemistry and Petrology

V32A Moscone West: 2018 Wednesday 1020h
Dynamics and Geochemical Consequences of Melting, Melt Migration, and Melt-Rock Reaction in a Multiscale Heterogeneous Mantle I (*joint with T*)

Presiding: **Y Liang**, Brown University; **M A Hesse**, University of Texas at Austin

1020h **V32A-01** Causes and Consequences of Mantle Heterogeneity From Observations of Abyssal Peridotites (*Invited*): **J M Warren**, N Shimizu, H J Dick
 1035h **V32A-02** First Kinetic Reactive-Flow and Melting Calculations for Entropy Budget and Major Elements in Heterogeneous Mantle Lithologies (*Invited*): **P D Asimow**
 1050h **V32A-03** Experimental Investigation of the Interactions Between Stress-driven and Reaction-driven Melt Segregation: **D S King**, M E Zimmerman, D L Kohlstedt
 1105h **V32A-04** Multi-Scale homogenization methods for Magma Dynamics: G Simpson, **M W Spiegelman**, M Weinstein
 1120h **V32A-05** High porosity harzburgite and dunite channels for the transport of compositionally heterogeneous melts in the mantle: I. Melt flow field, porosity, dunite and harzburgite channel distributions (*Invited*): **A Schiemenz**, M A Hesse, Y Liang, E Parmentier
 1135h **V32A-06** High porosity harzburgite and dunite channels for the transport of compositionally heterogeneous melts in the mantle: II. Geochemical consequences: **Y Liang**, A Schiemenz, Y Xia, E Parmentier
 1150h **V32A-07** Active convection beneath ridges: a new spin: **R F Katz**
 1205h **V32A-08** Experimental Determination of the Permeability of Asthenospheric Mantle and an Acceleration of Melt Extraction Velocities by 1-2 Orders of Magnitude: **M W Schmidt**, J Connolly, G Solferino, N S Bagdassarov

V32B Moscone West: 2020 Wednesday 1020h
Volcanic Dynamics: Temporal Changes of Physical Properties at Volcanoes With and Without Surficial Activity III (*joint with A, G, H, NH, S, NS*)

Presiding: **M E Pritchard**, Cornell University; **D C Roman**, University of South Florida

1020h **V32B-01** Geophysical monitoring of Mt. Asama, Japan, during the 2008-9 eruptions (*Invited*): **Y Aoki**, M Takeo, T Ohminato

1035h **V32B-02** Geodetic and Seismic Monitoring of Yellowstone: A Living, Breathing, Shaking Volcano: **J Farrell**, R B Smith, W Chang, C M Puskas

1050h **V32B-03** Magma ascent at coupled volcanoes: Episodic magma injection at Katla and Eyjafjallajökull ice-covered volcanoes in Iceland and the onset of a new unrest episode in 2009: **F Sigmundsson**, H Geirsson, A J Hooper, S Hjaltadottir, K S Vogfjörð, E C Sturkell, R Pedersen, V Pinel, A Fabien, P Einarsson, M T Gudmundsson, B Ofeigsson, K Feigl

1105h **V32B-04** Is magma generated due to retreating ice caps, likely to erupt?: **A J Hooper**, B Ofeigsson, F Sigmundsson, H Geirsson, P Einarsson, E C Sturkell

1120h **V32B-05** A multiparameter approach to volcano monitoring based on 4D analyses of seismo-volcanic and acoustic signals: the 2008 Mt. Etna eruption: **A Cannata**, G Di Grazia, P Montalto, D Patané, E Privitera, L Zuccarello, E Boschi

1135h **V32B-06** The forensics of sub-surface processes on island volcanoes from integrated geodetic observations: results from Tenerife and Montserrat (*Invited*): **J Gottsmann**

1150h **V32B-07** Conduit dynamics for Vulcanian explosions at Soufriere Hills Volcano, Montserrat, from strainmeter data: **L Chardot**, B Voight, R Stewart, A T Linde, S I Sacks, D Hidayat, N Fournier

1205h **V32B-08** Conduit evacuation dynamics for Vulcanian explosions: **B Voight**, L Chardot, D Hidayat, A T Linde, S I Sacks, A B Clarke, R Faroozan, O Melnik, S Sparks, R Stewart, M de' Michieli Vitturi

Wednesday P.M.

Union

U33A Moscone South: Poster Hall Wednesday 1340h
Terra at 10: Earth's Energy Balance and Water Cycle II Posters

Presiding: **N G Loeb**, NASA Langley Research Center

1340h **U33A-0039 POSTER** Development and assessment of an algorithm to estimate net radiation from the Moderate Resolution Imaging Spectroradiometer under all sky conditions over the Continental United State: **G Bisht**, R L Bras
 1340h **U33A-0040 POSTER** Terra in K-16 formal education settings: **L H Chambers**, J D Fischer, P M Lewis, S W Moore, P C Oots, T M Rogerson, K M Hitke, H Riebeck
 1340h **U33A-0041 POSTER** Trends in Ocean Irradiance using a Radiative Model Forced with Terra Aerosols and Clouds: **W W Gregg**, N W Casey, A Romanou
 1340h **U33A-0042 POSTER** It's a Rough Place: Satellite Mapping of the Greenland Ice Sheet From MISR: **A W Nolin**, S Coyote
 1340h **U33A-0043 POSTER** LONG TERM MEASUREMENTS OF WATER VAPOR AND CIRRUS CLOUDS USING TERRA AND AQUA MODIS NEAR-IR CHANNELS: **B Gao**, R Li
 1340h **U33A-0044 POSTER** A Decade of Sea-Surface Temperatures from the MODIS on Terra: **P J Minnett**, R Evans, O B Brown
 1340h **U33A-0045 POSTER** Ten Years of Cloud Optical and Microphysical Retrievals from MODIS: **S E Platnick**, M D King, G Wind, P Hubanks, G T Arnold, N Amarasinghe
 1340h **U33A-0046 POSTER** Multi-Year Assessment Of The Top Of Atmosphere Direct Aerosol Radiative Effects Over Global Land Regions Using MODIS, MISR, And CERES: T A Jones, **F Patadia**, S A Christopher

1340h **U33A-0047** POSTER Terra-CERES Level 2.5: Cloud Object Data for Cloud-Climate Process Studies: **K Xu**, T Wong, S Dong, F Chen, Z Eitzen

1340h **U33A-0048** POSTER Decadal Observations of Cloud Cover and Cloud Top Altitude from MISR: **G Zhao**, L Di Girolamo, A Menzies, K J Mueller

1340h **U33A-0049** POSTER Consistency of CERES TOA Fluxes with MISR Data and Diffusivity Approximation Theory: **W Sun**, N G Loeb

1340h **U33A-0050** POSTER 10 Years of Height Resolved, Cloud-Track, Vector Winds from MISR: **M J Garay**, K J Mueller, C M Moroney, V Jovanovic, D L Wu, D J Diner

1340h **U33A-0051** POSTER A global view of the plane-parallel nature of oceanic water clouds through MISR and MODIS fusion: **L Di Girolamo**, L Liang, S E Platnick

1340h **U33A-0052** POSTER Past, present, and future of the MISR height-resolved, cloud-track wind retrieval: **K J Mueller**, C M Moroney, M J Garay, V M Jovanovic

U33B Moscone South: Poster Hall Wednesday 1340h
Terra at 10: Our Changing Atmosphere and Land Surface II Posters

Presiding: **M L Imhoff**, NASA

1340h **U33B-0053** POSTER Exploiting MISR products at the full spatial resolution (275m) to document changes in land properties in and around the Kruger National Park, South Africa: **M M Verstraete**, L A Hunt, B Pinty, M Clerici, R J Scholes

1340h **U33B-0054** POSTER Characterizing Urban Heat Island Effect at Global Settlements Using MODIS and Nightlight Products: **P Zhang**, M L Imhoff, R E Wolfe, L Bounoua

1340h **U33B-0055** POSTER Effect of mineral dust on cloud microphysics and precipitation of mesoscale convective systems: **B Lin**, Q Min, R Li

1340h **U33B-0056** POSTER MODIS Rapid Response: On-the-ground, real time applications of scientific satellite imagery: **J E Schmaltz**, H Riebeek, J D Kendall

1340h **U33B-0057** POSTER Status of Terra MODIS Operation and Calibration: **X Xiong**

1340h **U33B-0058** POSTER Aerosol properties over the Indian Subcontinent using nine years (2000-2008) of Multiangle Imaging SpectroRadiometer observations: climatology and hot spots: **S Dey**, L Di Girolamo

1340h **U33B-0059** POSTER Multispectral retrieval of CO from MOPITT: **H M Worden**, M N Deeter, D P Edwards, J C Gille

1340h **U33B-0060** POSTER Using MODIS observations to assess the impact of urban growth in semi arid regions: **L Bounoua**, M L Imhoff

1340h **U33B-0061** POSTER Remote Sensing of Compact Three-Dimensional Clouds from Oblique Views, with Illustrations Using MISR Data: **A B Davis**

1340h **U33B-0062** POSTER applications of the newly improved global MOD16 evapotranspiration algorithm at ameriFlux tower sites and global scale: **Q Mu**, M Zhao, S W Running

1340h **U33B-0063** POSTER Bringing Terra Science to the People: 10 years of education and public outreach: **H Riebeek**, L H Chambers, K Yuen, D Herring

1340h **U33B-0064** POSTER Physically-based Canopy Reflectance Model Inversion of Vegetation Biophysical-Structural Information from Terra-MODIS Imagery in Boreal and Mountainous Terrain for Ecosystem, Climate and Carbon Models using the BIOPHYS-MFM Algorithm: **D R Peddle**, F Hall

1340h **U33B-0065** POSTER The ASTER Global Digital Elevation Model (GDEM) –for societal benefit -: **M Hato**, H Tsu, T Tachikawa, M Abrams, B Bailey

1340h **U33B-0066** POSTER Dark Target aerosol retrievals from MODIS: What have we learned in 10 years?: **R C Levy**, L A Remer, S Mattoo, R G Kleidman, G G Leptoukh, R A Kahn, D Tanré

1340h **U33B-0067** POSTER Properties and transport of Asian dust from 10 years of MISR data: **O V Kalashnikova**, I N Sokolik, M J Garay, D L Wu

1340h **U33B-0068** POSTER Empirical Angular Dependence Models For Smoke Aerosols From CERES: **F Patadia**, S A Christopher

1340h **U33B-0069** POSTER 10 years of Terra Outreach over the Internet: **K Yuen**, H Riebeek, L H Chambers

1340h **U33B-0070** POSTER Direct observations of ecosystem light use efficiency from MAIAC/MODIS: **F G Hall**, T Hilker, A Lyapustin, Y Wang, N Coops, G Drolet

1340h **U33B-0071** POSTER Vegetation effects on sub-pixel roughness measurements from NASA's Terra/ASTER stereo images: **A Mushkin**, A Gillespie, E Abbott, M R Smith, J Avila, E E Brodsky

1340h **U33B-0072** POSTER MISR observations of hurricane inner core dynamics: D L Nelson, **D L Wu**, D J Diner, M J Garay, V Jovanovic, C M Moroney, K J Mueller

1340h **U33B-0073** POSTER Using Terra Data to Understand Low Clouds: **Z Eitzen**, K Xu, T Wong

U33C Moscone South: I03 Wednesday 1340h
The Nature, Frequency, Size, and Consequences of Instabilities of the Continental Lithosphere II

Presiding: **L N Moresi**, Monash University; **C M Cooper**, Washington State University

1340h **U33C-01** Lithosphere Delamination Caused Permanent Subsidence of New Caledonia Trough and Transient Uplift of Lord Howe Rise During Cenozoic Initiation of Tonga-Kermadec Subduction, Western Pacific (*Invited*): **R Sutherland**, J Collot, Y Lafoy, G Logan, R I Hackney, V Stagpoole, C Uruski, T Hashimoto, K Higgins, R H Herzer, R Wood, N N Mortimer, N Rollet

1355h **U33C-02** The role of sublithospheric gravitational instability on oceanic intraplate volcanism: **M D Ballmer**, J Van Hunen, G Ito, P J Tackley, T A Bianco

1410h **U33C-03** CATCHING 'IN FLAGRANTE' MANTLE UNROOTING BENEATH THE ALPINE-HIMALAYAN BELT: EVIDENCES FROM ATLAS, ZAGROS AND TIBET: **M Fernandez**, I Jimenez-Munt, A Villasenor, J Verges, D Garcia-Castellanos, E Saura, J Afonso

1425h **U33C-04** Intermediate Depth Seismicity of the SE Carpathians caused by Instability of the Continental Lithosphere (*Invited*): **P Lorinczi**, G Houseman

1440h **U33C-05** The Great Basin lithospheric drip: detection of vertical mantle flow (*Invited*): **J D West**, M J Fouch, J B Roth, L T Elkins-Tanton

1455h **U33C-06** Isabella Anomaly: Lithospheric drip, delamination or fragment of the Farallon plate?: **D W Forsyth**, C J Rau

1510h **U33C-07** The Evolution of the Lithosphere From Subduction to Delamination: Insights from Analogue Modeling. (*Invited*): **O H Gogus**, F CORBI, C Faccenna, R N Pysklywec

1525h **U33C-08** Using Tracer Thermochronology to Measure Modern Relief Change in the Sierra Nevada, California:

D F McPhillips, M T Brandon

A33A Moscone South: Poster Hall Wednesday 1340h **Downscaling of Weather and Climate III Posters** (*joint with GC, H*)

Presiding: **L Leung**, Pacific Northwest National Laboratory

1340h **A33A-0203 POSTER** Impact of Tectonic and Orbital Forcing on African Climate in a Regional Model: **K Proemmel**, U Cubasch

1340h **A33A-0204 POSTER** Modeling the spatial distribution of mineral dust and its radiative impact over West Africa during the Dust and Biomass-burning Experiment (DABEX): **C Zhao**, X Liu, L Leung, S A McFarlane, B Johnson, W I Gustafson, J D Fast

1340h **A33A-0205 POSTER** Dynamical Downscaling of Climate Change Projection over the African Region using the Regional Climate Model (RegCM3): **L Mariotti**, M B Sylla, E Coppola, S A Rauscher, C Piani, F Giorgi

1340h **A33A-0206 POSTER** Investigating projected regional climate change over West Africa from a nesting strategy ECHAM5-RegCM3: **A SARR**

1340h **A33A-0207 POSTER** Application of a Global Mesoscale Model to Study Hierarchical Multiscale Interactions during the Tropical Cyclogenesis associated with African Easterly Waves in 2006: **B Shen**, W Tao

1340h **A33A-0208 POSTER** Atmospheric River Impacts on the Precipitation and Snowpack in California during the 2008-09 Cold Season: **J Kim**, D E Waliser, B Guan, N P Molotch

1340h **A33A-0209 POSTER** Standardization of NARCCAP Data for Automated Processing, Quality Control, and Usability: **S A McGinnis**, L O Mearns, L R McDaniel

1340h **A33A-0210 POSTER** Performance of dynamical downscaling for Colorado River basin: **Y Gao**, C Zhu, D P Lettenmaier

1340h **A33A-0211 POSTER** Century-long regional climate simulations for North America: Changes in the mean state and its variability in a doubled-CO₂ atmosphere: **A Schuetz**, S W Hostetler, J R Alder

1340h **A33A-0212 POSTER** Seasonal variations of land-atmosphere coupling strength in the continental United States: **A Tawfik**, A L Steiner

1340h **A33A-0213 POSTER** A Regional Modeling Study of Climate Change Impacts on Warm-Season Precipitation in the Central U.S.: **M S Bukovsky**, D J Karoly

1340h **A33A-0214 POSTER** Why do long term regional climate simulations using WRF have reduced moisture and precipitation in the Great Plains?: **J Correia**, L Leung

1340h **A33A-0215 POSTER** Predicting Summer Dryness Under a Warmer Climate: Modeling Land Surface Processes in the Midwestern United States: **J M Winter**, E A Eltahir

1340h **A33A-0216 POSTER** North American Water and Energy Balances Under a Doubling of Atmospheric CO₂: **S W Hostetler**, A Schuetz, J R Alder

1340h **A33A-0217 POSTER** Dynamical Downscaling NCEP Global Climate Forecast System (CFS) Seasonal Predictions Using Regional Atmospheric Modeling System (RAMS): **L Lu**, Y Zheng, R A Pielke

1340h **A33A-0218 POSTER** How Important is Spatial Resolution: Case Studies at 48, 12, and 4 km for the U.S., Latin America, and Southern Asia: **K A Maasch**, R J Oglesby, C M Rowe, D J Erickson, C Hays

1340h **A33A-0219 POSTER** Regional Hydrological Response to Climate Change in Mexico and Central America: **A V Karmalkar**, R S Bradley, H F Diaz

1340h **A33A-0220 POSTER** Regional modelling of present and future wind and evaluation of uncertainties: **T Salameh**, M Vrac

1340h **A33A-0221 POSTER** Statistical downscaling with a weather typing approach: adapting the methodology to France mountainous areas: L Terray, **C Pagé**, E Sanchez

1340h **A33A-0222 POSTER** High-resolution climate simulations for Central Europe: An assessment of dynamical and statistical downscaling techniques: **J Miksovsky**, R Huth, T Halenka, M Belda, A Farda, P Skalak, P Stepanek

1340h **A33A-0223 POSTER** Benefits of High Resolution Regional Climate Change Modeling in Central and Eastern Europe - Project CECILIA: **T Halenka**, M Belda, J Miksovsky

1340h **A33A-0224 POSTER** Towards development of a Regional Arctic Climate System Model — Coupling WRF with the Variable Infiltration Capacity land model via a flux coupler: **C Zhu**, D P Lettenmaier, J He, T Craig, W Maslowski

1340h **A33A-0225 POSTER** Downscaling of climate parameters using Active Learning Method (ALM): **S Sodoudi**, E Reimer

1340h **A33A-0226 POSTER** Development of dynamical downscaling for regional climate modeling and decision aid applications: **K Darmenova**, G Higgins, R Alliss, H Kiley, D Apling

1340h **A33A-0227 POSTER** Impact of dynamical downscaling of surface winds on surface waves around Japan coast: **W Sasaki**, K Dairaku, S Iizuka

1340h **A33A-0228 POSTER** A Demonstration of the Value of Nudging in Downscaled Regional Climate Simulations from a Global Climate Model: T Otte, J Bowden, J A Herwehe, **C G Nolte**, J E Pleim, G Faluvegi, D T Shindell

1340h **A33A-0229 POSTER** A Comparison of Nudging Techniques for Regional Climate Modeling Using NCEP-NCAR Reanalysis-Driven Simulations: J H Bowden, T Otte, **C G Nolte**, J E Pleim, J A Herwehe

1340h **A33A-0230 POSTER** Assessment of dynamical downscaling in Japan using the Regional Atmospheric Modeling System (RAMS): **K Dairaku**, R A Pielke, A B Beltran-Przekurat, S Iizuka, W Sasaki

1340h **A33A-0231 POSTER** Downscaling daily rainfall distribution and chronology: **R E Benestad**

1340h **A33A-0232 POSTER** A New Mass, Energy, Vorticity, and Potential Enstrophy Conserving Scheme for Complex Boundaries in 3D Nonhydrostatic Stretched or Nested Grid Models: **G S Ketefian**, M Z Jacobson

1340h **A33A-0233 POSTER** Effects of interbasin water transfer on regional climate: A case study of the Middle Route of South-to-North Water Transfer Project in China: **Z Xie**, F Chen

1340h **A33A-0234 WITHDRAWN**

1340h **A33A-0235 POSTER** Investigation of runoff response in the Middle Euphrates Basin to climate change in regional climate model simulations: **D Bozkurt**, O L Sen

1340h **A33A-0236 POSTER** Using CAPE to partition cloud matter feedback from convective parameterization: **C J Anderson**

1340h **A33A-0237 POSTER** Role of Multi-scale Physical Processes in the Spatial and Temporal Variability of Rainfall over the Maritime Continent: **J Qian**, A W Robertson, V Moron

1340h **A33A-0238 POSTER** Regional climate change downscaling for Alaska: **J Zhang**, U S Bhatt, J R Krieger, M Shulski, X Zhang, D E Atkinson

1340h **A33A-0239 POSTER** Regional Modeling of Future Arctic Climate: **E Collier**, A B Bush, E Pollock

1340h **A33A-0240** *POSTER* The relative importance of land use and atmospheric information accuracy in regional scale downscaling associated with land use change impact studies in remote regions:

D K Ray, R A Pielke, U S Nair, D S Niyogi

1340h **A33A-0241** *POSTER* Development and Application of A Coupled Land-Atmosphere Modeling Framework with Multi-Physics Options: **Z Yang**, G Niu, X Jiang

1340h **A33A-0242** WITHDRAWN

1340h **A33A-0243** *POSTER* Development of a Regional Arctic Climate System model: Performance of Polar WRF for regional pan-Arctic atmospheric simulations: **M Higgins**, J J Cassano

A33B Moscone South: Poster Hall Wednesday 1340h
Evaluating Particulate Matter Air Quality With Surface and Spaceborne Measurements I Posters (*joint with GC*)

Presiding: **P Gupta**, UAHuntsville; **S A McKeen**, CIRES/NOAA-CSD; **S A Christopher**, UAHuntsville

1340h **A33B-0244** *POSTER* A sensitivity study of WRF/Chem PM_{2.5} simulations using surface monitor and aircraft data collected during the summertime TexAQS-2006 field campaign: **S A McKeen**, R Ahmadov, S Kim, S Lee, G J Frost, G A Grell, S Peckham

1340h **A33B-0245** *POSTER* The Global Dust Modeling System of the NOAA/NWS National Centers for Environmental Protection: **D Kim**, H Huang, Y Tang, S Lu, P Lee, M Tsidulko, J McQueen, M Chin, T L Diehl, A daSilva, P M Davidson, I Stajner, W R Stockwell

1340h **A33B-0246** *POSTER* Integrating MISR, MODIS, and CALIPSO Satellite Data with In Situ Measurements at Mount Bachelor to Determine Aerosol Plume Characteristics:

R S Thompson, E V Fischer, D A Jaffe, M Di Piero

1340h **A33B-0247** WITHDRAWN

1340h **A33B-0248** *POSTER* Open-Path High Sensitivity Atmospheric Ammonia Sensing with a Quantum Cascade Laser Instrument: **D J Miller**, A Dirisu, K Rafferty, B Parkes, M A Zondlo

1340h **A33B-0249** *POSTER* A Multi-angle Aerosol Optical Depth (AOD) Retrieval Algorithm for GOES: **H Zhang**, A Lyapustin, Y Wang, S Kondragunta, I Laszlo

1340h **A33B-0250** *POSTER* Transport and transformation of biomass burning plumes during the MILAGRO field campaign with High Spectral Resolution Lidar measurements and WRF-Flexpart simulations: **B de Foy**, J W Hair, M D Obland, R Rogers, R A Ferrare, C A Hostetler, L T Molina

1340h **A33B-0251** *POSTER* Evaluation of CMAQ sulfate simulations using surface and satellite measurements: Is cloud processing a source or sink of sulfate?: **Y Wang**, C Luo, S Mueller, E M Knipping

1340h **A33B-0252** *POSTER* Analysis of Surface PM_{2.5} During the TEXAQS II Field Program and its Errors in NMM-CMAQ & WRF-Chem Models with Connection to the Regional Meteorology: **I Djalalova**, J M Wilczak, S A McKeen, L Bianco, G A Grell, S Peckham, M Rohit, J McQueen, P Lee

1340h **A33B-0253** *POSTER* Combination of spaceborne sensor(s) and 3-D aerosol models to assess global daily near-surface air quality: **M Kacenelenbogen**, J Redemann, P B Russell

1340h **A33B-0254** WITHDRAWN

1340h **A33B-0255** *POSTER* Using GLIDER tool in Air Quality Studies: T Berendes, **R Ramachandran**, S J Graves, M Maskey, C Chidambaram, S A Christopher, P Hogan, T Gaskin

1340h **A33B-0256** *POSTER* Evaluation of the 2006 Canadian Air Quality Modelling Platform for Policy Scenarios: **D Davignon**, J Chen, S Cousineau, L Crevier, A Duhamel, S Gilbert, R Pavlovic, J Racine, M Samaali, M Sassi

1340h **A33B-0257** *POSTER* Particulate Matter Air Quality Assessment using Integrated Surface, Satellite, and Meteorological Products: **P Gupta**, S A Christopher

1340h **A33B-0258** *POSTER* CMAQ validation of optical parameters and PM_{2.5} based on lidar and sky radiometers: **B Gross**, V Vladutescu, E Garafolo, F Moshary, S A Ahmed

A33C Moscone South: Poster Hall Wednesday 1340h
High-Resolution Active Optical Remote Sensing of Atmospheric Processes II Posters

Presiding: **S Ismail**, NASA Langley Research Center; **D M Tratt**, The Aerospace Corporation; **S Lolli**, Leosphere; **G S Peng**

1340h **A33C-0259** *POSTER* Effective Lidar Ratios of Dense Dust Aerosol Layers over North Africa Observed by the CALIPSO Lidar: **Z Liu**, D M Winker, A H Omar, M Vaughan, C R Trepte, Y Hu, C A Hostetler, W Sun, B Lin

1340h **A33C-0260** *POSTER* Enhanced Aerosol Backscatter in the Vicinity of Marine Boundary Layer Clouds Revealed by Satellite-Based Lidar, CALIPSO: **J L Tackett**, L Di Girolamo

1340h **A33C-0261** *POSTER* Development and Initial Testing of a Multi-Sensor Platform for Cloud-Aerosol Interactions in the Lower Troposphere: **A R Nehrir**, D S Hoffman, K S Repasky, B Todt, T Sharpe, C Half Red, J L Carlsten

1340h **A33C-0262** *POSTER* Influence of humidified aerosol on lidar depolarization observed during SHEBA: A M Fridlind, **B van Dienenhoven**, A S Ackerman

1340h **A33C-0263** *POSTER* Measuring Plume Meander in the Nighttime Stable Boundary Layer with Lidar: **A Hiscox**, D R Miller, C J Nappo

1340h **A33C-0264** *POSTER* An automatic Planetary Boundary Layer height retrieval method with compact EZ backscattering Lidar in the frame of ICOS campaign: **S Loaec**, S Lolli, L Sauvage, M Boquet, I Xueref-Remy

1340h **A33C-0265** *POSTER* Active methods to measure multilayer Planetary Boundary Layer Dynamics: **Y Wu**, B Gross

1340h **A33C-0266** *POSTER* Lidar Approach in Estimating Particulate Mass Emissions from a Poultry Production Facility: **P A Lewandowski**, W E Eichinger, J H Prueger, J Hatfield

1340h **A33C-0267** *POSTER* Automated Raman lidar for day and night operational observation of water vapor for meteorological applications: **T Dinoev**, Y Arshinov, S Bobrovnikov, I Serikov, B Calpini, P Ristori, H van den Bergh, V Simeonov

1340h **A33C-0268** *POSTER* Very high spatial and temporal lidar for moisture and temperature monitoring: **F Martin**, I Serikov, P Ristori, C W Higgins, M B Parlange, V Simeonov

1340h **A33C-0269** WITHDRAWN

1340h **A33C-0270** *POSTER* Aerosol remote sensing over land using AATSR: **G De Leeuw**, P Kolmonen, L Sogacheva, A Sundstrom, E Rodriguez

1340h **A33C-0271** *POSTER* Diurnal variation of column NO₂ observed from space: **L C Valin**, A R Russell, R C Hudman, A K Mebust, R C Cohen

1340h **A33C-0272** *POSTER* Validation of GOME-2 UV radiance: **Z Cai**, X Liu, C R Nowlan, K Chance, Y Liu

A33D Moscone South: Poster Hall Wednesday 1340h
Variability of Hydrogen? Containing Constituents of the Middle Atmosphere Posters

Presiding: **S P Sander**, Jet Propulsion Laboratory

1340h **A33D-0273 POSTER** Trends in stratospheric water and methane from the ACE-FTS (*Invited*): **R Nassar**, P F Bernath, K A Walker, C D Boone, C P Rinsland

1340h **A33D-0274 POSTER** Inter-seasonal observations of Mesospheric Hydroxyl by SHIMMER (*Invited*): **C R Englert**, M H Stevens, D E Siskind, J Harlander, F L Roesler

1340h **A33D-0275 POSTER** Observing Odd Hydrogen Species from Space- and Ground-based Instruments - 5-year Aura/MLS HO_x Measurements and 12-year FTUVS OH Column Measurements (*Invited*): **S Wang**, T J Pongetti, S P Sander, N J Livesey, K Li, Y L Yung

1340h **A33D-0276 POSTER** An overview of the Odin/SMR measurements in the polar summer mesopause region: **S Lossow**

1340h **A33D-0277 POSTER** Polar mesospheric descent and stratopause jumps following mid-winter stratospheric sudden warmings as observed in Odin/SMR water vapor and temperature: **V Limpasuvan**, S Lossow, D P Murtagh, Y J Orsolini, J Urban

1340h **A33D-0278 POSTER** Approaching a 30-year Record of Water Vapor Vertical Profiles over Boulder, Colorado: **D F Hurst**, E Hall, A Jordan, K H Rosenlof, S M Davis, H Voemel, S J Oltmans

1340h **A33D-0279 POSTER** Atomic Oxygen, Atomic Hydrogen, and Chemical Energy Deposition Rates Derived from SABER Measured Hydroxyl Airglow in the Mesosphere Region: **J C Mast**, M Mlynczak, F Martin-Torres, A K Smith, D R Marsh, J Yee, B T Marshall, J M Russell

1340h **A33D-0280 POSTER** Water Vapor in the Arctic Winter Stratosphere, Modeling and Soundings: **L Tholix**, L Backman, R Kivi, E Kyrö

1340h **A33D-0281 POSTER** Spectropolarimetric Measurements of Scattered Sunlight in the Huggins Bands: Retrieval of Tropospheric Ozone Profiles: **D Fu**, S P Sander, J Stutz, T J Pongetti, Y L Yung, M Wong, V Natraj, K Li, R Shia

1340h **A33D-0282 POSTER** An Investigation on the Relationship between Hydroxyl and Temperature in the Upper and Middle Atmosphere. Authors: Stephanie Nance, Dr. Kenneth Minschwaner Affiliation: New Mexico Tech Chemistry and Physics Department: **S N Nance**, K R Minschwaner

1340h **A33D-0283 POSTER** OH Column Abundance Apparent Response to Solar Cycle 23: C R Burnett, **K R Minschwaner**

1340h **A33D-0284 POSTER** Diurnal Patterns of Hydroxyl in the Stratosphere and Mesosphere Derived from AURA MLS Observations: **K R Minschwaner**

A33E Moscone West: 3008 Wednesday 1340h
Atmospheric Feedbacks and Climate Change: Necessary Observations and Modeling Improvements II

Presiding: **A E Dessler**, Texas A&M University; **E Fetzer**, Jet Propulsion Laboratory; **B H Kahn**, Jet Propulsion Laboratory

1340h **A33E-01** Stochastic Modeling of Water Vapor in the Climate System: **B Chen**, J Duan, R Pierrehumbert, X Huang

1355h **A33E-02** Water vapor and OLR feedbacks over the recent ENSO cycle: A L Kursinski, **E R Kursinski**, C O Ao

1410h **A33E-03** Investigating the Water Vapor Component of the Greenhouse Effect from the Atmospheric InfraRed Sounder (AIRS): **A Gambacorta**, C Barnet, F Sun, M Goldberg

1425h **A33E-04** Consistent Differences in Climate Feedbacks between Coupled and Atmospheric GCMs: **K M Shell**

1440h **A33E-05** Observationally Based Estimates of Climate Feedbacks: **N D Gordon**, P Forster

1455h **A33E-06** Mechanisms for the weakening of tropical circulation: **C Chou**, C Chen

1510h **A33E-07** An Observed Tropical Oceanic Radiative-Convective Cloud Feedback: **M D Lebsock**, G L Stephens, C D Kummerow

1525h **A33E-08** Interrelations of AIRS/AMSU-derived anomalies and trends of temperature, water vapor, clouds and OLR: **G I Molnar**, J Susskind

A33F Moscone West: 3004 Wednesday 1340h
Composition of the Arctic Atmosphere: Sources, Transport, Chemistry, and Impacts on Clouds and Climate III

Presiding: **C A Brock**, NOAA Earth System Research Laboratory; **C Warneke**, NOAA ESRL

1340h **A33F-01** Source Regions and Transport Pathways for Aerosol in the North American Arctic in April: **J E Dibb**, E M Scheuer, C E Jordan, L K Emmons, B Anderson

1355h **A33F-02** An important contribution to springtime Arctic aerosol from biomass burning in Russia: **C Warneke**, K D Froyd, J Brioude, R Bahreini, C A Brock, J Cozic, J A De Gouw, D W Fahey, R A Ferrare, J Holloway, A M Middlebrook, L Miller, S A Montzka, J P Schwarz, J R Spackman, A Stohl

1410h **A33F-03** CO and Black Carbon contribution of anthropogenic and fire emissions to the pollution in high northern latitudes using aircraft observations and MOZART4 model results: **S Tilmes**, L K Emmons, G Lacressonniere, H Schlager

1425h **A33F-04** Decadal Scale Trends in Aerosol Chemical Composition at Barrow, AK: 1976 – 2008: **P Quinn**, T S Bates, K Schulz, G E Shaw

1440h **A33F-05** Chemical characterization of air masses transported to the Arctic during the ARCTAS-A spring deployment: biomass burning versus fossil fuel combustion signatures: **A Wisthaler**, T Mikoviny, G S Diskin, G W Sachse, J F Burkhart

1455h **A33F-06** Carbon monoxide transport in the Arctic: A joint study using IASI satellite and aircraft data in spring and summer 2008. (*Invited*): **M Pommier**, K Law, C Clerbaux, S Turquety, J Hadji-Lazaro, D Hurtmans, P Coheur, H Schlager, G Ancellet, J Paris, P Nédélec, G S Diskin, J R Podolske, P Bernath

1510h **A33F-07** Source attribution and interannual variability of Arctic pollution in spring constrained by aircraft (ARCTAS, ARCPAC) and satellite (AIRS) observations of carbon monoxide: **J A Fisher**, D J Jacob, M T Purdy, M Kopacz, P Le Sager, C Carouge, C Holmes, R M Yantosca, R Batchelor, K Strong, G S Diskin, H E Fuelberg, J Holloway, E Hyer, W W McMillan, J X Warner, D G Streets, Q Zhang, Y Wang, S Wu

1525h **A33F-08** Budget of Tropospheric Ozone during Spring in the Arctic: **L K Emmons**, S Tilmes, J Lamarque, A J Weinheimer, B A Ridley, F M Flocke, D R Blake, E C Apel

A33G Moscone West: 3006 Wednesday 1340h
Toward a Policy-Relevant, Open, and Transparent Global Greenhouse Gas Monitoring and Information System (GHGIS) II (*joint with B, IN, GC, PA*)

Presiding: **J H Butler**, NOAA Earth System Research Laboratory; **A M Michalak**, University of Michigan; **R M Duren**

1340h **A33G-01** Providing policy-relevant information for greenhouse gas management: Perspectives from science and technology policy research: **L Dilling**

1400h **A33G-02** Challenges for a Greenhouse Gas Information System (*Invited*): **P P Tans**

1420h **A33G-03** Combining atmospheric and ecosystem observations to monitor greenhouse gas budgets in Europe (*Invited*): **P Ciais**, C Aulagnier, P Rayner, P Peylin, F Chevallier, M Reichstein, D Papale

1440h **A33G-04** Top-down Estimation of Emission Strengths of Major Anthropogenic Halocarbons from China Using High-frequency Measurements with HCFC-22/HFC-23 as Tracers: **K Kim**, J Kim, S Li, J Muhle, A Stohl, S Kim, G Lee, R F Weiss

1455h **A33G-05** Remote Sensing of Anthropogenic CO₂ Emissions from Space: **C E Miller**, D Crisp

1510h **A33G-06** Developing a Coherent Observation and Analysis Network: **J H Butler**, R M Duren, D Rotman, P P Tans, J B Miller

1525h **A33G-07** Second Greenhouse Gas Information System Workshop: **S W Boland**, R M Duren, J Mitchiner, D Rotman, E Sheffner, M H Ebinger, C E Miller, J H Butler, P Dimotakis, K Jonietz

A33H Moscone West: 3002 Wednesday 1340h
Wind Power Meteorology II (*joint with PA*)

Presiding: **S Basu**, Texas Tech University; **J R McCaa**, 3TIER;
J K Lundquist, Lawrence Livermore National Laboratory

1340h **A33H-01** Impacts of past and future climate change on wind energy resources in the United States: **J R McCaa**, A Wood, S Eichelberger, K Westrick

1355h **A33H-02** The Impact of Anthropogenic Global Warming on the Wind Power Resource: **D B Kirk-Davidoff**, D Barrie

1410h **A33H-03** Analysis of Numerical Mesoscale Model Data for Wind Integration Studies in the United States: **D Elliott**, M N Schwartz, D Lew, D Corbus, G Scott, S Haymes, Y Wan

1425h **A33H-04** Wind shear at turbine rotor heights from Doppler lidar measurements: **Y Pichugina**, R M Banta, N Kelley, A Brewer, S Sandberg

1440h **A33H-05** Dependence of Wind Turbine Curves on Atmospheric Stability Regimes – An Analysis of a West Coast North American Tall Wind Farm: **S Wharton**, J K Lundquist, J Sharp, M Zulauf

1455h **A33H-06** Interaction of turbine-generated turbulence with agricultural crops: Conceptual framework and preliminary results: **E S Takle**, D A Rajewski, M Segal, R Elmore, J Hatfield, J H Prueger, S E Taylor

1510h **A33H-07** Nested high-resolution large-eddy simulations in WRF to support wind power: **J Mirocha**, G Kirkil, B Kosovic, J K Lundquist

1525h **A33H-08** The Bolund Experiment: Blind Comparison of Models for Wind in Complex Terrain (*Invited*): **A Bechmann**, J Berg, M Courtney, H Jørgensen, J Mann, N Sørensen

Atmospheric and Space Electricity

AE33A Moscone South: Poster Hall Wednesday 1340h
Effects of Thunderstorms and Lightning on the Atmosphere-Ionosphere System II Posters (*joint with A, P, SA*)

Presiding: **C Hanuise**, LPC2E/CNRS

1340h **AE33A-0285 POSTER** Lightning-related HF pulses measured by the DEMETER satellite: **D Pisa**, O Santolik, M Parrot

1340h **AE33A-0286 POSTER** Sensitivity Degradation of the ISUAL instruments and its impact to the observations: **A B Chen**, C CHIANG, Y Hwang, Y Wu, C Kuo, R Hsu, H Su, S Lin, T Liu, S B Mende, H U Frey, Y Takahashi, L Lee

1340h **AE33A-0287 POSTER** Current moment waveforms in sprite/halo producing lightning derived from satellite optical measurements: **T Adachi**, S A Cummer, J Li, N G Lehtinen, Y Takahashi, R Hsu, H Su, A B Chen, S B Mende, H U Frey

1340h **AE33A-0288 POSTER** Time Series Analyses of Transient Luminous Events and Lightning at a Few Selected Geographic Regions: **Y Wu**, A B Chen, C Kuo, L Lee, H Su, R Hsu, C Chen, C CHIANG, S B Mende, H U Frey, Y Takahashi, L Lee

1340h **AE33A-0289 POSTER** Halo Observations from the Ground and from Space: Further Checks on the Sprite Polarity Paradox: **E Williams**, C Kuo, J Bor, G Satori, R T Newsome, R A Boldi, E Downes, M M Saba, M J Taylor, A B Chen, W A Lyons

1340h **AE33A-0290 POSTER** Results of sprites, lightning activities and thunderstorms in Chinese mainland: **J Yang**, X Qie, G Feng

1340h **AE33A-0291 POSTER** Elve Doublets: Observations and Potential Causative Mechanisms: **R T Newsome**, U S Inan

1340h **AE33A-0292 POSTER** Estimation of Electric Charge in Sprites: **J Li**, S A Cummer

1340h **AE33A-0293 POSTER** Air Heating Associated with Transient Luminous Events: **J A Rioussset**, V P Pasko, A Bourdon

1340h **AE33A-0294 POSTER** A Possible Physical Mechanism for Luminosity in Sprite Streamer Trails: **N Liu**

AE33B Moscone South: Poster Hall Wednesday 1340h
Runaway Electrons and Energetic Radiation in Terrestrial and Planetary Atmospheres II Posters (*joint with A, SA*)

Presiding: **D M Smith**, UCSC; **K Eack**, New Mexico Tech

1340h **AE33B-0295 POSTER** The Tropical Cyclones as the Possible Sources of Gamma Emission in the Earth's Atmosphere: **S I Klimov**, E A Sharkov, L M Zelenyi

1340h **AE33B-0296 POSTER** Comparison of thunderstorm systems that produce or lack RHESSI identified terrestrial gamma ray flashes: **M E Splitt**, D E Barnes, J R Dwyer, H Rassoul, S M Lazarus, D M Smith, E S Cramer, M Schaal, Z H Saleh, W Ulrich, B Grefenstette, B J Hazelton

1340h **AE33B-0297 POSTER** GBM TGFs and the WWLLN: **V Connaughton**, M S Briggs, G J Fishman, R H Holzworth, N Bhat, W S Paciasas

1340h **AE33B-0298 POSTER** Classification and implications of sferics associated with terrestrial gamma-ray flashes: **G Lu**, S A Cummer, F Han, D M Smith

1340h **AE33B-0299 POSTER** An overview of the first RHESSI catalog of terrestrial gamma-ray flashes (TGFs) and the influence of the tropopause height on the detection efficiency of TGFs: **B Grefenstette**, D M Smith, B J Hazelton, J R Dwyer

1340h **AE33B-0300 POSTER** Modeling RHESSI TGFs as a distribution in source altitude, distance, beaming direction and luminosity: **B J Hazelton**, D M Smith, B Grefenstette, J R Dwyer, E H Lay, R H Holzworth

1340h **AE33B-0301 POSTER** TGF imaging with the coded mask imager MXGS on the ASIM mission to the ISS: **P H Connell**

1340h **AE33B-0302 POSTER** A Ground-Based Campaign in Search of Terrestrial Gamma-ray Flashes Associated with Thunderclouds and Lightning: **M Schaal**, J R Dwyer, Z H Saleh, H Rassoul, S M Lazarus, M E Splitt, W Ulrich, E Cramer, D M Smith, B J Hazelton, B Grefenstette

1340h **AE33B-0303 POSTER** Characterization of X-ray Emission from Natural and Rocket-and-Wire Triggered Lightning: **Z H Saleh**, J R Dwyer, H Rassoul, M Schaal, E S Cramer, J D Hill, C J Biagi, D M Jordan, M V Stapleton, M A Uman

1340h **AE33B-0304 POSTER** 2009 Observations of X-rays at South Baldy Peak: **J Lundberg**, R Millan

1340h **AE33B-0305 POSTER** A Compact Monitoring System for Recording X-Rays, Gamma Rays and Neutrons Generated By Atmospheric Lightning Discharges and Other Natural Phenomena: **I M Martin**, M A Alves

1340h **AE33B-0306 POSTER** Modeling Observed Fermi Terrestrial Gamma-ray Flashes: **E S Cramer**, J R Dwyer, H Rassoul, G J Fishman, M S Briggs, V Connaughton, D M Smith, M E Splitt, S M Lazarus, Z H Saleh, M Schaal, D E Barnes, M Cwikla

1340h **AE33B-0307 POSTER** Positron production during relativistic runaway processes associated with thunderstorms: **J R Dwyer**, D M Smith, H Rassoul, E S Cramer, M Schaal, Z H Saleh, B Grefenstette, B J Hazelton, M E Splitt, S M Lazarus, G J Fishman, M S Briggs, V Connaughton

1340h **AE33B-0308 POSTER** Terrestrial Gamma-ray Flash Production by Lightning Current Pulses: **B E Carlson**, N G Lehtinen, U S Inan

1340h **AE33B-0309 POSTER** The Effects of Inhomogeneous Fields on Electron Distribution Functions in the Thermal Runaway Regime: **J Colman**, R A Roussel-Dupre

1340h **AE33B-0310 POSTER** Production of Runaway Electrons in Conventional Atmospheric Discharges: **O Chanrion**, T Neubert

1340h **AE33B-0311 POSTER** Stratospheric Radiation Environment measurements, calibrations and pattern recognition by CERN MEDIPIX-2 and TIMEPIX Radiation Imaging Detectors on ESA BEXUS campaigns: **J Urbar**, J Jakubek, J Scheirich

Biogeosciences

B33A Moscone South: Poster Hall Wednesday 1340h
Climate Change and Biogeophysical Impacts Across Elevation and Latitude: Are Mountains Different From Poles? II Posters
(joint with A, C, GC, H)

Presiding: **J S Littell**, University of Washington; **J A Hicke**, University of Idaho; **J D Lundquist**, University of Washington; **C T Driscoll**; **J L Campbell**, USDA Forest Service; **G T Pederson**, U.S. Geological Survey

1340h **B33A-0359 POSTER** Climate controls on anomalously high productivity in the mixed conifer forests of the Sierra Nevada: **A E Kelly**, M L Goulden

1340h **B33A-0360 POSTER** THE ROLE OF COLD-AIR DRAINAGE IN EXPLAINING SPATIAL PATTERNS OF TEMPERATURE TRENDS IN THE WESTERN U.S.: **N C Pepin**, C Daly, J D Lundquist

1340h **B33A-0361 POSTER** Recent increase in maximum temperature at the tropical treeline of North America: **F Biondi**

1340h **B33A-0362 POSTER** Small mammals and high elevation vegetation in Yosemite National Park could be responding to smaller temperature increases than previously reported: **D R Conklin**, C Daly

1340h **B33A-0363 POSTER** 20th Century Trends In The Maximum And Minimum Temperatures In Colorado's San Juan Mountains: **I Rangwala**, J R Miller

1340h **B33A-0364 POSTER** Climate Change and the Water Vapor Feedback at High Altitudes and Latitudes: **J R Miller**, I Rangwala, Y Chen, G Russell

1340h **B33A-0365 POSTER** Climate and 20th century establishment in alpine treeline ecotones of the western US: **J S Littell**, G T Pederson, L J Graumlich, M J Germino, E Rowland

1340h **B33A-0366 POSTER** Structural and Geomorphic Controls in Altitudinal Treeline: a Case Study in the Front Ranges of the Canadian Rocky Mountains: **M Macias Fauria**, E A Johnson

1340h **B33A-0367 POSTER** Drivers of aboveground primary production and litter accumulation in grass dominated systems: **L R O'Halloran**, E Borer, C Chu, E E Cleland, N DeCrappeo, A MacDougall, R L McCulley, E Seabloom, E M Wolkovich

1340h **B33A-0368 POSTER** Meteorological Controls On The Energy Balance And CO₂ Over Alpine Tundra At Niwot Ridge, Colorado: **J F Knowles**, P Blanken, M W Williams

1340h **B33A-0369 POSTER** Predicting Individual Tree and Shrub Species Distributions with Empirically Derived Microclimate Surfaces in a Complex Mountain Ecosystem in Northern Idaho, USA: **Z Holden**, S Cushman, J Evans, J S Littell

1340h **B33A-0370 WITHDRAWN**

1340h **B33A-0371 POSTER** Climate Change Responses of Hydrologic Flowpaths in Mountainous and Polar Regions: **S Godsey**, M N Gooseff, J W Kirchner, C Tague

1340h **B33A-0372 POSTER** IPY-Back to the Future: Determining decadal time scale change in ecosystem structure and function in high latitude and high altitude tundra ecosystems: **D R Johnson**, S Villarreal, M Lara, P J Webber, T Callaghan, D Hik, C E Tweedie

1340h **B33A-0373 POSTER** Downscaling to the Climate Near the Ground: Measurements and Modeling Along the Macro-, Meso-, Topo-, and Microclimate Hierarchy: **C Van de Ven**, S B Weiss

1340h **B33A-0374 POSTER** Multi-Scale Influences of Climate, Spatial Pattern, and Positive Feedback on 20th Century Tree Establishment at Upper Treeline in the Rocky Mountains, USA: **G P Elliott**

1340h **B33A-0375 POSTER** Plant Water Use Efficiency Response to the Atmospheric CO₂ Concentration is Greater in High Altitude Environments: **X Feng**, G Wang

1340h **B33A-0376 POSTER** Biotic Responses of Headwater Streams to Geophysical Alteration and Disturbance Related to Climate Change: **R E Gresswell**, E R Sedell, S Cannon, S W Hostetler, J E Williams, A L Haak, J L Kershner

1340h **B33A-0377 POSTER** Holocene Paleoenvironment of the North-central Great Basin: Preliminary Results from Favre Lake, Northern Ruby Mountains, Nevada: **S Starratt**, D Wahl, E Wan, L Anderson, J Wanket, H Olson, T Lloyd-Davies, J Kusler

1340h **B33A-0378 WITHDRAWN**

1340h **B33A-0379 POSTER** Using an Inverse Geochemical Reaction Path Model to Analyze the Effects of Climate Change on High-elevation Catchments in the Southern Rocky Mountains: **J M Driscoll**, T Meixner, P D Brooks, J C McIntosh, M W Williams, N P Molotch, J O Sickman

1340h **B33A-0380 POSTER** Phosphorous in the Sierra Nevada: Forms, mechanisms, and timing of release in high-elevation soils: **P M Homyak**, J O Sickman, J M Melack

1340h **B33A-0381 POSTER** Are All Headwater Catchments the Same? Elevational Controls on Organic and Inorganic Nutrients in Headwater Catchments in the Boulder Creek Watershed, Colorado Front Range: **J Parman**, M W Williams

1340h **B33A-0382 POSTER** Explaining the Spatial Variability in Stream Acid Buffering Chemistry and Aquatic Biota in the Neversink River Watershed, Catskill Mountains, New York State: **A A Harpold**, M T Walter

1340h **B33A-0383 POSTER** Effects of Climate Change on Alpine Lakes in the Georgia Basin, British Columbia, Canada: **D M Strang**, J Aherne

1340h **B33A-0384 POSTER** Climate induced changes in high-elevation lake chemistry and the importance of sulfide weathering: **A Mast**, A Holland-Sears

B33B Moscone South: Poster Hall Wednesday 1340h
Ecosystem Models, Data Assimilation, and Flux Networks:
Synthesis Efforts From Regional to Global Scales I Posters
(joint with A, EP)

Presiding: **D D Baldocchi**, University of California, Berkeley;
R Vargas, University of California-Berkeley; **M Goeckede**, Oregon
State University

1340h **B33B-0385 POSTER** Ultrasonic anemometer angle of attack
errors under turbulent conditions: **T Nakai**

1340h **B33B-0386 WITHDRAWN**

1340h **B33B-0387 POSTER** Vertical structure of evapotranspiration
at a spruce forest site: **K Staudt**, E Falge, A Serafimovich, D Pyles,
T Foken

1340h **B33B-0388 POSTER** Landscape Level Carbon and Water
Balances and Agricultural Production in Mountainous Terrain of
the Haean Basin, South Korea: **B Lee**, R Geyer, B Seo, S Lindner,
G Walther, J D Tenhunen

1340h **B33B-0389 POSTER** Capturing Crop Response to
Climate and Management Variability in Models: Evaluation Using
FLUXNET Data with Applications at the Regional Scale: **T E Twine**,
C J Kucharik

1340h **B33B-0390 POSTER** Water Conditions Regulate Temperature
Dependence of Ecosystem CO₂ Exchange from a Case Study to a
Variety of Ecosystem Types across Ameriflux: **S Ma**, D D Baldocchi

1340h **B33B-0391 POSTER** A Spectral Evaluation of Models
Performances in Mediterranean Oak Woodlands: **R Vargas**,
D D Baldocchi, G Abramowitz, A Carrara, A Correia, H Kobayashi,
D Papale, D Pearson, J Pereira, S Piao, S Rambal, O Sonnentag

1340h **B33B-0392 POSTER** Sequential Parameter Estimation of a
Terrestrial Ecosystem Model Against Eddy Covariance Measurements
by Smoothed Ensemble Kalman Filter: **M Chen**, S Liu, W Yuan,
H Liu, J T Randerson

1340h **B33B-0393 POSTER** Decision Support Process for CO₂
Monitoring Network Design, as applied to the North American
Permafrost Region: **C A Creelman**, D A Risk, N R Nickerson,
K Simpson, E Bourlon

1340h **B33B-0394 WITHDRAWN**

1340h **B33B-0395 POSTER** An Amazon basin-wide intercomparison
of ecosystem land surface models and flux observations: Results
from the LBA-MIP: **B J Christoffersen**, A Araujo, I T Baker,
M H Costa, L Goncalves, H Imbuzeiro, B Kruijt, A Manzi, B Poulter,
C von Randow, N Restrepo-Coupe, H R da Rocha, S R Saleska

1340h **B33B-0396 POSTER** Land Surface Modeling of an Enclosed
Ecosystem: Vegetation Response to Short-Term Perturbations
Inside Biosphere 2 Tropical Rainforest Biome: **R Rosolem**, X Zeng,
W J Shuttleworth, S R Saleska, T E Huxman

1340h **B33B-0397 POSTER** Climate controls of NEE: **C Yi**

1340h **B33B-0398 POSTER** Comparison of Modeling Approaches
for Carbon Partitioning: Impact on Estimates of Global Net Primary
Production and Equilibrium Biomass of Woody Vegetation from
MODIS GPP: **T Ise**, C M Litton, C P Giardina, A Ito

1340h **B33B-0399 POSTER** Impacts of land use/cover change on
ecosystem services for Xiamen: **L Shi**, S Cui

B33C Moscone South: Poster Hall Wednesday 1340h
Molecular Biogeochemical Impressionism: Painting the Big
Carbon Picture With Many Small Strokes I Posters (joint with
PP, OS)

Presiding: **G Mollenhauer**, Alfred-Wegener Institute; **N Drenzek**,
Schlumberger-Doll Research

1340h **B33C-0400 POSTER** High-Precision Measurement of ¹³C/¹²C
Isotopic Ratio Using Gas Chromatography-Combustion-Cavity Ring-
Down Spectroscopy: **N Saad**, D S Kuramoto, C Haase, E Crosson,
S Tan, R N Zare

1340h **B33C-0401 POSTER** The effect of flood events on the
partitioning of labile and refractory carbon in the Missouri-
Mississippi River system: **K M Roe**, B E Rosenheim, A Kolker,
M A Allison, J A Nittroer, D D Duncan, J A Nyman, K A Butcher,
J F Adamic

1340h **B33C-0402 POSTER** Riverine Export of Terrestrial Organic
Carbon Investigated by Radiocarbon Dating of Lignin Phenols in
River-influenced Marine Core-top Sediments: **G Mollenhauer**,
Y Huang, R Kreutz, S Kusch, J Rethemeyer, E Schefuss

1340h **B33C-0403 POSTER** Stability of Soil Carbon Fractions
– from molecules to aggregates: **C W Mueller**, K E Mueller,
K H Freeman, D Eissenstat, I Kögel-Knabner

1340h **B33C-0404 POSTER** A quantitative and qualitative
comparison of aquatic and terrestrial plant lignin phenols: Critical
information for paleoecological reconstructions: **E K Thomas**,
L Gao, Y Huang

1340h **B33C-0405 POSTER** Occurrence and distribution of GDGTs
in the free and bound lipid fractions from podzols: implications
for the reconstruction of mean air temperature: **A Huguet**, C Fosse,
P Metzger, S Derenne

1340h **B33C-0406 POSTER** Plant species controls on atmospheric
CH₄ oxidation by soil: **O V Menyailo**, W Abraham, R Conrad

1340h **B33C-0407 POSTER** Molecular Insights into Plant-Microbial
Processes and Carbon Storage in Mangrove Ecosystems: **I C Romero**,
S E Ziegler, M Fogel, M Jacobson, J A Fuhrman, D G Capone

1340h **B33C-0408 POSTER** Polycyclic Aromatic Hydrocarbons
(PAHs) as Biomarkers of Regional Fire in the Paleorecord: **E H Denis**,
J L Toney, R Taroza, R S Anderson, L D Roach, Y Huang

1340h **B33C-0409 POSTER** Carbon Concentrating Mechanisms
& C₄ Enzymes In Marine Phytoplankton: **A Moolna**, M Hermoso,
R Rickaby

1340h **B33C-0411 POSTER** The genomic potential of Marinobacter
aquaeolei – A biogeochemical opportunist: **E Singer**, E Webb,
W Nelson, J Heidelberg, K J Edwards

B33D Moscone South: Poster Hall Wednesday 1340h
Urban Areas and Global Change II Posters (joint with PA, A, GC)

Presiding: **K A Hibbard**, NCAR; **G Churkina**, Leibniz Centre for
Agricultural Landscape Research

1340h **B33D-0412 POSTER** Urban Carbon Dioxide Concentration
and Flux Measurements from a Building Rooftop in Boston,
Massachusetts: **M J Potosnak**, M A Friedl, N Phillips, L Hutyrá,
A Sibley

1340h **B33D-0413 POSTER** Measurements of Carbon Dioxide in the
Portland, Oregon Metropolitan Region: **G A Bostrom**, A L Rice

1340h **B33D-0414 POSTER** Long-term results from an urban CO₂
monitoring network: **J Ehleringer**, D E Pataki, C Lai, A Schauer

1340h **B33D-0415 POSTER** Weekly and Seasonal Trends in the
Diurnal Variation of CO₂ Mixing Ratio in Pasadena, CA:
S Newman, E M Stolper

1340h **B33D-0416 POSTER** Direct measurements of CO₂ fluxes in
an urban area of Beijing city: **H Liu**, J Feng

1340h **B33D-0417 POSTER** Reconciling Latent and Sensible
Energy Fluxes with Footprints in a Heterogeneous Landscape at an
Urban-suburban Tower near Baltimore, Maryland: **N Z Saliendra**,
J L Hom, R V Pouyat, D Nowak, G M Heisler, M Petterson, I Yesilonis,
B Crawford, S Grimmer

1340h **B33D-0418** POSTER Explorative Observations of the Urban Climate System in the Rotterdam Metropolis: C M Jacobs, L W van Hove, B G Heusinkveld, G Steeneveld, **C van Heerwaarden**, J A Elbers

1340h **B33D-0419** POSTER Urban heat island effects human heat-stress values in Portland (OR) during the July 2006 heat wave: **R D Bornstein**, A Melford

1340h **B33D-0420** POSTER Characterization of urban heat island effects over Asian megacities with hourly LST maps derived from Japanese geostationary satellite data: **K Oyoshi**, M Tamura

1340h **B33D-0421** POSTER ENERGY AND MASS FLUX SIMULATIONS IN URBAN AREA USING THE ACASA MODEL: **S Marras**, D Spano, R D Pyles, M Falk, C Sirca, F Miglietta, R L Snyder, K Paw U

1340h **B33D-0422** POSTER URBAN EFFICIENT ENERGY EVALUATION IN HIGH RESOLUTION URBAN AREAS BY USING ADAPTED WRF-UCM AND MICROSYS CFD MODELS: **R San Jose**, J L Perez, R M Gonzalez

1340h **B33D-0423** POSTER Development of the multi-scale model for urban climate analysis and evaluation of urban greening effects on energy consumption: **H Hamano**, T Nakayama, T Fujita, H Hori, H Tagami

1340h **B33D-0424** POSTER A Note on Climate Impacts of a Potential Expansion of Urban Land in Europe: **K Trusilova**, M Jung, G Churkina

1340h **B33D-0425** POSTER Land Cover Changes between 1974 and 2008 in Ulaanbaatar, Mongolia: **H Bagan**, T Kinoshita, Y Yamagata

1340h **B33D-0426** POSTER Evaluation Of Urban Land Cover And Land Use - Large Scale Quantification And Characterization From Satellite-Based Remote Sensing: **G Z Xian**, C Homer

1340h **B33D-0427** POSTER Urban Impact at the Urban-Agricultural Interface in Madison, WI: an Ecosystem Modeling Approach: **K E Logan**, C J Kucharik, A Schneider

1340h **B33D-0428** POSTER Storage of Organic and Inorganic Carbon in Human Settlements: **G Churkina**

1340h **B33D-0429** POSTER Ozone flux of an urban orange grove: multiple scaled measurements and model comparisons: **K P Alstad**, N E Grulke, D G Jenerette, S Schilling, K Marrett

B33E Moscone West: 3018 Wednesday 1340h
Dynamics of Dissolved Organic Matter in Watersheds I (*joint with H, PA*)

Presiding: **M F Benedetti**, Institut de Physique du Globe de Paris; **H Wilson**, Yale University; **N Xu**, Yale University

1340h **B33E-01** A model of degradation and production of three pools of dissolved organic matter in an alpine lake (*Invited*): **D M McKnight**, M Miller, S Chapra, M W Williams

1355h **B33E-02** pH-Differential Spectroscopy of Dissolved Organic Matter: Contributions of Protonation-Active Functionalities and Their Site-Specificity (*Invited*): **G V Korshin**, D J Dryer, M F Benedetti, M Fabbriano

1410h **B33E-03** Analysis on DOC transformation in a forested catchment using stable carbon isotope values: **N Ohte**, Y Takahashi, M Itoh, M Katsuyama, M Fujimoto, N Matsuo, M Tani

1425h **B33E-04** Temperature and Hydrological Controls on Dissolved Organic Matter Mobilization and Transport within forest soils: **N Xu**, J E Saiers

1440h **B33E-05** Is the Composition of Dissolved Organic Carbon Changing in Upland Acidic Streams?: J J Dawson, **C Soulsby**, S Middlemas, D Tetzlaff, I Malcolm

1455h **B33E-06** Linking Carbon Quality to In-stream Nitrogen Processing, Boulder Creek, Colorado: **R T Barnes**, R L Smith

1510h **B33E-07** Influence of solar radiation on DOM release from resuspended Florida Bay sediments: **G C Shank**, A Evans, R Jaffé, Y Yamashita

1525h **B33E-08** Photochemical Transformation and Bacterial Utilization of Dissolved Organic Matter and Disinfection Byproduct Precursors from Foliar Litter: **A T Chow**, P Wong, A T O'Geen, R A Dahlgren

B33F Moscone West: 3016 Wednesday 1340h
Remote Sensing of Vegetation Processes II (*joint with GC, H, A*)

Presiding: **E Middleton**, NASA/Goddard Space Flight Center; **M Drusch**, ESA ESTEC

1340h **B33F-01** Monitoring dynamical vegetation processes with solar-induced chlorophyll fluorescence measurements from space (*Invited*): **J F Moreno**, L Guanter, L Alonso, L Gomez-Chova, M Drusch, S Kraft, B Carnicero, J Bezy

1355h **B33F-02** Linking chlorophyll fluorescence, hyperspectral reflectance and plant physiological responses to detect stress using the photochemical reflectance index (PRI) (*Invited*): **J C Naumann**, D Young, J Anderson

1410h **B33F-03** Modelling GPP and chlorophyll fluorescence using SCOPE (*Invited*): **C van der Tol**, W Verhoef

1425h **B33F-04** Multi Spectral LiDAR modeling of forest structure and physiology (*Invited*): **C J Nichol**, F Morsdorf, T Malthus, I Woodhouse

1440h **B33F-05** Utilizing NASA Satellite Missions to Identify Bark Beetle Infestation in Sequoia National Park: **M E Newcomer**, J E Bird, S M Sabatine, G C Sady, A M Stalzer, T A Wheeler, J W Skiles, C Schmidt

1455h **B33F-06** WITHDRAWN

1510h **B33F-07** Biosphere Changes Observed from Space over Last Decade: **N Gobron**, B Pinty, A Belward, M Robustelli

1525h **B33F-08** FROM POINT TO GLOBE: UP-SCALING CARBON AND WATER FLUXES FROM FLUXNET EDDY COVARIANCE TOWER VIA INTEGRATION WITH GLOBAL EARTH OBSERVATION: **M Reichstein**, M Jung, C Beer, E Tomelleri, D D Baldocchi, N Gobron, C Roedenbeck, D Papale

Cryosphere

C33A Moscone South: Poster Hall Wednesday 1340h
Mechanical Constitutive Behavior of Ice-Containing Materials Posters

Presiding: **H Loewe**, WSL Institute for Snow and Avalanche Research SLF; **M Schneebeli**, WSL Inst. Snow & Avalanche Research SLF

1340h **C33A-0478** POSTER Differences between the lab-scale fracture of frozen-rewarmed antarctic sea ice versus larger-scale in-situ fracture (*Invited*): **J P Dempsey**, D Cole

1340h **C33A-0479** POSTER Heterogeneous microstructures and macroscopic creep behavior of polycrystalline ice (*Invited*): **R Lebensohn**

1340h **C33A-0480** POSTER Micromechanical modelling of partially molten and sand reinforced polycrystalline ice: **O Castelnau**, P Duval

1340h **C33A-0481** POSTER Transient creep of snow and the structural evolution of the ice network: **H Loewe**, T Theile, M Schneebeli

1340h **C33A-0482 POSTER** A Viscoelastic Constitutive Relation Describing Primary and Secondary Creep and Solid Elastic Behaviour of Ice: **P Riesen**, K Hutter, M Funk

1340h **C33A-0483 POSTER** Characterizing the heterogeneities of deformation in ice polycrystal: **M Montagnat**, S Piazzolo, F Grennerat, O Castelnau, P Bastie, P Duval

1340h **C33A-0484 POSTER** A mesoscopic model of low-density snow under rapid loading: **J H Lee**, D Huang

1340h **C33A-0485 WITHDRAWN**

1340h **C33A-0486 POSTER** The jammed-to-mobile transition in frozen sand under stress: **W B Durham**, A Pathare, L A Stern, H J Lenferink

1340h **C33A-0487 POSTER** Local Variations in Polar Ice Rheology Revealed by Structural Analysis: **S H Faria**, V Bendel, K J Ueltzhöffer, S Kipfstuhl, I Weikusat, W F Kuhs, C S Garbe

C33B Moscone South: Poster Hall Wednesday 1340h
Recent Advances in Monitoring, Measuring, and Modeling Snow Processes Posters (*joint with H*)

Presiding: **D G Marks**, USDA ARS NWRC; **A H Winstral**, USDA-ARS NWRC

1340h **C33B-0488 POSTER** A Machiavellian choice for the AMSR-E SWE operational product ? (*Invited*): **M Tedesco**

1340h **C33B-0489 POSTER** 1996-2007 Interannual Spatio-Temporal Variability in Snowmelt in Two Montane Watersheds: **S M Jepsen**, N P Molotch, K E Rittger

1340h **C33B-0490 WITHDRAWN**

1340h **C33B-0491 POSTER** Parameterization of large scale snow redistribution models using high-resolution information: tests in an alpine catchment (*Invited*): **M K MacDonald**, J W Pomeroy, A Pietroniro

1340h **C33B-0492 POSTER** 'Scaling Down' Remote Sensing Technologies for In Situ Monitoring of Snowpacks: J Frolik, **C Skalka**

1340h **C33B-0493 POSTER** Simulations of Snow Redistribution in Marmot Creek with a Coupled Multiscale Atmospheric-Land Surface-Blowing Snow Model: **E H Guzman**, J W Pomeroy, A Pietroniro

1340h **C33B-0494 POSTER** On the mechanisms of sensible heat transfer between snow and a cold atmosphere: **W Helgason**, J W Pomeroy

1340h **C33B-0495 POSTER** Climate Change Impacts on Mountain Snowpack in a Pacific Northwest Watershed (*Invited*): **E A Sproles**, A W Nolin

1340h **C33B-0496 POSTER** Inverting MODIS Snow Covered Area in a Hydrology Model: **A G Slater**, M P Clark

1340h **C33B-0497 POSTER** Integration of a snow slide routine into a 3 dimensional snow model (SnowTran-3D): **M Bernhardt**, G E Liston, G Zängl, K Schulz

1340h **C33B-0498 POSTER** GROUND BASED REMOTE SENSING OF SNOWFALL THROUGH ACTIVE AND PASSIVE SENSOR SYNERGY: S Kneifel, U Loehnert, **A Battaglia**, S Crewell, M Hagen, L Hirsch

1340h **C33B-0499 POSTER** In-situ measurement of the temporal evolution of the thermal conductivity of alpine snow layers: **S Morin**, F Domine, L Arnaud, G Picard, H Jacobi, J Willemet

1340h **C33B-0500 POSTER** A five-year record of radiative and hydrologic forcing by desert dust in the Colorado River Basin: **S Skiles**, T H Painter, A Barrett

1340h **C33B-0501 POSTER** Radiative forcing by desert dust in the Colorado River Basin from 2000 to 2009 inferred from MODIS data: **A C Bryant**, T H Painter

1340h **C33B-0502 POSTER** A 25-year Simulation of Snow Deposition and Melt over a Semiarid Mountain Catchment: **D G Marks**, M L Reba, A H Winstral, M Kumar

1340h **C33B-0503 POSTER** Fiber Optic Distributed Temperature Sensing of Snow: **H Huwald**, C W Higgins, M Diebold, M Lehning, S W Tyler, J S Selker, M B Parlange

1340h **C33B-0504 POSTER** Design and implementation of a snow measurement network using ground-based wireless networks and space-borne measurements in the American River Basin of California: **R Rice**, R C Bales, M W Meadows, B Kerkez, S D Glaser, M Anderson, D G Marks, A Mazurkiewicz, J Dozier, B J McGurk

1340h **C33B-0505 POSTER** Estimating Snow Depth Using GPS: **J J Braun**, K M Larson, E D Gutmann, V U Zavorotny, M W Williams, E E Small, F G Nievinski

1340h **C33B-0506 POSTER** Heated rain gauge measurement error at two high-elevation sites in the Italian Alps: **P Allamano**, P Claps, F Larcher

1340h **C33B-0507 POSTER** An Integrated Uncertainty Analysis and Ensemble-based Data Assimilation Framework for Operational Snow Predictions: **M He**, T S Hogue, K Franz, S A Margulis, J A Vrugt

1340h **C33B-0508 POSTER** Snowmelt timing and duration in the Eastern Sierra Nevada based on 10 years of MODIS fractional snow-covered area data: **E H Bales**, X Meng, R C Bales

1340h **C33B-0509 POSTER** Snow Radiance Assimilation Studies: **E J Kim**, M T Durand, A Toure, S A Margulis, K GOITA, A Royer, H Lu

1340h **C33B-0510 POSTER** Evolution of temporal and spatial variations in snowpack temperatures in the Sierra Nevada: S W Tyler, **M Worndl**, J Dozier, C E Hatch

C33C Moscone South: Poster Hall Wednesday 1340h
Snow and Ice Surface Roughness and Remote Sensing: Microstructural and Near-Infrared Snow Measurements I Posters

Presiding: **U C Herzfeld**, Univ Colorado Boulder; **H Mayer**, University of Colorado; **M Tedesco**

1340h **C33C-0511 POSTER** Performance assessment of a small LIDAR altimeter deployed on unmanned aircraft for glacier and sea ice surface topography profiling: **R I Crocker**, J A Maslanik, S E Palo, C Fowler, J Adler, U C Herzfeld, M M Fladeland, E C Weatherhead, M Angier

1340h **C33C-0512 POSTER** Ice Surface Classification using Geo-Statistical Texture-Parameters: **B F Wallin**, U C Herzfeld

1340h **C33C-0513 POSTER** Ice Surface Roughness from GRS and ATM Data for Validation of Satellite Altimeter Data and Environmental Change Detection: **H Mayer**, U C Herzfeld, W B Krabill, R I Crocker, S Manizade, S L Sucht

1340h **C33C-0514 POSTER** Antarctic dust and paleowind speed from an automated synthesis of ice core records: **R C Bay**, R A Rohde, B Price, N E Bramall

1340h **C33C-0515 POSTER** Helicopter borne radar derived snow thickness estimates over fast ice in East Antarctica: **N Galin**, T Markus, A P Worby, C Leuschen, P S Gogineni

1340h **C33C-0516 POSTER** Assessing the use of dual-polarization RADARSAT-2 ScanSAR imagery for operational sea ice monitoring: **J A Casey**, R E Kelly, S J Prinsenberg, I Peterson

1340h **C33C-0517 WITHDRAWN**

1340h **C33C-0518** *POSTER* Characterize the Microstructural Evolution of Dry Snow using X-Ray Computed Micro-tomography and Scanning Electron Microscopy: **S Chen**, I Baker
 1340h **C33C-0519** *POSTER* Effect of snow impurities and vertical profile on snow albedo and reflectance: **T Tanikawa**, K Stamnes, T Aoki, K Kuchiki, A Hachikubo, K Sugiura
 1340h **C33C-0520** *POSTER* NIR photography results from the 2009 Ground Passive and Active Snow (GAPS) Experiment (*Invited*): **N Steiner**, M Tedesco

C33D Moscone West: 3014 Wednesday 1340h
Glacier and Ice Sheet Hydrology: Processes in Subglacial Environments II (*joint with H*)

Presiding: **S W Vogel**, Northern Illinois University; **M Tranter**, University of Bristol; **M Studinger**, Lamont-Doherty Earth Observatory

1340h **C33D-01** Sliding, subglacial hydrology and freeze-on. (*Invited*): **A W Rempel**
 1355h **C33D-02** Subglacial bedforms and water distribution beneath Rutford Ice Stream, West Antarctica (*Invited*): **E C King**, R C Hindmarsh, C Stokes, H D Pritchard
 1410h **C33D-03** Basal Reflectivity and Bed Conditions Along the US-ITASE Traverse, Taylor Dome to South Pole: **R W Jacobel**, B Youngblood, K Lapo, J Olson, J Stamp, B C Welch, J Werner, J L Bamber
 1425h **C33D-04** Anisotropic basal roughness beneath upper Thwaites Glacier, West Antarctica: **J A MacGregor**, R Boon, S Anandakrishnan, R B Alley, A M Hoch, I R Joughin
 1440h **C33D-05** Correlating lake drainage and ice velocity near the margin of the Greenland ice sheet: **G A Catania**, T Neumann, J Clark
 1455h **C33D-06** Estimating englacial radar attenuation using depth profiles of the returned power, central West Antarctica: **K Matsuoka**, D Morse, C F Raymond
 1510h **C33D-07** Oscillations and arborescent structures in coupled cavity-channel drainage: **C Schoof**
 1525h **C33D-08** Direct evidence for an efficient, variable-pressure, channelised drainage system at the bed of the Greenland Ice Sheet: **J L Wadham**, G P Lis, P W Nienow, A Hubbard, D Mair, A Watson, I Bartholomew, A Sole

Education and Human Resources

ED33A Moscone South: Poster Hall Wednesday 1340h
Education and Communication for Climate Literacy and Energy Awareness IV Posters (*joint with PA, GC*)

Presiding: **S M Buhr**, University of Colorado

1340h **ED33A-0538** WITHDRAWN
 1340h **ED33A-0539** *POSTER* Exploring Ice Sheets and Climate Change through Supercomputer Visualizations in Middle and Secondary Schools: **K A Pingree**, P O Koons, S D Birkel, B Segee, Y Zhu, M Schaffler
 1340h **ED33A-0540** *POSTER* StudioEarth® - Increasing Climate Literacy in Schools, in public and in the workforce using StormCenter's Interactive Video Teleconference Presence and the Envirocast® Vision™ TouchTable (EVTT): **D Jones**
 1340h **ED33A-0541** *POSTER* Techniques for integrating the animations, multimedia, and interactive features of NASA's climate change website, Climate Change: NASA's Eyes on the Earth, into the classroom to advance climate literacy and encourage interest in STEM disciplines: **L F Tenenbaum**, R Jackson, M Greene

1340h **ED33A-0542** *POSTER* Implementing SPRINTT [Student Polar Research with IPY National(and International)Teacher Training] in 5th Grade Science: **D S Glass**

1340h **ED33A-0543** *POSTER* A Web-Based Software Tool for the Creation of Tiled Visualization Displays Utilizing Laptops in the K-12 Classroom: **J Withee**, N L Bourgoin, Y Zhu, P O Koons, S D Birkel, E Albee, M Schaffler, B Segee

1340h **ED33A-0544** *POSTER* The GLOBE Carbon Cycle Project: Using a systems approach to understand carbon and the Earth's climate system: **S K Silverberg**, S V Ollinger, M E Martin, L M Gengarely, A L Schloss, J L Bourgeault, G Randolph, J Albrechtova

1340h **ED33A-0545** *POSTER* Service-Learning in the Undergraduate Geoscience Classroom: Establishing Community Partnerships to Enhance Education in Climate Change Science in Local Schools: **L H Joseph**, R Faust

1340h **ED33A-0546** *POSTER* Inspiring Climate Education Excellence (ICEE): Towards a suite of online modules and self-directed learning resources for secondary science teachers: **S M Buhr**, S Lynds, M S McCaffrey, S Van Gundy, S B Wise

1340h **ED33A-0547** *POSTER* Utilizing General Purpose Graphics Processing Units to Improve Performance of Computer Modelling and Visualization: **J Monk**, Y Zhu, P O Koons, B E Segee

1340h **ED33A-0548** *POSTER* QR-STEM: Energy and Environment as a Context for Improving QR and STEM Understandings of 6-12 Grade Teachers I. The Science: **M E Lyford**, J D Myers, R L Mayes

1340h **ED33A-0549** *POSTER* QR-STEM: Energy and Environment as a Context for Improving QR and STEM Understandings of 6-12 Grade Teachers II. The Quantitative Reasoning: **R Mayes**, M E Lyford, J D Myers

1340h **ED33A-0550** *POSTER* The 2009 Earth Science Literacy Principles: **M E Wyssession**, D A Budd, K M Campbell, M H Conklin, E S Kappel, N LaDue, G Lewis, R Reynolds, R W Ridky, R M Ross, J Taber, B J Tewksbury, P Tuddenham

1340h **ED33A-0551** *POSTER* Simple Climate Model and Web Interface for Inquiry-Based Learning at Middle and High School Grade Levels: **S D Birkel**, P O Koons, K A Pingree, B E Segee, Y Zhu, M Schaffler

1340h **ED33A-0552** *POSTER* The (mis)Alignment of the Earth Science Literacy Principles to the National Science Education Standards: **N LaDue**, S Clark, J Thompson, K Beckendorf, M E Wyssession

1340h **ED33A-0553** *POSTER* Petroleum Science and Technology Institute with the TeXas Earth and Space Science (TXESS) Revolution: **H C Olson**, J E Olson, S L Bryant, L W Lake, P Bommer, C Torres-Verdin, C Jablonowski, M Willis

1340h **ED33A-0554** WITHDRAWN

1340h **ED33A-0555** *POSTER* NASA NDATC Global Climate Change Education Initiative: **B Bennett**, E Wood, D Meyer, N Maynard, R E Pandya

1340h **ED33A-0556** *POSTER* Nantucket, Ma. Climate Protection Action Plan: A Public Outreach Strategy: **C petrik**, A Stephenson, S Petsch

1340h **ED33A-0557** *POSTER* LectureTools: A Clicker System for Large (or Small) Geosciences Courses: **P J Samson**, B A van der Pluijm

1340h **ED33A-0558** *POSTER* Classroom Simulation of United Nations Conference on Climate Change: **D W Hastings**

ED33B Moscone South: Poster Hall Wednesday 1340h
Missing Links! Scientists' Communication on Critical Global Environmental Change Issues I Posters (*joint with A, C, GC, NH, PA, H*)

Presiding: J M Byrne, University of Lethbridge; D B Fagre, U.S. Geological Survey

1340h **ED33B-0559 POSTER** Possibility to explain global climate variations by earthquakes influence: **O Molchanov**

1340h **ED33B-0560 POSTER** Making the climate part of the human world: Why addressing beliefs and biases is necessary part of effective climate change education: **S D Donner**

1340h **ED33B-0561 POSTER** Cognitive-based approach in teaching 1st year Physics for Life Sciences, including Atmospheric Physics and Climate Change components: **S V Petelina**

1340h **ED33B-0562 POSTER** Education in Changing Communication in Atmospheric and Environmental Sciences: **E Schuepbach**, P Brimblecombe

1340h **ED33B-0563 POSTER** Applying Historic Science Communication Lessons to Today's Global Change Issues: **L E Rocchio**

1340h **ED33B-0564 POSTER** Telling a Compelling Tale, Scientifically Speaking: **M Unger**, R Hauser, P Backlund

1340h **ED33B-0565 POSTER** Data Basin Climate Center: where to get datasets, manipulate them, and generate practical answers: **D M Bachelet**, J Strittholt, B C Ward, T Sheehan, T Comendant, J M Lenihan, J Osborne-Gowey

1340h **ED33B-0566 POSTER** Delivering Global Change Science through Documentary Film and New Media Technologies: **K A Dodgson**, J M Byrne, L J Little, J Graham

1340h **ED33B-0567 POSTER** Choking Lake Winnipeg: **J M Byrne**, L J Little, K A Dodgson, R J MacDonald, J Graham

1340h **ED33B-0568 POSTER** The 2D Hyperlink/Geocaching hybrid as a New Method for Improving Communication and Educational Delivery in Environmental Science: **J Graham**, J M Byrne

1340h **ED33B-0569 POSTER** Data Basin Aquatic Center: expanding access to aquatic conservation data, analysis tools, people and practical answers: **J Osborne-Gowey**, J Strittholt, J Bergquist, B C Ward, T Sheehan, T Comendant, D M Bachelet

1340h **ED33B-0570 POSTER** Geoscience Education Outreach Program (GEOP): Connecting Graduate Student Scientists and K-12 Students: **C Meyers**

1340h **ED33B-0571 POSTER** A Curriculum Experiment in Climate Change Education Using an Integrated Approach of Content Knowledge Instruction and Student-Driven Research to Promote Civic Engagement: **P E Adams**, J F Heinrichs

ED33C Moscone West: 3020 Wednesday 1340h
Education and Communication for Climate Literacy and Energy Awareness III (*joint with PA, GC*)

Presiding: L S Gardiner, University Corporation for Atmospheric Research; S Henderson, UCAR; D Ward, Univ Corp Atmospheric Research

1340h **ED33C-01** The Lifestyle Project: Challenging Students to Redefine their Approach to Resource Use (*Invited*): **K Kirk**

1355h **ED33C-02** Engaging Climate Change Mitigation Strategies as Citizen-Scientists at SUNY College at Oneonta: **T D Ellis**, N A McEnroe

1410h **ED33C-03** Teaching a Course in Natural Disasters: Geoethics and the Layman: **P Fryer**

1425h **ED33C-04** Climate Change Education in Protected Areas: Highlights from the Earth to Sky NASA-NPS-USFWS Partnership: **A Davis**, J Morris, R Paglierani

ED33D Moscone West: 3020 Wednesday 1440h
Teacher Professional Development Programs Promoting Authentic Scientific Research in the Classroom I

Presiding: G Scowcroft, University of Rhode Island; C E Walker, National Optical Astronomy Observatory

1440h **ED33D-01** Creating a 21st Century Community through the Teacher Research Experience (*Invited*): **E Wilkening**, H J Beine

1455h **ED33D-02** A Teacher Professional Development Program for an Authentic Citizen-Science Program: GLOBE at Night: **C E Walker**, S M Pompea, R Sparks

1510h **ED33D-03** Teacher Research Programs Participation Improves Student Achievement in Science: **J Dubner**

1525h **ED33D-04** From Beacon Valley, Antarctica to Mars: Bringing the PolarTREC Teacher Research Experience to the Classroom: **J E Hams**, D R Marchant

Earth and Planetary Surface Processes

EP33A Moscone South: Poster Hall Wednesday 1340h
Advances in Riverine Morphodynamics II Posters (*joint with H*)

Presiding: D E Rupp, Cooperative Institute for Marine Resources Studies

1340h **EP33A-0599 POSTER** El Niño Southern Oscillation Influences River Bank Erosion on the Lower Mekong River: **S E Darby**, H Q Trieu, P A Carling

1340h **EP33A-0600 POSTER** The Formation and Growth of Gravel Bars in Response to Increased Sediment Supply Following the Marmot Dam Removal: **C Podolak**, P Wilcock

1340h **EP33A-0601 POSTER** Critical Dimensionless Shields Values for Bankfull Flow: **K Bunte**, S R Abt, K W Swingle

1340h **EP33A-0602 POSTER** First experimental results on downstream "lightening", the selective deposition of heavier particles in a sediment mixture of uniform size: **E Viparelli**, J Montero, A Leman, G Parker

1340h **EP33A-0603 POSTER** Calculations of Bed-Material Transport, Chetco River, Oregon: **S Anderson**, R Wallick, C Cannon, J E O'Connor

1340h **EP33A-0604 POSTER** Measuring the Importance of Overbank Deposition on a Floodplain Adjacent to a Filling Reservoir: **J A Krall**, D L Freyberg

1340h **EP33A-0605 POSTER** Mitigation of Sedimentation Problems with Groynes in River Klarälven, Sweden: **S Tjerry**

1340h **EP33A-0606 POSTER** Pore geometry, avalanching, and subsurface flow: A sand infiltration model: **R Leonardson**, J R Hunt, W E Dietrich

1340h **EP33A-0607 WITHDRAWN**

1340h **EP33A-0608 POSTER** The impacts of sediment supply, flow hydrology and channel restoration on floodplain sedimentation: **R M Benjankar**, E M Yager

1340h **EP33A-0609 POSTER** Using Ground based LiDAR to identify the processes of bluff erosion in the LeSueur River basin in Southern Minnesota: **S S Day**, K B Gran, P Belmont, C E Jennings, T F Wawrzyniec

1340h **EP33A-0610 POSTER** Investigation of bar formation on a reconfigured gravel-bed river: **S Erwin**, J C Schmidt, P Wilcock

EP33B Moscone South: Poster Hall Wednesday 1340h
Experimental Rivers: New Facilities, New Observational Technologies, and New Questions Posters (*joint with H, B*)

Presiding: **A Lightbody**, University of Minnesota; **J G Venditti**, Simon Fraser University; **C H Orr**, Washington State University

1340h **EP33B-0611 POSTER** Characterization of eco-hydraulic habitats for examining biogeochemical processes in rivers:

L E McPhillips, B L O'Connor, J W Harvey

1340h **EP33B-0612** WITHDRAWN

1340h **EP33B-0613 POSTER** Monitoring Fluvial Erosion of Cohesive Materials Using the Photo-Electronic Erosion Pin Sensor in Clear Creek, IA: **F Bertrand**, T Papanicolaou

1340h **EP33B-0614 POSTER** Morphodynamics of a steep gravel bed stream: inferences from a Froude-scaled experimental river: **D Luzi**, B C Eaton, J G Venditti, M A Church

1340h **EP33B-0615 POSTER** Surface-subsurface flow modeling: an example of large-scale research at the new NEON user facility: **H Powell**, D M McKnight

EP33C Moscone West: 2004 Wednesday 1340h
Coastal Geomorphology and Morphodynamics III (*joint with NG, OS*)

Presiding: **B M Richmond**, US Geological Survey; **S M Solomon**, Bedford Institute of Oceanography; **I Overeem**, University of Colorado

1340h **EP33C-01** Energy Delivery to Cliffs from Waves, Tides and Storms: **E C Norman**, N J Rosser, M Lim, D N Petley

1355h **EP33C-02** The growth of headlands in a simple model of rocky coastline evolution: **P W Limber**, A B Murray, P N Adams

1410h **EP33C-03** A quantitative analysis of rock cliff erosion environments: **M Lim**, N Rosser, D N Petley, E C Norman, J Barlow

1425h **EP33C-04** A History of Coastal Research in the Arctic (*Invited*): **H J Walker**, M McGraw

1440h **EP33C-05** Coastal sea-ice processes in Alaska and their relevance for sediment dynamics and coastal retreat (*Invited*): **H Eicken**, M Kapsch, M A Johnson, W U Weyapuk, Jr.

1455h **EP33C-06** Worst-case surge scenarios, west Alaska coast (*Invited*): **D E Atkinson**, A Cross

1510h **EP33C-07** Process-Based Predictive Coastal Erosion Modeling for Drew Point (North Slope, Alaska): **T M Ravens**, B M Jones, J Zhang

1525h **EP33C-08** Calibrating thermal erosion models along an Arctic coastline: **C W Wobus**, R S Anderson, I Overeem, F E Urban, G D Clow, T P Stanton

Geodesy

G33A Moscone South: Poster Hall Wednesday 1340h
Detection and Characterization of Transient Crustal Deformation II Posters (*joint with S, NH, T, IN*)

Presiding: **J R Murray-Moraleda**, U.S. Geological Survey; **J O Langbein**, US Geological Survey; **R B Lohman**, Cornell University

1340h **G33A-0616 POSTER** Instantaneous surface deformation from continuous GPS: application in Southwestern Iceland:

A A Holland, S Hreinsdottir, R A Bennett, T Arnadottir, H Geirsson

1340h **G33A-0617 POSTER** Strain Transient Detection Techniques: A Comparison of Source Parameter Inversions of Signals Isolated through Principal Component Analysis (PCA), Non-Linear PCA, and Rotated PCA: **B Lipovsky**, G J Funning

1340h **G33A-0618 POSTER** Detection and Characterization of Transient Deformations in GPS Data: **R A Granat**, D Dong, S Kedar, J W Parker, B Tang

1340h **G33A-0619 POSTER** A Strain Event Related to Aftershock Activity Following the 2003 Tokachi-oki (M8.0) Earthquake: **T Takanami**, S I Sacks, A T Linde

1340h **G33A-0620 POSTER** Spatiotemporal model for crustal deformation around the focal area of the 2008 Iwate-Miyagi Inland Earthquake, northeastern Japan, estimated by GPS and InSAR: **M Ohzono**, R McCaffrey, Y Ohta, S Miura, T Inuma, K Tachibana, T Sato

1340h **G33A-0621 POSTER** Seismicity and strain transients in the Gulf of Corinth (Greece): **A Canitano**, P Bernard, A T Linde, S I Sacks, F Boudin

1340h **G33A-0622 POSTER** Time-dependent inversion of three-component GPS time series for steady and transient effects of the Yellowstone Hotspot on the Snake River Plain, Idaho: **S J Payne**, R McCaffrey, R W King

1340h **G33A-0623 POSTER** Estimating High Spatial Frequency Atmospheric Signals in Differential InSAR Measurements: S M Buckley, **D Yang**

1340h **G33A-0624 POSTER** Wab-InSAR: a new wavelet based InSAR time series technique applied to volcanic and tectonic areas: T R Walter, **M Shirzaei**, H Nankali, M Roustaei

1340h **G33A-0625 POSTER** Mutual Information Between GPS Measurements and Earthquakes: **T Wang**, M S Bebbington

1340h **G33A-0626 POSTER** Abnormal strain changes of the 2008 Wenchuan, China, earthquake: **Z Qiu**

1340h **G33A-0627 POSTER** Application of deformation theory for integrated modeling of gravity gradiometry and magnetic field data: **K Erkan**, C Jekeli

G33B Moscone South: Poster Hall Wednesday 1340h
Plate Motion and Plate Boundaries III Posters (*joint with GP, T, NH, S*)

Presiding: **R M Fernandes**, UBI, CGUL, IDL; **D Argus**, Jet Propulsion Laboratory; **J T Freymueller**, University of Alaska Fairbanks

1340h **G33B-0628 POSTER** Plate Motions in South Iceland from Modeling of EGPS: **J E Robertson**, P Dooling, P C LaFemina

1340h **G33B-0629 POSTER** An alternative early opening scenario for the Central Atlantic Ocean: **C Labails**, W R Roest, J Olivet, D Aslanian

1340h **G33B-0630 POSTER** Deformations between African and Eurasian plates estimated by methods of space geodesy - new result: **A Zeman**, J Holesovsky, Z Novotny, K A Hassan, M S Abd El Monem, J Kostecky

1340h **G33B-0631 POSTER** Cenozoic evolution of the Africa-Eurasia plate boundary west of Strait of Gibraltar: mechanical models based on kinematic constraints: **M L Neves**, C Monteiro, L M Matias, F Rosas, P Terrinha

1340h **G33B-0632 POSTER** Crustal motion and active deformation along the Eurasia-Africa collisional area in Southern Italy from GPS observations: **V Bruno**, M Mattia, M Palano, M Rossi, F Cannavo

1340h **G33B-0633 POSTER** Strain fields in Italy: some insights from new GPS and historical seismicity data: **F Visini**, C Ferraro, B Pace, F Vespe

1340h **G33B-0634 POSTER** Present-day kinematics of Eastern African Rift tectonic plates using continuous and episodic GPS data: **R M Fernandes**, J P Ferreira, J L Quembo, L Combrinck, C M Kamamia, A Al-Aydrus, Y Boodhoo

1340h **G33B-0635** *POSTER* Strategies Analysis for GPS Vertical Velocity Estimation, a Preparing Study for Investigating Vertical Motions of Tibetan Plateau: **Y Fu**, J T Freymueller, Q Wang, C Xu

1340h **G33B-0636** *POSTER* Investigation of the inferred continental flexure in the west of India and the non-rigidity of the oceanic part of the Indian plate by episodic GPS Campaigns at Lakshadweep Islands along the Chagos-Laccadive ridge: **R N Narayana Babu**, M EC

1340h **G33B-0637** *POSTER* Andaman post-seismic deformation observations: An update: **J Puchakayala**, C C Rajendran, A R Lowry

1340h **G33B-0638** *POSTER* Are the Plates Still Rigid? – A Case Study of GPS Time-Series Noise in Australia: **X Zhou**, C W Kreemer

1340h **G33B-0639** *POSTER* Regional deformation from the 2004 Macquarie Ridge great earthquake, Australia-Pacific plate boundary zone: **R J Burgette**, C S Watson, P Tregoning

1340h **G33B-0640** *POSTER* Neogene Basin Evolution Along the Northern Flank of the Papuan Peninsula, Goodenough Bay, Eastern Papua New Guinea: **B K Horton**, R J Gillis, P Mann

1340h **G33B-0641** *POSTER* Late Miocene to Recent inversion of the Aure rift, eastern Papua New Guinea: A consequence of transpression along the Owen-Stanley fault zone: **B Ott**, P Mann, H Campos Aguiniga

1340h **G33B-0642** *POSTER* Uplift patterns of reef terraces and sedimentary rocks constrain tectonic models for metamorphic core complexes in eastern Papua New Guinea: **P Mann**, B K Horton, F W Taylor, C Shen, K Lin, W Renema

1340h **G33B-0643** *POSTER* Integration of offshore seismic data, exploration wells, and onland outcrops as constraints on the tectonics and uplift age of metamorphic core complexes, eastern Papua New Guinea: **G G Fitz**, P Mann, H Campos Aguiniga

1340h **G33B-0644** *POSTER* Using seafloor pressure gauges and satellite altimetry data to constrain deformation models in a partially locked subduction zone, Central Vanuatu: **V S Ballu**, M Bouin, P Bonnefond, S Calmant, A Peltier, W C Crawford, B Pelletier, N Bergeot, M Diament

1340h **G33B-0645** *POSTER* Estimation of coupling factor in the northern part of Ryukyu trench by using 2D FEM: **S Nakao**, S Maeno, K Goto

1340h **G33B-0646** *POSTER* Consideration of optimum site distribution for detecting seafloor crustal deformation at the Nankai subduction zone: **T Watanabe**, K Tadokoro, S Sugimoto, T Okuda, K Miyata, M Kuno

1340h **G33B-0647** *POSTER* GPS Subsidence Rate of Tahiti: Comparison with Coral Reef Stratigraphy: A Fadil, J Barriot, **L Sichoix**, P Ortega

1340h **G33B-0648** *POSTER* Lake Clark fault, assessment of tectonic activity based on reconnaissance mapping of glacial deposits, northwestern Cook Inlet Alaska: R D Reger, **R D Koehler**

1340h **G33B-0649** *POSTER* Absolute vertical uplift rates in western Washington inferred from historical leveling and tide gauge data: S Alba, **R Weldon**, D Livelybrooks, D A Schmidt

1340h **G33B-0650** *POSTER* Paleomagnetic Data From the Rinconada Fault in Central California: Evidence for Off-fault Deformation: **S Crump**, S Titus, Z McGuire, B A Housen

1340h **G33B-0651** *POSTER* GPS constraints on shear accommodation in the northern Walker Lane, western Nevada, USA: **J M Bormann**, W C Hammond, C W Kreemer, G Blewitt, S G Wesnousky

1340h **G33B-0652** *POSTER* Late Quaternary offset along the sinistral Cady fault within the greater dextral Eastern California Shear Zone, southern California: **K M Schmidt**, M N Hanshaw, V E Langenheim, G A Phelps, D M Miller

1340h **G33B-0653** *POSTER* Rio Grande Rift GPS Measurements 2006-2009: **H Berglund**, A F Sheehan, R Nerem, J Choe, A R Lowry, M Roy, F Blume, M Murray

1340h **G33B-0654** *POSTER* Interseismic Rates From the CTO cGPS Andes and Nepal Networks: **J F Genrich**, J Galetzka, F Chowdhury, J Avouac, M Simons, S E Barrientos, D Comte, E O Norabuena, S N Sapkota

1340h **G33B-0655** *POSTER* North Andean “Escape” and Transpressive Strain in the Eastern Cordillera Foothills, Colombia: **O K Egbue**, J Kellogg

1340h **G33B-0656** *POSTER* Study of the Seismic Cycle of large Earthquakes in central Peru: Lima Region: **E O Norabuena**, W Quiroz, T H Dixon

1340h **G33B-0657** *POSTER* A Combined GPS Velocity Field for the Caribbean Plate and its Margins: **E Calais**, P Mann

1340h **G33B-0658** *POSTER* Tectonic geomorphology and paleoseismology of strike-slip faults in Jamaica: Implications for distribution of strain and seismic hazard along the southern edge of the Gonave microplate: **R D Koehler**, P Mann, L A Brown

1340h **G33B-0659** *POSTER* Mixed linear-nonlinear fault slip inversion: Bayesian inference of model, weighting, and smoothing parameters: **J Fukuda**, K M Johnson

G33C Moscone South: Poster Hall Wednesday 1340h
Real-Time GPS: Current Progress in Network Implementation and Data Analysis Strategies II Posters (*joint with NH, A, S, IN*)

Presiding: **J R Murray-Moraleda**, U.S. Geological Survey;
T I Melbourne, Central Washington University

1340h **G33C-0660** *POSTER* Comparison of Behavior of Ionospheric Electron Density Profiles over Europe Observed by COSMIC, Ground-based GNSS and Ionosonde networks to IRI Model: **A Krankowski**, I Zakharenkova, A Kryptiak-Gregorczyk, P Wielgosz

1340h **G33C-0661** *POSTER* Testing DEM-based atmospheric corrections to SAR interferograms over the Los Angeles basin: **L Jin**, G J Funning, M A Floyd

1340h **G33C-0662** *POSTER* Evaluation of High-Rate Real Time GPS Processing at USGS Pasadena: **N E King**, J O Langbein, M Lisowski, K W Hudnut, K Stark, A Aspiotes

1340h **G33C-0663** *POSTER* GNSS CORS hardware and software enabling new science: **P Drummond**

G33D Moscone South: Poster Hall Wednesday 1340h
The Earthquake Cycle in the Middle East Posters (*joint with S, T, NH*)

Presiding: **S Jonsson**, KAUST; **A Walpersdorf**, LGIT

1340h **G33D-0664** *POSTER* Form and growth of an embryonic continental rift: InSAR observations and elastic modeling of the 2009 western Arabia rifting episode (*Invited*): **G Baer**, Y Hamiel

1340h **G33D-0665** *POSTER* Seismic cycle, long-term faulting behavior and slip rate variations along the Dead Sea Fault (Jordan): M Ferry, **M Meghraoui**, N Abou Karaki

1340h **G33D-0666** *POSTER* Earthquakes Magnitude Predication Using Artificial Neural Network in Northern Red Sea Area: **A S Alarifi**, N S Alarifi

1340h **G33D-0667** *POSTER* Holocene slip-rate of the Gowk strike-slip fault and implications for constancy of slip-rate on the faults of eastern Iran: **R T Walker**, M Talebian, R A Sloan, A Rasheedi, M Fattahi, C Bryant

1340h **G33D-0668** *POSTER* NS shear kinematics across the Lut block from a dense GPS velocity field in eastern Iran: **A Walpersdorf**, F Tavakoli, D Hatzfeld, A M Jadidi, M M Vergnolle, A Aghamohammadi, Y Djamour, H R Nankali, M Sedighi

1340h **G33D-0669** *POSTER* Active tectonics and kinematic modeling at the triple junction between the East Anatolian Fault, the Dead Sea Fault and the Cyprus Arc: M Meghraoui, **Z Cakir**, F Masson, M Ferry, S Ergintav, S Inan, V Karabacak, E Altunel

1340h **G33D-0670** *POSTER* Source parameters of the Mw=6.1, February 21, 2007 Sivrice (SE Turkey) earthquake: Faulting on a secondary fault from InSAR: **Z Cakir**, E Çetin, M Meghraoui, A M Akoglu, S Ergintav, O Tan

1340h **G33D-0671** *POSTER* Shallow fault-zone dilatancy recovery after the 2003 Bam earthquake in Iran (*Invited*): **E J Fielding**, P Lundgren, R Burgmann, G J Funning

1340h **G33D-0672** *POSTER* Source Model of the 1997 Zirkuh Earthquake (Iran) from InSAR Data: **S Jonsson**, H Sudhaus

1340h **G33D-0673** *POSTER* Monitoring of Crustal Deformations from 2003 to 2009 in Marmara Region, Turkey: Preliminary Results from Absolute Gravity and GPS Observations: **U Dogan**, S Ergintav, G Arslan, B Karaboce, C Gerstenecker, D Oz, B Colak, A Ilgar, C Aydin, H Demirel, R Cakmak, A Belgen, A Direnc, A Kilicoglu, E Sadikoglu, E Bilgic, C Kirbas

1340h **G33D-0674** *POSTER* Velocity Field and Strain Analysis along Western North Anatolian Fault Zone (Turkey): **A Dogru**, H Ozener, O Gurkan, B Turgut

1340h **G33D-0675** *POSTER* Kinematics of Tuzla Fault (Izmir-Turkey) and Vicinity by Geodetic Techniques: **H Ozener**, A Dogru, E Arpat, D Sanli, B Turgut, O Yilmaz, A Unluteppe, K Halicioglu, A Turgutalp

G33E Moscone West: 3022 Wednesday 1340h
The Global Geodetic Observing System: Scientific Requirements and Applications II (*joint with A, C, GC, PA, OS, H*)

Presiding: **R S Gross**, Jet Propulsion Laboratory; **H Plag**; **J H Minster**, Scripps Institution of Oceanography; **D A Feary**

1340h **G33E-01** High-Precision Global Geodetic Systems: Revolution And Revelation In Fluid And 'Solid' Earth Tracking (*Invited*): **J H Minster**, Z Altamimi, G Blewitt, W E Carter, A A Cazenave, J L Davis, H Dragert, D A Feary, T Herring, K M Larson, J C Ries, D T Sandwell, J M Wahr

1355h **G33E-02** The ITRF and the Geodetic Infrastructure (*Invited*): **Z Altamimi**

1410h **G33E-03** A Community-based Partnership for a Sustainable GNSS Geodetic Network: **R K Dokka**

1425h **G33E-04** GPS Can't Do That, Can It? (*Invited*): **K M Larson**, E E Small, J J Braun, E D Gutmann, V U Zavorotny, M W Williams

1440h **G33E-05** Hydrologic Applications of GRACE Terrestrial Water Storage Data (*Invited*): **M Rodell**, B F Zaitchik, B Li, J D Bolten, R Houborg, I Velicogna, J S Famiglietti

1455h **G33E-06** Land Water Storage Variation over Southern India from Space Gravimetry: **V M Tiwari**, J Wahr, S C Swenson, A D Rao, B Singh

1510h **G33E-07** SWOT, The Surface Water and Ocean Topography Satellite Mission (*Invited*): **D Alsdorf**, K Andreadis, P D Bates, S Biancamaria, E Clark, M T Durand, L Fu, H Lee, D P Lettenmaier, N M Mognard, D Moller, R A Morrow, E Rodriguez, C Shum

1525h **G33E-08** Global Simultaneous Estimation of Present-Day Surface Mass Trend and GIA Using Multi-Sensor Geodetic Data Combination: **X Wu**, M B Heflin, H Schotman, B L Vermeersen, D Dong, R S Gross, E R Ivins, A W Moore, S E Owen

Global Environmental Change

GC33A Moscone South: Poster Hall Wednesday 1340h
Challenges in Understanding and Modeling Global-Regional Climate Connections III Posters (*joint with A, C, H, PP, OS, NG*)

Presiding: **M C Penland**, NOAA/ESRL; **G Compo**, U. of Colorado

1340h **GC33A-0703** *POSTER* Oceanic Influences on Recent Continental Warming: **G Compo**, P D Sardeshmukh

1340h **GC33A-0704** *POSTER* Impact of Atlantic Meridional Overturning Circulation (AMOC) Variability on Arctic Climate: **S Mahajan**, R Zhang, T L Delworth

1340h **GC33A-0705** *POSTER* Assessing the impact of model formulation on decadal variability of the Atlantic Meridional Overturning Circulation (AMOC): **R Msadek**, T L Delworth, T Rosati

1340h **GC33A-0706** *POSTER* Interaction between the MJO and Polar Circulations: Y Kim, **M K Flatau**

1340h **GC33A-0707** *POSTER* Identifying coupled modes of variability through singular vector decomposition and extracting climate trends: **D C Collins**, M L L'Heureux

1340h **GC33A-0708** *POSTER* Towards Error Estimates and Dynamic Statistical Models for Climate Patterns Such as the NAO That are Defined by EOF Analysis: **G Magnusdottir**, H Stern, X Tian, Y Wang, Y Yu

1340h **GC33A-0709** *POSTER* The transition from weather to climate: **S Lovejoy**, D J Schertzer

1340h **GC33A-0710** *POSTER* Diagnosing time series of stochastic forcing: **M C Penland**

1340h **GC33A-0711** *POSTER* Regional topographic modulation of global-scale climate anomalies: **J Paegle**, L A Byerle

1340h **GC33A-0712** *POSTER* Simulated Topography in Western North America Impacts Hemispheric Circulation Patterns and Regional Precipitation in IPCC AR4 Coupled Models: **S A McAffee**, J L Russell

1340h **GC33A-0713** *POSTER* The Impact of Large Scale Circulation Anomalies on the Moisture Flux over the United States in Observations and Models: **D L Small**, S Islam, M Ting

1340h **GC33A-0714** *POSTER* Stationary Wave Responses to Anomalous North American Snow Cover: **S Sobolowski**, G Gong, M Ting

1340h **GC33A-0715** *POSTER* Thermodynamic and dynamic effects of global warming on regional tropical precipitation: **C Chen**, C Chou, C Chen

1340h **GC33A-0716** *POSTER* Impact of the Arctic Oscillation on the Characteristics of Cold Surges over East Asia: **T Park**, C Ho

1340h **GC33A-0717** *POSTER* Caribbean Precipitation and the Madden-Julian Oscillation: **E R Martin**, C Schumacher

1340h **GC33A-0718** *POSTER* Climate Change Projections for Bangladesh using PRECIS Regional Climate Change Model: **A S Islam**

1340h **GC33A-0719** *POSTER* Reduction of spring warming over East Asia associated with vegetation feedback: **S Jeong**, C Ho

1340h **GC33A-0720** *POSTER* Cooling of daytime temperatures in coastal California air basins during 1969-2005: Monthly and extreme value trends: **J Gonzalez**, R D Bornstein, A Charland, J Gonzalez

1340h **GC33A-0721** *POSTER* Modeling Atmospheric Deposition across the Northeastern U.S. and its Potential Effects on Forest Albedo: **D M Haddad**, S V Ollinger, J Jenkins, M Martin

- 1340h **GC33A-0722 POSTER** Regional Climate Responses To Planetary-Scale Geoengineering Activities, as Modeled Using climateprediction.net/HadCM3L: **K Ricke**
- 1340h **GC33A-0723 POSTER** Ocean Modulation of the Thermal Wind: **R E Hester**
- 1340h **GC33A-0724 POSTER** Multi-Decadal to Centennial Oscillations and Climate Signals Inferred by Periodic Solar Forcing: **M Liang**, L Lin, K Li, K K Tung, R Shia, Y L Yung
- 1340h **GC33A-0725 POSTER** The impacts of natural versus anthropogenic aerosol on atmospheric circulation and cloud cover in the Community Atmosphere Model: S C Sherwood, **R Allen**
- 1340h **GC33A-0726 POSTER** Analysis of Changes in the Lorenz Energy Budget of the Atmosphere: **T D Ellis**

GC33B Moscone West: 300I Wednesday 1340h
Challenges in Understanding and Modeling Global-Regional Climate Connections II (*joint with A, C, H, PP, OS, NG*)

Presiding: **G Compo**, U. of Colorado; **P D Sardeshmukh**, CIRES Climate Diagnostics Center

- 1340h **GC33B-01** The Arctic's Uncertain Figure (*Invited*): **M Serreze**, J Stroeve, A Barrett
- 1355h **GC33B-02** Understanding Regional Climate Variations and Trends over North America (*Invited*): **R M Dole**
- 1410h **GC33B-03** A Global Response in Monsoon Region Precipitation Under Greenhouse Warming: Understanding Mechanisms and Uncertainties: **A Seth**, S A Rauscher, M Rojas, A Giannini, S J Camargo
- 1425h **GC33B-04** Great Plains irrigation produces enhanced summer precipitation in the Midwest: **A Robock**, A DeAngelis, Y Fan, M D Kustu, D A Robinson
- 1440h **GC33B-05** Model biases in the Southern Hemisphere energy budget: **K E Trenberth**, J Fasullo
- 1455h **GC33B-06** Modeling the Effects of Climate Variability and Change on Tropical Cyclone Activity: **J Done**, C Bruyere, G J Holland, A Suzuki-Parker
- 1510h **GC33B-07** Local and Remote Influences on Vertical Wind Shear over the Northern Tropical Atlantic Region: **R Saravanan**, X Zhu
- 1525h **GC33B-08** Towards Attribution of Atlantic Tropical Cyclone Changes: **G A Vecchi**, T R Knutson, I Held, M Zhao, S Lin

Geomagnetism and Paleomagnetism

GP33A Moscone South: Poster Hall Wednesday 1340h
Electromagnetic Induction Studies From Land, Ocean, and Space I Posters

Presiding: **S Constable**, Scripps Inst. Oceanography; **M Nair**, University of Colorado

- 1340h **GP33A-0727 POSTER** 3-D inversion of magnetotelluric Phase Tensor: **P Patro**, M Uyeshima
- 1340h **GP33A-0728 POSTER** TEM simulation with topography using boundary-fitted grid: **D Li**, Q Huang
- 1340h **GP33A-0729 POSTER** Magnetotelluric images of the Central American margin in Nicaragua and Costa Rica: **L Muetschard**, H Brasse, T W Worzewski
- 1340h **GP33A-0730 POSTER** EM fields generated by finite-length wire sources in 1D media: comparison with point dipole solutions: **R Streich**, M Becken

- 1340h **GP33A-0731 POSTER** Polarisation filtering of magnetotelluric data – Using an advanced wavelet processing scheme to discriminate between contribution of signal and noise to the data:

J Schmoldt, A G Jones, X A Garcia

- 1340h **GP33A-0732 POSTER** Three-dimensional Electrical Resistivity Imaging of Duzce Fault, Turkey by Magnetotellurics:

B Tank, Y Ogawa, Y Honkura, M K Tuncer, I I Rokityansky, T Kaya

- 1340h **GP33A-0733 POSTER** Application of an iterative sea effect correction method to MT soundings carried out in Jeju Island, Korea: **J Yang**, H Lee, H Yoo, S Huh

- 1340h **GP33A-0734 POSTER** Results from probability-based, simplified, off-shore Louisiana CSEM hydrocarbon reservoir modeling: **J L Stalnaker**, M Tinley, B Gueho

- 1340h **GP33A-0735 POSTER** Preliminary results from the Gulf of Mexico gas hydrate CSEM experiment: **K A Weitemeyer**, S Constable

- 1340h **GP33A-0736 POSTER** The Empirical Mode Decomposition and Spectra based on Direct Quadrature in MT data processing:

J Chen, M D Jegen

- 1340h **GP33A-0737 POSTER** Efficient spectral estimation for time series with intermittent gaps: **L T Smith**, C Constable

- 1340h **GP33A-0738 POSTER** Oceanic magnetic anomalies induced from Kuroshio currents: **K H Singh**, W Kuang, T J Sabaka, A V Kuvshinov

- 1340h **GP33A-0739 POSTER** 3-D Magnetotelluric Forward Modeling And Inversion Incorporating Topography By Using Vector Finite-Element Method Combined With Divergence Corrections Based On The Magnetic Field (VFEH++): **X Shi**, H Utada, W Jiaying

GP33B Moscone West: 2002 Wednesday 1340h
Geomagnetic Paleointensity: Fifty Years of the Thellier-Thellier Method I (*joint with DI*)

Presiding: **Y Gallet**, IPGP; **A Gogichaishvili**, UNAM

- 1340h **GP33B-01** Physical Basis of the Thellier-Thellier Paleointensity Method and its Descendants (*Invited*): **D J Dunlop**

- 1410h **GP33B-02** Modern incarnations of Thellier Paleointensity Determination (*Invited*): **Y Yu**

- 1425h **GP33B-03** Some observations aimed at improving the success rate of paleointensity experiments for lava flows (*Invited*):

J M Valet, E Herrero-Bervera

- 1440h **GP33B-04** Geomagnetic field strength variations derived from SW Pacific ceramics: F Stark, **M J Hill**, J Cassidy, J Shaw, P Sheppard

- 1455h **GP33B-05** Geomagnetic field intensity and inclination records from the Hawaiian long basaltic cores: geomagnetic implications: **C E Laj**, C Kissel, C Davies, D Gubbins

- 1510h **GP33B-06** The Fluctuation of the Geomagnetic-field Strength during the Cretaceous Quiet Zone: Paleointensity Results from Chinese Lavas: **Y Pan**, R Zhu, H He, H Qin, S Huang, X Ji, C Deng

- 1525h **GP33B-07** Paleointensity, solar wind and magnetopause 3.45 billion years ago (*Invited*): **J A Tarduno**, R D Cottrell, M K Watkeys, A Hofmann, P V Doubrovine, J Nelson, Y Usui

Hydrology

H33A Moscone South: Poster Hall Wednesday 1340h
Characterization of Soil Moisture Dynamics and Plant/Soil Water Interactions I Posters (*joint with B, NS*)

Presiding: **R Heinse**, University of Idaho; **T Ochsner**, Oklahoma State University; **N P Crook**, Stanford University

1340h **H33A-0839 POSTER** Near-Surface Geophysical Mapping of the Hydrological Response to an Intense Rainfall Event at the Field Scale: **G Martínez**, K Vanderlinden, J V Giraldez, A J Espejo, J L Muriel

1340h **H33A-0840 POSTER** Influence of landscape position on soil water flux in a cropped field: S D Logsdon, J J Niemeier, **A Kruger**

1340h **H33A-0841 POSTER** Effect of Aggregates Compaction in Soil Hydraulic Properties, due to Root Growth: **J E Aravena**, S W Tyler, M Berli

1340h **H33A-0842 POSTER** The water balance in a maize cropped field in Northern Italy: monitoring and simulations: **M Deangelis**

1340h **H33A-0843 POSTER** The impact of Precipitation and Grassland Vegetation on Soil Moisture Dynamics: **R Salve**, E A Sudderth, S B St. Clair, M S Torn

1340h **H33A-0844 POSTER** Soil Moisture/ Tree Water Status Dynamics in a Mid-Latitude Montane Forest, Southern Sierra Critical Zone Observatory, CA: **P C Hartsough**, A Malazian, T Kamai, E Roudneva, J W Hopmans

1340h **H33A-0845 POSTER** Point-scale Estimation of Soil Moisture Profile through Data Assimilation with Root Zone Water Quality Model: **E Han**, V Merwade, G C Heathman

1340h **H33A-0846 POSTER** Wireless sensor network deployment for monitoring soil moisture dynamics at the field scale: **B Majone**, A Bellin, E Filippi, L Ioriatti, M Martinelli, A Massa, G Toller

1340h **H33A-0847 POSTER** Exploring Soil Properties through Electromagnetic Sensor-based Complex Dielectric Permittivity: **S B Jones**, C Wang, D A Robinson, M Tuller

1340h **H33A-0848 POSTER** Numerical Evaluation of Heat Pulse Technology for Estimation of Evaporation Rates from a Subsurface Drying Front: **M Sakai**, S B Jones, M Tuller

1340h **H33A-0849 POSTER** Interannual variation in transpiration peak of a hill evergreen forest in northern Thailand in the late dry season: Simulation of evapotranspiration with a soil-plant-air continuum model: **K Tanaka**, N Yoshifuji, M Suzuki

1340h **H33A-0850 POSTER** Transient Dissolved Organic Carbon Through Soils: **Y Mei**, G M Hornberger, L A Kaplan, J D Newbold, A K Aufdenkampe, Y Tsang

1340h **H33A-0851 POSTER** An Optimal Soil Moisture Sampling Scheme for Scaling and Remote Sensing Validation: **L M Bramer**, B K Hornbuckle, P Caragea

1340h **H33A-0852 POSTER** The spatial distribution of surface soil moisture in a small forested watershed in British Columbia, Canada: **K S Chin**, H J Tromp-van Meerveld

1340h **H33A-0853 POSTER** Vegetation Dynamics vs Hydrological Cycle in mountain areas: **M Rulli**, R Rosso

1340h **H33A-0854 POSTER** Water uptake of maize observed using 2-D resistivity monitoring and Oxygen isotope at different density planting: **T Sato**, K Yamamiya, M Ono, A Maruyama, K Ichiyaniagi, J Shimada

1340h **H33A-0855 POSTER** The Temporal Dynamics of Spatial Patterns of Observed Soil Moisture Interpreted Using the Hydrus 1-D Model: M Chen, **G R Willgoose**, P M Saco

1340h **H33A-0856 POSTER** Soil moisture response to snowmelt and rainfall across elevation, aspect and canopy cover in the Southern Sierra Nevada: **M W Meadows**, R C Bales, J W Hopmans, P C Hartsough, A T O'Geen, P B Kirchner

1340h **H33A-0857 POSTER** Role of vegetation type on hydraulic conductivity in urban rain gardens: **K Schott**, N J Balster, M R Johnston

1340h **H33A-0858 POSTER** Interactions between root water uptake, groundwater levels, and soil moisture dynamics in Tuolumne Meadows, Yosemite National Park, CA: **C Lowry**, S P Loheide

1340h **H33A-0859 POSTER** Characterization of Red Noise Processes in Soil Moisture from in situ Data, Satellite Data, and their Representation in a Land Surface Model: **J Belanger**, A A Berg, G Drewitt, L J Courtney

1340h **H33A-0860 POSTER** Developing a Ruggedized Soil Moisture Sensor for 10+ Year Climate Observatories: **D R Cobos**, C S Campbell, G S Campbell, L L Bissey, K M Dunne, B L Teare

1340h **H33A-0861 POSTER** A framework for predicting spatial patterns of soil moisture dynamics at the catchment scale: **C B Graham**, H Lin

1340h **H33A-0862 POSTER** Time-lapse Characterization of Soil Moisture—A First Step towards Linking Soil and Vegetation Heterogeneity: **R Heinse**, S B Jones, H Abdu, R Ryel, D Robinson

1340h **H33A-0863 POSTER** Soil Moisture Time Stability in Two Hydro-climatic Regions: **B P Mohanty**, C Joshi, J M Jacobs

H33B Moscone South: Poster Hall Wednesday 1340h
Defining, Measuring, and Modeling Hydrological Connectivity Across Scales: Macropores to Landscapes III Posters (*joint with B, NS, NG*)

Presiding: **H Lin**, L Hopp, Oregon State University; **S M Reaney**, Durham University; **C B Graham**, Penn State University

1340h **H33B-0864 POSTER** Relating hydrologic system response functions and metrics of catchment structure: **F Nippgen**, L A Marshall, B L McGlynn

1340h **H33B-0865 POSTER** RAINFALL AND RUNOFF DYNAMICS OF A FORESTED COASTAL WETLAND: **D D Dean**, B P Wilcox, J Jacob, A Sipocz, C Munster

1340h **H33B-0866 POSTER** Preferential flow paths: The influence of throughfall patterns, microtopography and hydrophobicity: **T Blume**

1340h **H33B-0867 POSTER** Joint topographic and vegetation controls on hillslope water table dynamics in a forested, northern Rocky Mountain watershed: **A R George Hazen**, R E Emanuel, B L McGlynn, K G Jencso

1340h **H33B-0868 POSTER** A Stream Network Based Semi-Distributed Model for Prediction of Hydrologic Connectivity and Runoff Generation: T J Smith, K G Jencso, **L A Marshall**, B L McGlynn

1340h **H33B-0869 POSTER** Response of streamflow to groundwater pumping in a tropical watershed: **M Safeeq**, A Fares

1340h **H33B-0870 POSTER** Head and velocity variance as indicators of flow connectivity: **C C Frippiat**, T H Illangasekare, G Zyvoloski

1340h **H33B-0871 POSTER** Landforms, soil development, and shallow water table dynamics: implications for hydrological connectivity at the catchment scale: **K J McGuire**, P A Brousseau, S W Bailey

1340h **H33B-0872 POSTER** Abundances of Natural Radionuclides (40K, 238U, 232Th) in Hanford and Rifle Integrated Field Research Challenge Site Sediments and the Application to the Estimation of Grain Size Distributions: **K Draper**, A L Ward, S Yabusaki, C J Murray, J Greenwood

1340h **H33B-0873 POSTER** Identification of surface flow paths, slopes, and channel networks from gridded elevation data: **S Orlandini**, G Moretti, P Tarolli, G Dalla Fontana

1340h **H33B-0874 POSTER** POTENTIAL EFFECTS OF FAULTS ON GROUNDWATER FLOW FOR THE YUCCA FLAT BASIN, NEVADA TEST SITE, NEVADA: **R P Dickerson**, W Fryer

1340h **H33B-0875** POSTER Hydrogeophysical Modeling of Spatial and Temporal Salt Flushing of a Tailings Dam: **T J Cheema**, C A Mendoza, A Price

1340h **H33B-0876** POSTER The Hydrologic Connectivity on the Blue River Basin: Results from a Year of Field Measurements of Saturated Hydraulic Conductivity: **J J Gourley**, H Moser, Y Hong, H Vergara

1340h **H33B-0877** POSTER Identification of Preferential Groundwater Flow Pathways from Local Tracer Breakthrough Curves: **A Kokkinaki**, B E Sleep, R Dearden, G Wealthall

1340h **H33B-0878** POSTER Rainfall-runoff behavior for microcatchments with different lengths and sizes on the loess slope: **X Li**

1340h **H33B-0879** POSTER Shallow Aquifer Connectivity and Early Season Water Supply of Seasonal Wetlands and Drainages Leading to Regional Drainage Systems: **N F McCarten**, T Harter

H33C Moscone South: Poster Hall Wednesday 1340h
Ecohydrological Studies in Urban Environments Posters (joint with PA, B)

Presiding: E Daly, Monash University

1340h **H33C-0880** POSTER The role of planted forests in urban water budgets (Invited): **H R McCarthy**, D E Pataki, E Litvak

1340h **H33C-0881** POSTER Does vegetation type matter? Plant-soil interactions change urban rain garden hydrology: **M R Johnston**, N J Balster

1340h **H33C-0882** POSTER Performance Assessment of Three Types of Rainwater Detention Structures for an Urban Development in Wilsonville, Oregon, USA: **J A Yeakley**, K K Norton

1340h **H33C-0883** POSTER Response of vegetation to fine scale impervious connectivity in an urban environment: **C A Shields**, C Tague, R E Beighley

1340h **H33C-0884** POSTER Environmental and biological controls of urban tree transpiration in the Upper Midwest: **E B Peters**, J McFadden, R Montgomery

1340h **H33C-0885** POSTER Low Impact Development (LID) Technologies for Sustainable Water Management: Studies from a Green Roof: **K A DiGiovanni**, F A Montalto, S Gaffin

1340h **H33C-0886** POSTER Estimates of evapotranspiration and CO₂ fluxes in a biofiltration system: **E Daly**, A Niculescu, J Beringer, A Deletic

1340h **H33C-0887** POSTER Urban water budgets: a comparative study of three landscape management scenarios in southern California: **N S Bijoor**, D Haver, D E Pataki

1340h **H33C-0888** POSTER Moderate Resolution Remote Sensing of Surface Moisture Conditions in Urbanizing Landscapes: **D E Tenenbaum**, L E Band, A Moody, J Xiao

H33D Moscone South: Poster Hall Wednesday 1340h
Ecohydrology Within the Context of Global Change III Posters (joint with B)

Presiding: B R Scanlon, University of Texas at Austin; J B Gates, University of Nebraska - Lincoln; D Drewry, University of Illinois; T M Scanlon, University of Virginia

1340h **H33D-0889** POSTER The impact of pine beetle-induced tree death on snowpack accumulation and melt in headwaters of the Colorado River: **E T Pugh**, E E Small

1340h **H33D-0890** POSTER CHARACTERISTICS OF WATER AND ENERGY EXCHANGE IN A BLACK SPRUCE FOREST OVER PERMAFROST IN INTERIOR ALASKA: **H Iwata**, Y Harazono, M Ueyama

1340h **H33D-0891** POSTER Impact of climate change on natural attenuation potential of flooded wetlands for contaminants in groundwater: **J Lim**, Y Hyun, K Lee

1340h **H33D-0892** POSTER Stochastic Modeling of Soil Water and Plant Water Stress Using Cumulant Expansion Theory and Its Application to Climate Change Scenarios: **S Kim**, A Lee, M Keem, H Shin

1340h **H33D-0893** WITHDRAWN

1340h **H33D-0894** POSTER Impacts of human activities on the sediment regime of the Yangtze Rive: **J Zhao**

1340h **H33D-0895** POSTER IMPACTS OF HUMAN ACTIVITIES ON THE SEDIMENT REGIME OF THE HANJIANG RIVER: **H Wang**

1340h **H33D-0896** POSTER The imprint of land use on water and salt dynamics in the semiarid plains of Argentina: **C S Santoni**, E Jobbágy, L Risio Allione, D Llobell, M Galvan

1340h **H33D-0897** POSTER A Satellite-based Approach to Evaluate the Impact of Land Use Change on Recharge Rates in the Southern High Plains: **S Contreras López**, P H Gowda, B R Scanlon, E G Jobbágy, D Alcaraz-Segura, R C Reedy

1340h **H33D-0898** POSTER Impact of climate change on groundwater recharge in arid areas: **H Liu**, K Zhang

1340h **H33D-0899** POSTER Relative Importance of Hydraulic Properties of Soils in a Western U.S. Coniferous Forest: **E Garcia**, C Tague, J Choate

1340h **H33D-0900** POSTER Drivers of variability in tree transpiration in a Boreal Black Spruce Forest Chronosequence: **J L Angstmann**, B E Ewers, H Kwon

1340h **H33D-0901** POSTER Application of in-situ measurements to characterize moisture and thermal dynamics in organic soils: **C A Macheel**, R P Daanen, D Misra, A D McGuire, J M Waddington, M R Turetsky

1340h **H33D-0902** POSTER An Optimized Soil Moisture Sampling Design to Represent the Impact of Climate Variability on Soil Moisture and Vegetation Water Use in Snow-Dominated Watersheds: **K Son**, C Tague

1340h **H33D-0903** POSTER A blueprint for using climate change predictions in an eco-hydrological study: E Caporali, **S Fatichi**, V Y Ivanov

1340h **H33D-0904** POSTER Reach-scale spatial and temporal variations in whole-stream metabolism estimates within a lowland river in California: S R Villamizar, H Pai, C A Butler, P Barnes, **T C Harmon**

1340h **H33D-0905** POSTER Relating variation in the annual catchment water budget to vegetation dynamics: **A J Somor**, P A Troch, P D Brooks

1340h **H33D-0906** POSTER Regional vegetation die-off alters hydrological partitioning: **M Guardiola-Claramonte**, P A Troch, M B Switanek, M Durcik

1340h **H33D-0907** POSTER Carbon, oxygen and nitrogen dynamics in a soil profile: Model development and application: **J Batlle-Aguilar**, A Brovelli, A M Porporato, D A Barry

1340h **H33D-0908** POSTER Ecohydrologic implications of differences in throughfall between hemlock and deciduous forest plots, West Whately, MA: **A J Guswa**, A L Rhodes, J McNicholas, S Mehter, C Spence

1340h **H33D-0909** POSTER Simulating Impacts Of Woody Plant Encroachment On Regional Climate In The Southern Great Plains: **J Ge**

1340h **H33D-0910 POSTER** Ecohydrological modeling of the Goodyears watershed in the Yuba River basin, California: **M P Maneta**, G B Pasternack, S Chen, G E Fogg, M Grismer, T Harter, J W Hopmans, L Pan, C E Puente, S Ustin, W W Wallender

1340h **H33D-0911 POSTER** Projecting Future Changes in Sagebrush Distribution in the Great Basin: **L E Flint**, A L Flint, A Torregrosa, A Woodward, J Welty, S Finn, S Garman, D Pilliod, J R Matchett, M Casazza, M Brooks, L A Baer

1340h **H33D-0912 POSTER** Impact of Hydraulic Redistribution on Present and Future Vegetation Competition in Tropical Dry Forest: **G Wang**, R Mei, C A Alo

1340h **H33D-0913 POSTER** Temporal Sensitivity of Satellite-Based Remote Sensing Products to Rainfall Pulse Events in Dryland Ecosystems: **A L Neal**, S A Kurc, P D Brooks

1340h **H33D-0914 POSTER** Greenhouse Gas and Mercury Emissions from a Salt Marsh on the Bay of Fundy: **N O'driscoll**, **G S McArthur**, D A Risk, J Dalziel, H Beltrami

1340h **H33D-0915 POSTER** Sequestration of carbon and phosphorus in subtropical grazed historically isolated wetlands: **J D Mitchell**, J W Jawitz

H33E Moscone South: Poster Hall Wednesday 1340h
Hydrology in Changing Climates: Matching Scales and Understanding Secondary Effects IV Posters (*joint with A*)

Presiding: **C Luce**, USDA Forest Service; **M D Dettinger**, US Geological Survey

1340h **H33E-0916 POSTER** Evaluation of the impact of decreasing orographic precipitation on water resources based on the coupled water-energy balance equation: **H Yang**, D Yang

1340h **H33E-0917 POSTER** Assessment of Mesoscale Dynamical Downscaling Model (MM5) for Regional Climate Simulation in the Tampa Bay region: **S Hwang**, W D Graham, J Hernandez, C J Martinez, J W Jones

1340h **H33E-0918 POSTER** On the Annual Cycle of Central South-West Asia precipitation in GCMs: an Analysis of AMIP Simulation Results: **K M malik**, P Taylor, K Szeto

1340h **H33E-0919 POSTER** Diagnostic Evaluation of Flood Frequency Response to Climate Change Projection Driven Rainfall Runoff: **D A Raff**, T Pruitt, L Brekke

1340h **H33E-0920 POSTER** Evaluation of the Newly Coupled WRF3-CLM3.5 with AOGCM Forcing: **N L Miller**, **Y Bao**, J Jin, Z M Subin

1340h **H33E-0921 POSTER** A Procedure for Statistical Downscaling of Precipitation with an Objective Method for Predictor Selection: **M Najafi**, H Moradkhani, S Wherry

1340h **H33E-0922 POSTER** Expansion of the On-line Archive "Statistically Downscaled WCRP CMIP3 Climate Projections": **L D Brekke**, **T Pruitt**, E P Maurer, T Das, P Duffy, K White

1340h **H33E-0923 POSTER** The Impact of Climate Change on Past and Future Streamflow at the Hubbard Brook Experimental Forest, New Hampshire, USA: **J L Campbell**, C T Driscoll, A Pourmokhtarian

1340h **H33E-0924 POSTER** A Data-Driven Study of the Climatic and Hydrogeologic Factors Influencing Water Table Fluctuations in the Northeast United States: **K M Weider**, D F Boutt

1340h **H33E-0925 POSTER** Understanding the Spatio-Temporal Variability of Stream Temperature Across Pennsylvania: **C Kelleher**, M E Paskewicz, T Wagener, M N Gooseff, B L McGlynn, L A Marshall

1340h **H33E-0926 POSTER** Application Of New Spatial Statistical Stream Models For Precise Downscaling Of Climate Change Effects On Temperatures In River Networks: **D Isaak**, C Luce, E Peterson

1340h **H33E-0927 POSTER** Declining Streamflow Trends in the Pacific Northwest United States: **C Luce**, Z Holden

1340h **H33E-0928 POSTER** From Snow to Rain: Assessing streamflow sensitivity to changes in climate using a hydrologic model for the Salmon River Basin, Idaho: **C Tang**, B T Crosby, J M Wheaton

1340h **H33E-0929 POSTER** Climate Change impacts on the hydrology and temperature of Pacific Northwest streams: **H Wu**, F Su, J S Kimball, J Stanford, N J Mantua, D P Lettenmaier

1340h **H33E-0930 POSTER** Snowmelt Runoff Regime Shifts Across Western North America: **H H Fritze**, I T Stewart-Frey, E J Pebesma

1340h **H33E-0931 POSTER** Effect of Climate Change on Hydrologic Ecotones Over the Pacific Northwest River Basin: **S Wherry**, J Gonzalez-Baird, H Moradkhani

1340h **H33E-0932 POSTER** After the fire's out: Catchment-scale effects of wildfire on runoff and flow regime in the Canadian Rocky Mountains: **U Silins**, K Bladon, S Boon, M Stone, M Emelko, C Williams, M J Wagner

1340h **H33E-0933 POSTER** Black Carbon in the Eastern Sierra Nevada: **K M Sterle**, J R McConnell, J Dozier, R Edwards, M M Bisiaux

1340h **H33E-0934 POSTER** Examining Alpine Meadow Restoration Techniques through Hydraulic Modeling: **C E Moore**, J S Deems, S P Loheide, J D Lundquist

1340h **H33E-0935 POSTER** Climate change impacts on snowmelt hydrology in small Sierra Nevada basins for ecological applications: **J S Deems**, J D Lundquist, S P Loheide

1340h **H33E-0936 POSTER** Changes in the Snowmelt Runoff Component for California Watersheds: **I T Stewart-Frey**, D H Peterson, F Murphy

1340h **H33E-0937 POSTER** GLACIER VARIABILITY IN WYOMING'S WIND RIVER RANGE AND TETON RANGE: **D Thompson**, J E Bell, J Edmunds, G A Tootle, G Kerr

1340h **H33E-0938 POSTER** Assessing impacts of climate change in a semi arid watershed using downscaled IPCC climate output: **S Rajagopal**, F Dominguez, H V Gupta, P A Troch, C L Castro

1340h **H33E-0939 POSTER** Interacting Effects of Land Management Strategies and Climate Change on the Ecohydrologic Systems of the Semi-Arid Santa Fe Municipal Watershed: **A L Dugger**, C Tague, C D Allen, T Ringer

1340h **H33E-0940 POSTER** Will the level of the Devils Lake of North Dakota continue to rise: A case study of combining NASA satellite data, global climate model and hydrologic model: **X Zhang**, Y H Lim, A Kirilenko, W L Teng

1340h **H33E-0941 POSTER** The Effect of Climate Change on Water Balance Components in the Senegal River Basin: **I Sandholt**, M Ridler, S Stisen, N MacKellar, J H Christensen, C Nielsen, K Rasmussen

1340h **H33E-0942 POSTER** Evaluating the effects of air pollution on precipitation in the north east of Iran: A Faridhosseini, **S Ghazanfari**, M Naseri

1340h **H33E-0943 POSTER** Simulating the Effects of Climate Change on Lakes in a Small Headwater Watershed using a Coupled Groundwater/Surface-Water Model: **J F Walker**, R J Hunt, R Regan, S Markstrom, L E Hay

1340h **H33E-0944 WITHDRAWN**

1340h **H33E-0945 POSTER** Monsoonal Responses to External Forcings over the Past Millennium: A Model Study (*Invited*): **J Liu**, B Wang

1340h **H33E-0946 WITHDRAWN**

H33F Moscone South: Poster Hall Wednesday 1340h
Reconciling Models With Data and Complexity: Evaluation, Diagnosis, and Correction of Model Structural Errors II Posters

Presiding: **L A Bastidas**, Utah State University; **S PANDE**, Center for World Food Studies; **N Bulygina**, Imperial College; **M P Clark**, NIWA

1340h **H33F-0947 POSTER** Effect of data uncertainty on parameter estimation and model complexity using high-density regions of bootstrapped likelihood and Bayesian measures of complexity and fit: **I A Tcherednichenko**, L A Bastidas, S PANDE, J KIM

1340h **H33F-0948 POSTER** Increasing confidence in model predictive capabilities under climate change through diagnosis of consistency of internal fluxes and storages: **B M Jackson**, H K McMillan, S Poyck

1340h **H33F-0949 POSTER** An Improved Global Optimization Method and Its Application in Complex Hydrological Model Calibration and Parameter Uncertainty Study: **W Chu**, X Gao, S Sorooshian

1340h **H33F-0950 WITHDRAWN**

1340h **H33F-0951 POSTER** Is Simpler Better? A Visualization-based Exploration of How Parametric Screening Influences Problem Difficulty and Equifinality in Multiobjective Calibration: P M Reed, **R L Urban**, T Wagener, K L van Werkhoven

1340h **H33F-0952 POSTER** Comparison of different GCM evaluation methods for NYC watersheds: **A Anandhi**, A Frei, D C Pierson, H Markensten

1340h **H33F-0953 POSTER** Distributed hydrologic model testing at the catchment scale using a hypothetical reality data set: **N C Cristea**, S K Kampf, B B Mirus, K Loague, S J Burges

1340h **H33F-0954 POSTER** Optimization of DRASTIC Model by AHP for Groundwater Vulnerability Assessment in Bonab area of Iran: **H Helali**, E Fijani

H33G Moscone South: Poster Hall Wednesday 1340h
Upscaling and Process Emergence: Field Experiments and Predictive Tools to Bridge Temporal and Spatial Scales in Hydrology III Posters

Presiding: **D Tetzlaff**, University of Aberdeen; **S K Carey**, Carleton University; **J McNamara**, Boise State

1340h **H33G-0955 POSTER** The scale dependence of dispersivity in multi-faces heterogeneous aquifer systems: **S Dong**, Z Dai, J Li

1340h **H33G-0956 POSTER** SCALING UP: ESTIMATES OF BASIN-SCALE RIPARIAN NITROGEN FLUX IN THE RIO ICACOS, PUERTO RICO: **N T Madden**, W H McDowell

1340h **H33G-0957 POSTER** Hydrograph shape factor: A robust approach for hydrologic classification: **M J Wagner**, U Silins

1340h **H33G-0958 POSTER** NorthWatch Workshop I: Climate Drivers and Hydrological Regimes in Northern Catchments: **S K Carey**, D Tetzlaff, N Team

1340h **H33G-0959 POSTER** Defining the role of flood recharge across multiple scales: **S C Simpson**, T Meixner

1340h **H33G-0960 POSTER** Capturing dominant runoff processes in a complex, heterogeneous mesoscale catchment: integrating tracers and modelling: **R Capell**, D Tetzlaff, C Soulsby, I A Malcolm, A J Hartley

1340h **H33G-0961 POSTER** Quantifying Mountain Block Recharge by Means of Catchment-Scale Storage-Discharge Relationships: **H Ajami**, P A Troch, T Maddock, T Meixner, C J Eastoe

1340h **H33G-0962 POSTER** Hydro-biogeochemical functions of a riparian wetland in a forested catchment: **M Katsuyama**, K Hayamizu, M Itoh, N Ohte, M Tani

1340h **H33G-0963 POSTER** Revisiting discharge increments: variability in space and time of water delivery to the stream: **P Szeftel**, R D Moore, M Weiler

1340h **H33G-0964 POSTER** Effective Soil Hydraulic Properties for Infiltration and Redistribution in Unsaturated Zone: **J Zhu**, D Sun

1340h **H33G-0965 POSTER** Storage and Hyporheic Exchange of Tracers in a Step-Pool Sequence of a New England Stream: **D L Karwan**, J E Saiers

1340h **H33G-0966 POSTER** Nested-scale observations to quantify fluxes that feed surface water discharge: **Y Van der Velde**, G H de Rooij, J Rozemeijer

1340h **H33G-0967 POSTER** Spatial and temporal variations within the hyporheic zone: **R E Warden**, J P McNamara

1340h **H33G-0968 POSTER** Upscaling solute transport in naturally fractured porous media using the Continuous Time Random Walk Method: J T Birkholzer, **A Cortis**, S Geiger

1340h **H33G-0969 POSTER** Upscaling of Reactive Mass Transport in Fractured Rocks with Multimodal Reactive Mineral Facies: **Z Dai**, H Deng, A V Wolfsberg, Z Lu, M Ye, P Reimus

1340h **H33G-0970 POSTER** Physical Controls of Soil Hydraulic Parameter Scaling: **R B Jana**, B P Mohanty

1340h **H33G-0971 POSTER** Temporal Evolution of Soil moisture Spatial Patterns at Field Scale across Multiple Seasons: **L Yang**, A Kaleita

1340h **H33G-0972 POSTER** Field-based study of connectivity in an agricultural catchment: **I Lexartza-Artza**, J Wainwright

1340h **H33G-0973 POSTER** Upscaling Retardation Factor of Porous Media with Multimodal Sorption Coefficient and Conductivity: **H Deng**, Z Dai, A V Wolfsberg, M Ye, Z Lu

H33H Moscone South: Poster Hall Wednesday 1340h
Water in the Critical Zone: Major Elements, Trace Elements, and Isotopes as Biogeochemical Tracers II Posters (*joint with B*)

Presiding: **L Jin**, Penn State University; **H L Buss**, U.S. Geological Survey

1340h **H33H-0974 POSTER** Determination of meteoric water sources of stream flow from elevation bands in the Upper Merced River, Sierra Nevada, California: **M H Conklin**, F Liu, M E Conrad

1340h **H33H-0975 POSTER** Deducing mineral weathering reactions from solute profiles in highly leached regolith, Luquillo Mountains, Puerto Rico: **H L Buss**, A F White, D V Vivit, J Fitzpatrick, T D Bullen, A Blum, M S Schulz, C Dessert, J Gaillardet

1340h **H33H-0976 POSTER** Landscape controls on pore water chemistry and chemical weathering rates in the Critical Zone Observatory: Shale Hills Catchment (Central Pennsylvania, USA): **L Jin**, S L Brantley

1340h **H33H-0977 POSTER** Chemical Indicators of Groundwater-Stream Water Interactions in a Forested, Wetland-Dominated Watershed within the U.S. Atlantic Coastal Plain: **C G Garrett**, V M Vulava, T J Callahan, C L Ginn

1340h **H33H-0978 POSTER** Use of isotopic and geochemical tracers to identify source waters, flow paths, and residence times of headwater catchments in Boulder Creek Watershed, Colorado: **R M Cowie**, M W Williams, P T Atkins

1340h **H33H-0979 POSTER** Can submarine groundwater discharge be a major source of mercury input to north Gulf of Mexico?: **X Du**, R Das, L Odum

1340h **H33H-0980 POSTER** How Critical Is The Critical Zone To Arsenic: Trying To Solve How And From Where Arsenic Weathers Into The Aquifers Of Asia's Deltas: S L Goodbred, **B Weinman**, Y Zheng, A K Singhvi, A van Geen

1340h **H33H-0981 POSTER** Fate and transport of heavy metals and radioelements in groundwater aquifers of Al-Qunfudhah and Wadi Haliy quadrangles, southwest of Saudi Arabia: **S A Bajabaa**, H Abd El-Naby, Y Dawood

1340h **H33H-0982 POSTER** Characterization of elements in the irrigated water in the Changjiang River Delta Region: **X Yuan**, X Yuan

1340h **H33H-0983 POSTER** Analysis of stable isotopes and radioisotopes to determine impacts of Canal lining on groundwater flows and chemical composition of springs and wells at the Dos Palmas Preserve and vicinity, Salton Sea, California: **N T Erdelyi**, B J Hibbs

1340h **H33H-0984 POSTER** Signatures and time scales of the stable isotope network in the Shale Hills Critical Zone Observatory: **G Holmes**, C Duffy, K A Dressler

1340h **H33H-0985 POSTER** Solute transport in shale and shale-derived soils at the Shale Hills CZO: **B W Kuntz**, K Singha

1340h **H33H-0986 POSTER** Weathering in Central Alaskan Rivers – Sulfur Sources and Cycling using S and O Isotopes: **A S Ellis**, J B Langman, M C Carney

1340h **H33H-0987 POSTER** Controls of Stream Water Chemistry in Small Catchments Across Snow/Rain Transition in the Southern Sierra, California: **F Liu**, C T Hunsaker, R C Bales

1340h **H33H-0988 POSTER** Testing the Two Water Worlds Hypothesis: column experiments and 1D transport modeling: **L Hopp**, T Sayama, J R Brooks, J J McDonnell

1340h **H33H-0989 POSTER** Mapping trace element distribution in fossil teeth and bone with LA-ICP-MS: **E A Hinz**, M J Kohn

1340h **H33H-0990 POSTER** Hydrologic characterization using event based $\delta^{18}\text{O}$, Si, and hydrometric measurements: R Sanchez-Murillo, J Boll, E Brooks

1340h **H33H-0991 POSTER** The elemental, $\delta^{44}\text{Ca}$, and $\delta^{26}\text{Mg}$ geochemistry of granite weathering at pH = 1 and T = 25°C: J Ryu, A D Jacobson, C Holmden, C Lundstrom, Z Zhang

H33I Moscone West: 3005 Wednesday 1340h
Managing Water Resources Risks and Innovating Adaptation Strategies in a World of Change II (*joint with GC, PA*)

Presiding: **C M Brown**, University of Massachusetts - Amherst; **P M Reed**, The Pennsylvania State University

1340h **H33I-01** The Concept of “Peak Ecological Water” in a Changing Climate. (*Invited*): **P H Gleick**

1358h **H33I-02** Dynamic Risk Quantification and Management: Core needs and strategies for adapting water resources systems to a changing environment (*Invited*): **U Lall**

1416h **H33I-03** Basin Scale Water Infrastructure Investment Evaluation Considering Climate Risk: **Y H Kaheil**, U Lall

1428h **H33I-04** A methodology for risk assessment of municipal infrastructure due to climate change: a case study of London, Ontario: **E Bowering**, A Peck, S Simonovic

1440h **H33I-05** Transboundary Climate Change Effects on the Hydrologic Regime in the Rio Conchos Basin: D McKinney, **E Ingol-Blanco**

1452h **H33I-06** Hydrologic control on water trade in dry land areas: **S PANDE**

1504h **H33I-07** Linking Predictive Models to Generic Planning Methods for Water Resource System Adaptation: Initial Application to The Thames Basin: **J J Harou**, E Matrosov, S Wade, M G New, D Pinte

1516h **H33I-08** What's Needed from Climate Modeling to Advance Actionable Science for Water Utilities?: **J J Barsugli**, C J Anderson, J B Smith, J M Vogel

1528h **H33I-09** Optimization of European Call Options Considering Physical Delivery Network and Reservoir Operation Rules: **N Hsu**, W Cheng, W Cheng, W W Yeh

H33J Moscone West: 3009 Wednesday 1340h
Non-Darcian and Non-Richards Flow in Porous Media I

Presiding: **B A Ebel**, US Geological Survey; **M C Sukop**, Florida International University; **E Kuniansky**; **W B Shoemaker**, U.S. Geological Survey

1355h **H33J-01** Additional Observations for Quantifying Non-Darcian Flow (*Invited*): **K J Halford**

1410h **H33J-02** Can Dynamic Multi-Phase Flow Models Describe Preferential Flow? (*Invited*): **D A DiCarlo**

1425h **H33J-03** Comparison of single-continuum and hybrid flow models representing turbulent conduit flow in spring catchments (*Invited*): **S Birk**, C Rehrl

1440h **H33J-04** The Richards equation vis-à-vis weak viscous forces during infiltration (*Invited*): **P F Germann**

1455h **H33J-05** Hydraulics of Water Films in the Subsurface (*Invited*): **T K Tokunaga**, J Wan

1510h **H33J-06** Convolution modeling of two-domain, nonlinear water-level responses in karst aquifers (*Invited*): **A J Long**

1525h **H33J-07** Effects of inertia and directionality on flow and transport in a rough asymmetric fracture (*Invited*): **M B Cardenas**, D T Slotke, R A Ketcham, J M Sharp

H33K Moscone West: 3007 Wednesday 1340h
Reactive Transport and Mixing in Complex Environments: Recent Advances in Theory and Experiments II (*joint with NG, OS*)

Presiding: **A Englert**, Ruhr University Bochum; **M Dentz**, Insitute of Environmental Assessment and Water Research (IDAEA-CSIC)

1340h **H33K-01** Scaling of mixing and spreading in heterogeneous porous media (*Invited*): **T Le Borgne**, M Dentz, D Bolster, J Carrera Ramirez, J De Dreuzzy, P Davy

1410h **H33K-02** A relation between multirate mass transfer models and reaction kinetics with true memory (*Invited*): **T R Ginn**

1440h **H33K-03** Dynamics of Calcium Carbonate Precipitation in Double Diffusion Mixing Zones: **G D Redden**, L Tu, T Gebrehiwet, B Payne, H Huang, L Guo

1455h **H33K-04** Effects of Porous Media Heterogeneity and Transverse Mixing on Bacterial Growth: **C J Werth**, C Zhang, J Zilles, R Mueller, Q Kang

1510h **H33K-05** On the probability distribution of the concentration of two aqueous species undergoing a bimolecular reaction in heterogeneous formations: **A Bellin**, A Fiori, G Severino

1525h **H33K-06** Imaging biofilms in porous media using X-ray computed micro-tomography: **Y Davit**, G Debenest, M Quintard

H33L Moscone West: 301 I Wednesday 1340h
Sustained Metal and Radionuclide Attenuation in Complex, Evolving Subsurface Environments II

Presiding: K Skubal, U.S. Department of Energy; E M Pierce; J C Marble, U.S. Dept. of Energy

1345h **H33L-01** Microfoams as Reactant Transport Media for In-Situ Immobilization of Radionuclide and Metallic Contaminants in Deep Vadose Zone: **D M Wellman**, L Zhong, S Mattigod, D Jansik

1400h **H33L-02** Overview of Phosphate-Based Remediation Technologies At The Hanford Site, Richland Washington: **K M Thompson**, J S Fruchter

1415h **H33L-03** Overview of Chromium Remediation Technology Evaluations At The Hanford Site, Richland Washington: J G Morse, **J P Hanson**

1430h **H33L-04** Geochemical Processes Controlling Chromium Attenuation within the Sandia Canyon Wetland, Los Alamos, New Mexico: **P Longmire**, J M Heikoop, M Ding, M Rearick, D Katzman, B Linhoff

1445h **H33L-05** Experimental Characterization of Chromium Fate and Transport in the Vadose Zone and Regional Aquifer at Sandia Canyon, Los Alamos, New Mexico: **M Ding**, P Longmire, D Vaniman, D Broxton, M Rearick, S Ware, D Katzman, J Bargar, S Webb

1500h **H33L-06** Engineered In-Situ Precipitation of Technetium and Uranium in Groundwater at the Savannah River Site: Treatment Targeting Long-Term Stability (*Invited*): **J B Gillow**, C C Lutes, A Frizzell, B Clark, J Horst

1515h **H33L-07** Mechanisms of Biogenic Uraninite Corrosion in Groundwater at the Rifle IFRC site: **J Bargar**, K M Campbell, H Veeramani, K Ulrich, P E Long, K H Williams, R Bernier-Latmani, D Giammar

Earth and Space Science Informatics

IN33A Moscone South: Poster Hall Wednesday 1340h
Geovisualization With Virtual Globes III Posters (*joint with A, B, C, ED, OS, H, GC, G, P, NH, EP, V, S, PA*)

Presiding: M Weiss-Malik, Google; J Dehn, Geophysical Institute

1340h **IN33A-1021 POSTER** Using Google Earth for K-12 Education: **K Kennedy**, J E Bailey, T Ornduff

1340h **IN33A-1022 POSTER** Visualizing spatio-temporal war casualty data in Google Earth - A case study of Map the Fallen (*Invited*): **S Askay**

1340h **IN33A-1023 POSTER** Crusta: Visualizing High-resolution Global Data: **T S Bernardin**, O Kreylos, C J Bowles, E Cowgill, B Hamann, L H Kellogg

1340h **IN33A-1024 POSTER** Spatial Data Search Using the Dapple Globe Viewer: **D Mortimer**, N Green

1340h **IN33A-1025 POSTER** 3D Visualization of near real-time remote-sensing observation for hurricanes field campaign using Google Earth API: **P Li**, J Turk, Q Vu, B Knosp, S M Hristova-Veleva, B Lambriksen, W L Poulsen, S Licata

1340h **IN33A-1026 POSTER** The 2nd Generation Real Time Mission Monitor (RTMM) Development: **R J Blakeslee**, M Goodman, D M Hardin, J Hall, M Yubin He, K Regner, H Conover, T Smith, P Meyer, J Lu, M Garrett

1340h **IN33A-1027 POSTER** Unidata's Integrated Data Viewer, a 3D client capable of visualizing and analyzing heterogeneous data: **W J Weber**, J McWhirter, D Murray

1340h **IN33A-1028 POSTER** Visualization of seismic tomography on Google Earth: Improvement of KML generator and its web application to accept the data file in European standard format: **Y Yamagishi**, H Yanaka, S Tsuboi

1340h **IN33A-1029 POSTER** Using Google Earth for Submarine Operations at Pavilion Lake: **M C Deans**, D S Lees, T Fong, D S Lim

1340h **IN33A-1030 POSTER** Adding Seabed True Color to the Virtual Globe: **J Coplan**, W B Ryan, C J Jenkins, R Lotti Bond, R A Arko

1340h **IN33A-1031 POSTER** Visualizing Mars data and imagery with Google Earth: **R A Beyer**, M Broxton, N Gorelick, M Hancher, M Lundy, E Kolb, Z Moratto, A Nefian, T Scharff, M Weiss-Malik

1340h **IN33A-1032 POSTER** Exploring Research Contributions of the North American Carbon Program using Google Earth and Google Map: **P C Griffith**, L E Wilcox, A Morrell

1340h **IN33A-1033 POSTER** Using 3D visual tools with LiDAR for environmental outreach: **N F Glenn**, S Mannel, S Ehinger, C Moore

1340h **IN33A-1034 POSTER** Visualization of High-Resolution LiDAR Topography in Google Earth: **C J Crosby**, V Nandigam, R Arrowsmith, J L Blair

1340h **IN33A-1035 POSTER** Getting Your GIS Data into Google Earth: Data Conversion Tools and Tips: R Nurik, **M Marks**

IN33B Moscone South: Poster Hall Wednesday 1340h
Next Generation, Space-Based, Operational Global Earth Observations III Posters (*joint with A, B, GC, OS, H*)

Presiding: S Schneider, NPOESS IPO; G McWilliams, NPOESS IPO

1340h **IN33B-1036 POSTER** NPOESS Environmental Data Records: **G M Mineart**, J M Haas, F Eastman, J Whitcomb

1340h **IN33B-1037 POSTER** NPOESS System Architecture: **F Hinnant**

1340h **IN33B-1038 POSTER** NPOESS IDPS: **J Mulligan**, M Ripley

1340h **IN33B-1039 POSTER** International Polar Orbiter Processing Package (IPOP): **J Overton**, G Fesenger, B Reed, W Thomas

1340h **IN33B-1040 POSTER** Features of the Deployed NPOESS Ground System: **D Smith**, K D Grant, G Route, G Heckmann

1340h **IN33B-1041 POSTER** NPOESS C3S Expandability: SafetyNet(TM) and McMurdo Improvements: **J Paciaroni**, M L Jamilkowski

1340h **IN33B-1042 POSTER** NPOESS Environmental Data Record (EDR) Production: **R Hughes**, K D Grant

1340h **IN33B-1043 POSTER** NPOESS Field Terminal Updates: **G Heckmann**, G Route

1340h **IN33B-1044 POSTER** OMPS Sensor Performance and Algorithm Description: **M S Branham**, S V Farrow, M Novicki, S Bhaswar, B Baker

1340h **IN33B-1045 WITHDRAWN**

1340h **IN33B-1046 POSTER** NPOESS Preparatory Project Ozone Mapper and Profiler Suite - Expected Performance: **M Z Caponi**, J Hornstein, L E Flynn, S J Janz, A Segura

1340h **IN33B-1047 POSTER** NPOESS Interface Data Processing Segment Product Generation: **K D Grant**

1340h **IN33B-1048 POSTER** ESA's Future Earth Explorer: three candidate missions: R Haagmans, **M Kern**, J Langen, K Scipal, M Davidson, P Ingmann, M Arcioni, B Carnicero, A Lecuyot, P Bensi, Y Durand, F Fois, F Heliere, V Kangas, C Lin, M R Drinkwater, R Meynart, P Silvestrin

1340h **IN33B-1049 POSTER** Performance of the NPP CrIS Sensor: P G Emch, **S V Farrow**, D Gu, C Wang, D E Hagan, F Sabet-Peyman

1340h **IN33B-1050** *POSTER* NPOESS Microwave Imager/Sounder (MIS) Sensor: **C W Brann**, R A Hamilton, D B Kunke

IN33C Moscone South: Poster Hall Wednesday 1340h
Next Generation, Space-Based, Operational Global Earth Observations IV Posters (*joint with A, B, GC, OS, H*)

Presiding: **J Furgerson**, NPOESS IPO; **B Reed**, NPOESS IPO

1340h **IN33C-1051** *POSTER* Cross-Track Infrared Sounder Science Data Record Pre-launch Calibration and On-Orbit Validation Plans: **D E Hagan**, G E Bingham, J Predina, D Gu, F Sabet-Peyman, C Wang, G De Amici, M Plonski, S V Farrow, J Hohn, M Esplin, V Zavyalov, C S Fish, R Glumb, S Wells, L Suwinski, J Strong, C Behrens, H Kilcoyne, J Feeley, G Kratz, D A Tremblay

1340h **IN33C-1052** *POSTER* Implementation of a Temporal Variational Data Assimilation Method to Retrieve Deep Soil Moisture: **A S Jones**, J Cogan, G Mason, G McWilliams

1340h **IN33C-1053** *POSTER* NPOESS Preparatory Project Validation Program for Atmosphere Data Products from VIIRS: **D Starr**, E Wong

1340h **IN33C-1054** *POSTER* Providing pre-Launch VIIRS, CrIS, and ATMS Proxy Datasets to facilitate NPP Validation Activities: **R Ullman**, J Zajic, V Gonzalez, D Sushon

1340h **IN33C-1055** *POSTER* NPOESS Preparatory Project Validation Program for Ocean Data Products from VIIRS: **R Arnone**, J M Jackson

1340h **IN33C-1056** *POSTER* Contributions of the SDR Task Network tool to Calibration and Validation of the NPOESS Preparatory Project instruments: **J Feeley**, J Zajic, A Metcalf, T Baucom

1340h **IN33C-1057** *POSTER* An Alternative EDR Retrieval Strategy for the NPP OMPS Limb Profiler: **J Hornstein**, T D Eden, J D Lumpe, D F Rault

1340h **IN33C-1058** *POSTER* NPOESS Tools for Rapid Algorithm Updates: **G Route**, K D Grant, B Hughes, B Reed

1340h **IN33C-1059** *POSTER* OMPS TC EDR Algorithm: Improvement and Verification: **M Novicki**, B Sen, X Hao, J J Qu

1340h **IN33C-1060** *POSTER* CrIMSS Retrieval Algorithm Testing with Proxy Data: **D Gu**, X Ma

1340h **IN33C-1061** *POSTER* OMPS SDR Calibration and Validation: **B Sen**, J Done, R Buss, G R Jaross, T J Kelly

1340h **IN33C-1062** *POSTER* An Efficient and Flexible Framework for Real-time Satellite Inter-calibration: **G Quinn**, D C Tobin, F W Nagle, W Wolf, R Holz, L Gumley, S Dutcher

1340h **IN33C-1063** *POSTER* Climate Calibration of the GEO visible record for CERES Ed3 products: **R Bhatt**, D R Doelling, D A Spangenberg, D Morstad

IN33D Moscone South: Poster Hall Wednesday 1340h
Next Generation, Space-Based, Operational Global Earth Observations V Posters (*joint with A, B, GC, OS, H*)

Presiding: **J J Bates**, NOAA; **A Webb**, NPOESS IPO/MITRE

1340h **IN33D-1064** *POSTER* NPOESS Contributions to Climate Observations: **D W Day**, M Mussetto

1340h **IN33D-1065** *POSTER* Satellite Meteorology Education Resources: New Modules and Initiatives: **P N Dills**, W E Abshire, M Weingroff, B Guarente

1340h **IN33D-1066** *POSTER* Soil Moisture Performance Prediction for the NPOESS Microwave Imager/Sounder (MIS): **L Li**, G McWilliams

1340h **IN33D-1067** *POSTER* A Comparison Between AVHRR, MODIS, and VIIRS: **N S Andreas**, K D Grant

1340h **IN33D-1068** *POSTER* Surface emissivity retrieved with CrIS measurements: **W Wu**, D K Zhou

1340h **IN33D-1069** *POSTER* Comparison Of eMODIS And Standard MODIS NDVI Products For Alaska And Adjacent Canada: **L Ji**, B K Wylie, B Ramachandran, C Jenkerson

1340h **IN33D-1070** *POSTER* Improvement of Cloud Microphysics Data Assimilation System with AMSR-E Sea Surface Products: **K Taniguchi**, Y Araki, C Mirza, T Koike

1340h **IN33D-1071** *POSTER* Inferring Global Cloud Cover Properties And Trends From Thirty Years Of HIRS Data: **W Menzel**, E Olson, B A Baum, R Holz, A K Heidinger, D Wylie, D L Jackson, J J Bates

1340h **IN33D-1072** *POSTER* Proposed Demonstration of GNSS Surface Reflections on DESDynI: L Young, **S Lowe**, R Hodges

1340h **IN33D-1073** *POSTER* A Near-Real-Time Global Geostationary Satellite Cloud and Radiation Retrieval System: **R Palikonda**, P Minnis, D A Spangenberg, J K Ayers, M M Khaiyer, Q Z Trepte, F Chang, P W Heck, T L Chee, L Nguyen, M Nordeen

1340h **IN33D-1074** *POSTER* McIDAS-V: Data Analysis and Visualization for NPOESS and GOES-R: **T Rink**, T H Achtor

1340h **IN33D-1075** *POSTER* Database Clustering for Dynamic Analysis of Large Atmospheric Data Sets to Support the Atmospheric PEATE: **S Dutcher**, R Holz, L Gumley, S Mindock, F Nagle, G Quinn

1340h **IN33D-1076** *POSTER* An Operational Geodatabase Service for Disseminating Raster Time Series Data: **K O Asante**

1340h **IN33D-1077** *POSTER* Direct Readout - A Transformation from Research to Operations: **W Thomas**, J Overton, R Ullman

IN33E Moscone South: 301 Wednesday 1340h
Error, Uncertainty, and Data Quality in Earth and Space Observations II (*joint with A, C, G, GC, P, OS, H, SA, EP, V, SM, SH*)

Presiding: **R G Raskin**, Jet Propulsion Laboratory; **B R Barkstrom**, Retired

1340h **IN33E-01** The Role of Uncertainty in Spatial Statistical Modeling of Geophysical Processes (*Invited*): **A J Braverman**

1355h **IN33E-02** Novel approaches to reducing uncertainty in regional climate predictions (*Invited*): **C M Ammann**

1410h **IN33E-03** Direct Aerosol Radiative Forcing Uncertainty Based on a Radiative Perturbation Analysis (*Invited*): **N G Loeb**, W Su

1425h **IN33E-04** The Value of Certainty (*Invited*): **B R Barkstrom**

1440h **IN33E-05** Assimilation of low-resolution paleo-proxies for spatial reconstruction of North American climatology: **A R Karspeck**, C M Ammann, D Nychka

1455h **IN33E-06** Uncertainty, its Uses, and Characterization Challenges for Gridded Sea Surface Temperature Products: **A Kaplan**

1510h **IN33E-07** An uncertainty model for radar-based multi-sensor precipitation estimates: A non-Gaussian copula-based approach: **A Aghakouchak**, E H Habib, A Bardossy

1525h **IN33E-08** WITHDRAWN

IN33F Moscone South: I02 Wednesday 1340h
Fostering Multidisciplinary Research via Interoperable Data Systems Based on International Geospatial Standards for Earth and Space Sciences II (*joint with A, B, C, ED, H, H, H, GC, OS, NH*)

Presiding: **B Domenico**, UCAR; **D K Arctur**, Open Geospatial Consortium, Inc.; **D R Maidment**, University of Texas at Austin; **S Nativi**, CNR & Univ. Florence

1340h **IN33F-01** Discovering NOAA Climate Data and Product Services (*Invited*): R Baldwin, **S Ansari**, G Reid

1352h **IN33F-02** Enabling the environmental information enterprise: data standards and interoperability at the US EPA (*Invited*): **J Johnston**

1404h **IN33F-03** NASA's Standards Process for Earth Science Data Systems (*Invited*): **R Ullman**, Y Enloe

1416h **IN33F-04** Federated Space-Time Query for Earth Science Data Using OpenSearch Conventions: **C Lynnes**, B Beaumont, R E Duerr, H Hua

1428h **IN33F-05** The Implementation of International Geospatial Standards for Earth and Space Sciences: **S Nativi**, G Percivall

1440h **IN33F-06** CF-netCDF Standardization: **B Domenico**, S Nativi, R K Rew

1452h **IN33F-07** The use of Standard OGC Web Services in Integrating Distributed Model, Satellite and In-situ Datasets: **A L Gemmell**, J Blower, K haines, M Price, K Millard, Q Harpham

1504h **IN33F-08** Real-time Monitor Quality of WMS to Support Service Choosing Decision: **H Wu**, Z Li, C Yang

1516h **IN33F-09** An OGC Hydrology and Hydrogeology Interoperability Experiment: N L Booth, **B Brodaric**, P Taylor, I Zaslavsky

1528h **IN33F-10** Critical Comparison of Information Models used by US Water Data Collection Agencies and Projects: **D W Valentine**, I Zaslavsky, T Whitenack

Nonlinear Geophysics

NG33A Moscone South: Poster Hall Wednesday 1340h
Pore-Scale Processes and Their Relevance to Solving Large-Scale Problems Posters (*joint with H*)

Presiding: **A G Hunt**, Wright State University; **M G Schaap**, University of Arizona

1340h **NG33A-1078 POSTER** The Effect of Films on the Capillary Pressure – Saturation Relationship: **Y Liu**, L J Pyrak-Nolte, D D Nolte, N J Giordano

1340h **NG33A-1079 POSTER** New Pore-Network Model for Simulating Quasi-Static Two-Phase Experiments in Granular Porous Media: **V Joekar-Niasar**, S M Hassanizadeh

1340h **NG33A-1080 POSTER** Inclusion of Asymptotic Effects of Diffusion on Dispersion by Advection: **A G Hunt**, T Skinner

1340h **NG33A-1081 POSTER** Pore scale modeling of electroosmosis of dilute electrolyte solution in porous media: **Q Kang**, M Wang

NG33B Moscone South: Poster Hall Wednesday 1340h
Scaling in Hydrology: From Precipitation to Groundwater Posters (*joint with H*)

Presiding: **S Lovejoy**, McGill University; **R M Neupauer**, University of Colorado; **M Gebremichael**, University of Connecticut

1340h **NG33B-1082 POSTER** Bode Analysis and Modeling of Water Level Change in the Great Lakes: S F Tebbens, **J R Smigelski**, C C Barton

1340h **NG33B-1083 POSTER** A Method to Accurately Generate Synthetic Self-affine Time Series for $-1 < \beta < 3$: J R Smigelski, C C Barton, S F Tebbens

1340h **NG33B-1084 POSTER** The space-time scaling of rain and thermal infra red radiances over weather and climate scales: theory and practice: **J Pinel**, S Lovejoy, D J Schertzer

1340h **NG33B-1085 POSTER** Downscaling Rainfall Records via a Deterministic Fractal Geometric Approach: **C E Puente**, A Cortis

1340h **NG33B-1086 POSTER** Superposition of the Neyman-Scott Rectangular Pulses Model and the Poisson White Noise Model for the Representation of Tropical Rain Rates: **M L Morrissey**

1340h **NG33B-1087 POSTER** Transferring Error Characteristics of Satellite Rainfall Data from Ground Validation (gauged) into Non-ground Validation (ungauged): **L Tang**, F Hossain

1340h **NG33B-1088 POSTER** Tributary Clustering and Incremental Area Function: **C Gangodagamage**, E Foufoula-Georgiou

1340h **NG33B-1089 POSTER** Universal Fractal Scaling of Drainage Areas in River Basins: **H Miyamoto**, T Hashimoto, K Michioku

1340h **NG33B-1090 POSTER** Ripples and dunes in a turbulent stream: scaling laws and dynamical mechanisms: A Fourrière, P Claudin, **B Andreotti**

1340h **NG33B-1091 POSTER** Scale and Resolution Relationships of Soils Information with Hydrology Modeling: **Z Libohova**, P Owens, L C Bowling, K A Cherkauer, B S Naz, E H Winzeler

1340h **NG33B-1092 POSTER** Geological Control of Fractal Groundwater Residence Times: **L Marklund**, A Wörman

NG33C Moscone South: 309 Wednesday 1340h
Complex Networks in Geosciences I (*joint with A, H, S, NH*)

Presiding: **I Zaliapin**, University of Nevada; **J Davidsen**, University of Calgary; **M Paczuski**; **J Kurths**, Potsdam Institute for Climate Impact Research

1340h **NG33C-01** Tokunaga Networks: **W I Newman**, D L Turcotte

1400h **NG33C-02** Percolation on correlated networks (*Invited*): **J F Mendes**

1420h **NG33C-03** Branching Network Theory and Application in Geosciences (*Invited*): **E C Waymire**

1440h **NG33C-04** What do networks have to do with climate? (*Invited*): **A Tsonis**

1500h **NG33C-05** How Do El-Niño and NAO Modify the Climate Network in their Basin, and Around the World? (*Invited*): **A Gozolchiani**, O Gazit, K Yamasaki, Y Berezin, S Havlin

1520h **NG33C-06** ENVIRODYNAMICS: DYNAMICAL TREES AND BDE MODELING OF RIVER TRANSPORT: I Zaliapin, **M Ghil**, E Foufoula-Georgiou

Natural Hazards

NH33A Moscone South: Poster Hall Wednesday 1340h
Threat and Response: The Reality and Politics of the Near-Earth Objects Hazard II Posters (*joint with A, B, GC, EP, P*)

Presiding: **E Pierazzo**, Planetary Science Institute; **D Morrison**, NASA Ames Research Center

1340h **NH33A-1133 POSTER** Self-shielding of thermal radiation by impact ejecta and implications for wildfires: T J Goldin, **H J Melosh**

1340h **NH33A-1134 POSTER** Australasian tektites: source parameters and crater location reviewed: **O Stecher**, M Storey, J R Hopper

1340h **NH33A-1135 POSTER** Multiple Meteoroid Impacts In Antarctica: Potential for Major Glacial Surges?: **A R Rice**, J Weihaupt, F van der Hoeven

1340h **NH33A-1136 POSTER** Los Alamos Radiation Hydrocode Models of Asteroid Destruction by an Internal Explosion: **R Weaver**, C S Plesko

NH33B Moscone South: Poster Hall Wednesday 1340h
Volcanic Forcing of Climate Change Versus Climate Forcing of
Volcanism Posters

Presiding: P L Ward, Teton Tectonics

1340h **NH33B-1137 POSTER** Possible Climatic Modulation of Large Caldera-Forming Eruptions (*Invited*): **A F Glazner**, K H Wohletz, I N Bindeman

1340h **NH33B-1138 POSTER** The bathymetric fabric flanking the East Pacific Rise carries the signature of glacial/interglacial changes in sea level (*Invited*): **P Huybers**, C H Langmuir

1340h **NH33B-1139 POSTER** A new radiative model implemented into an AOGCM: Simulations of recent and historical volcanic eruptions (*Invited*): **M Khodri**, F Fluteau

1340h **NH33B-1140 POSTER** Volcanism and Climate Over the Past 2000 Years: Is There a Difference Between Modeled and Reconstructed Climate Impact?: **C M Ammann**

1340h **NH33B-1141 POSTER** Large volcanic eruptions affect climate in many more ways than just cooling (*Invited*): **P L Ward**

1340h **NH33B-1142 POSTER** Volcanism and deglaciation in the Western Volcanic Zone, Iceland: Constraints on mantle melting and melt transport rates: **D E Eason**, J M Sinton, G Ito

1340h **NH33B-1143 POSTER** Influence of ice load variations on shallow magma storage zones: Application to Katla volcano, Iceland: **F Albino**, V Pinel, F Sigmundsson

1340h **NH33B-1144 POSTER** On the PETM and ETM2 global warming events: New evidence for a tectonic-magmatic trigger mechanism (*Invited*): **M Storey**, D Condon, O Stecher, N Hald

1340h **NH33B-1145 POSTER** Magnetostratigraphy and dating of the Karoo traps (South Africa) in relation with the end-Pliensbachian extinction event: progress report: **M Moulin**, F Fluteau, V E Courtillot, J Marsh, G DELPECH, X Quidelleur, M Gerard

1340h **NH33B-1146 POSTER** The curious relationship between volcanic fallout layers and millennial climate changes recorded in polar ice: B Price, **R C Bay**, R A Rohde, N E Bramall

1340h **NH33B-1147 POSTER** Volcanic forcing of monsoonal precipitation variability in selected modern volcanic eruptions: **W W Yim**, J C Chan

Near Surface Geophysics

NS33A Moscone West: 2016 Wednesday 1340h
Near-Surface Geophysics General Contributions II (*joint with H, S, GP*)

Presiding: A R Bobyarchick, UNC Charlotte; **L Pellerin**, Green Engineering, Inc

1340h **NS33A-01** Conditions leading to non-exponential T_2^* relaxation and implications for the interpretation of MRS measurements: **E D Grunewald**, R J Knight

1355h **NS33A-02** Adaptive Wavelet Modeling of Geophysical Data: **A Plattner**, H Maurer, W Dahmen, J Vorloeper

1410h **NS33A-03** Ground Penetrating Radar (GPR) Imaging to Distinguish Active from Inactive Sinkholes in Covered Karst Terrain: Results from Field Data and 3D FDTD Modeling: **B T Gooch**, S E Kruse

1425h **NS33A-04** Shallow (0-10) seismic investigation of a distressed earthen levee, New Orleans, USA: **J M Lorenzo**, J Hicks, E E Vera

1440h **NS33A-05** SCATTERING VERSUS INTRINSIC ATTENUATION IN THE VADOSE ZONE: MEASUREMENTS FROM PERMANENT DOWNHOLE RECEIVERS: **M Mangriotis**, J Rector, E Herkenhoff, J Neu

1455h **NS33A-06** High-resolution 3-D seismic reflection imaging of late Quaternary deformation in the shallow Alpine Fault Zone, New Zealand: **A E Kaiser**, A F McClymont, A Green, H Horstmeyer, F M Campbell, R M Langridge

1510h **NS33A-07** Prestack depth migration for seismic reflection data in the southern offshore of Korea: **S Jang**

1525h **NS33A-08** Detectability of Natural Resource Structures by a Low-Noise Airborne Gravity Gradiometer System: **K A Carroll**, M Anecchione

Ocean Sciences

OS33A Moscone South: Poster Hall Wednesday 1340h
Geological Setting of Gas Hydrate Reservoirs and Seeps: A
Source for Clean Energy and/or Storage for CO₂ I Posters

Presiding: J Mienert, University of Tromsø; **H Haflidason**, University of Bergen

1340h **OS33A-1211 POSTER** GAS HYDRATES ON THE MID-NORWEGIAN CONTINENTAL MARGIN: PACEMAKERS OF SLOPE STABILITY THROUGH TIME: **N Waldmann**, H Haflidason, B Hjelstuen, H P Sejrup

1340h **OS33A-1212 POSTER** Sedimentary environments and gas hydrates on the Vøring Plateau, mid-Norwegian continental margin: **C Zühlsdorff**, H Haflidason, H P Sejrup, J Brendryen, K J Grasmø

1340h **OS33A-1213 POSTER** Gas hydrates from the Sea of Marmara : Variability in composition and origin of the hydrate-forming gases L. Ruffine^{1*}, J. P. Donval¹, J. L. Charlou¹, L. Geli¹, P. Henry², G. Etiope³ 1 Département Géosciences Marines, IFREMER Centre de Brest, Plouzané, Cedex 29 280, France. 2 CEREGE / Collège de France, 13545 Aix en Provence, France 3 Istituto Nazionale di Geofisica e Vulcanologia Sezione Roma 2, * Corresponding author: **L Ruffine**

1340h **OS33A-1214 POSTER** Faulting of Continental Margin Sediments: A Mechanism to Increase Methane Hydrate Accumulation: **D W Edsall**

1340h **OS33A-1215 POSTER** Occurrence and geochemistry of methane induced carbonates indicating rafting of gas hydrate, eastern margin of Japan Sea: **A Hiruta**, R Matsumoto

1340h **OS33A-1216 POSTER** Geological modeling of free gas zone for anomalous sonic velocities below bottom simulating reflector: **T Banno**, H Mikada, T Goto, J Takekawa

1340h **OS33A-1217 POSTER** Ultrasonic Velocities in Laboratory-Formed Gas Hydrate-Bearing Sediments: **M B Rydzy**, M L Batzle

1340h **OS33A-1218 POSTER** Further improvements to a century-timescale simulation of the response of ocean sediment methane hydrates to climate change: **P C McGuire**, D E Archer, B A Buffett, V H Magalhaes, E B O'Donnell

1340h **OS33A-1219 POSTER** Barite Deposits at Hydrocarbon Seeps from Gulf of Mexico: **D Feng**, H H Roberts

1340h **OS33A-1220** WITHDRAWN

1340h **OS33A-1221 POSTER** The German collaborative project SUGAR Utilization of a natural treasure – Developing innovative techniques for the exploration and production of natural gas from hydrate-bearing sediments: M Haeckel, **J Bialas**, K J Wallmann

1340h **OS33A-1222 POSTER** Carbon dioxide storage in marine sediments – dissolution, transport and hydrate formation kinetics from high-pressure experiments: **N K Bigalke**, J P Savy, M Pansegrau, G Aloisi, E Kossel, M Haeckel

1340h **OS33A-1223 POSTER** Steady State CO₂ Sequestration Rate for CO₂ Storage in Methane Hydrates with Methane Production: **J P Osegovic**, K Sheps, M D Max, L Brazel, B Blake-Collins

1340h **OS33A-1224 POSTER** An experimental investigation on the dissociation of gas hydrates bearing synthetic sediments using depressurization method: **W Ju**, S Park, J Kang, J Lee

1340h **OS33A-1225 POSTER** Analysis of the theoretical model of drilling fluid invading into oceanic gas hydrates-bearing sediment: **L Zhang**, F Ning, G Jiang, N Wu, D Wu

1340h **OS33A-1226 POSTER** How does gas pass? Bubble transport through sediments: **K E Fauria**, A W Rempel

OS33B Moscone West: 3003 Wednesday 1340h
Improvements in Tsunami Risk Assessment, Warning, and Mitigation: Five Years After Sumatra III (*joint with NH, PA*)

Presiding: **N Wood**, USGS; **V V Titov**, NOAA/PMEL; **P K Dunbar**, National Geophysical Data Center

1340h **OS33B-01** Three-dimensional Tsunami Inundation Modeling with GPU-SPHysics: **A Munoz**, R Weiss, R A Dalrymple, A Hérault, G Bilotta

1355h **OS33B-02** The Future of DEMs for Tsunami Modeling: **B Eakins**, L A Taylor

1410h **OS33B-03** PREDICTING TSUNAMIS GENERATED BY 3D GRANULAR LANDSLIDES: **F Mohammed**, H M Fritz

1425h **OS33B-04** Modeling Landslide-Generated Tsunami Wave Generation and Evolution Over the Continental Shelf: **C W Moore**, R Weiss, H Zhou, V V Titov, Y Wei

1440h **OS33B-05** Probabilistic Tsunami Hazard Assessment – Application to the Mediterranean Sea: **M B Sorensen**, M Spada, A Babeyko, S Wiemer, G Grünthal

1455h **OS33B-06** Use of Advanced Tsunami Hazard Assessment Techniques and Tsunami Source Characterizations in U.S. and International Nuclear Regulatory Activities: **A M Kammerer**, A R Godoy

1510h **OS33B-07** Methodology for Estimating Tsunami Induced Hazard for Ports Along California Coastline: **B U Uslu**, V V Titov, M C Eble, U Kanoglu

1525h **OS33B-08** Fragility curves for structural damage by the 1993 Okushiri tsunami: **S Koshimura**

Planetary Sciences

P33A Moscone South: Poster Hall Wednesday 1340h
Exploring Venus II Posters

Presiding: **H F Parish**, University of California Los Angeles

1340h **P33A-1265 POSTER** Long term periodicities in a Venus Atmosphere General Circulation Model: **H F Parish**, G Schubert, C C Covey, R L Walterscheid, A Grossman, S Lebonnois

1340h **P33A-1266 POSTER** 3-Dimensional numerical simulations of the dynamics of the Venusian mesosphere and thermosphere: **S Tingle**, I C Mueller-Wodarg

1340h **P33A-1267 POSTER** Understanding the Variability of Nightside Temperatures and Airglow Emissions in Venus' Middle and Upper Atmosphere: NCAR VTGCM Simulations: **A Brecht**, S W Bougher, C D Parkinson, Y L Yung, S C Rafkin

1340h **P33A-1268 POSTER** A new Radiative Transfer Model of the Venus atmosphere: **C Lee**, M I Richardson

1340h **P33A-1269 POSTER** Observations of Night OH in the Mesosphere of Venus: **F J Martin-Torres**, C D Parkinson, M Allen, S W Bougher, A Brecht, F P Mills, M G Mlynchzak, Y L Yung

1340h **P33A-1270 POSTER** Temperature Dependence of the Vibrational Relaxation of OH($v = 1$ and 2) by CO₂: C Romanescu, A Marakov, H Timmers, K Kalogerakis, R A Copeland

1340h **P33A-1271 POSTER** Effects of the planetary-scale waves on the temporal variations of the O₂-1.27 μ m nightglow in the Venusian upper atmosphere: N Hoshino, H Fujiwara, M Takagi, Y Kasaba, Y Takahashi

1340h **P33A-1272 POSTER** Distribution of H₂O and SO₂ in the atmosphere of Venus: **Y L Yung**, M Liang, C D Parkinson

1340h **P33A-1273 POSTER** Cleaning of Venus Express high-resolution magnetometer data and observations of large scale field rotations in the magnetosheath: **A P Dimmock**, S N Walker, S A Pope, T Zhang, M Balikhin

1340h **P33A-1274 POSTER** A Statistical Study of Giant Magnetic Vortices Observed in the Venusian Magnetosheath: **S N Walker**, M Balikhin, T Zhang, A Fedorov, M Gedalin

1340h **P33A-1275 POSTER** Whistler-mode Waves Due to Lightning at Venus: Three years of Observation with Venus Express: **J T Daniels**, C T Russell, R J Strangeway, T Zhang

1340h **P33A-1276 POSTER** First ACE Observations of Venus pickup ions near Earth: **J A Gilbert**, T Zurbuchen

1340h **P33A-1277 POSTER** Radar Reflectivity Changes of Rock Surfaces due to Thermally-Activated Charge Carriers: Contributing to the Understanding of the Magellan Venus Radar Reflectivity Data: C Williams, G P Tsoflis, G G Cyr, R Dahlgren, J Keefner, **F T Freund**

1340h **P33A-1278 POSTER** Double Mantle Plume Upwelling—A Possible Formation Mechanism of Beta Plateau and Devana Chasma, Venus: **N Ding**

1340h **P33A-1279 POSTER** Topographic Comparisons of Uplift Features on Venus and Earth: **P R Stoddard**, D M Jurdy

1340h **P33A-1280 POSTER** Transient mantle layering and the episodic behaviour of Venus due to the 'basalt barrier' mechanism: A M Papuc, **G F Davies**

1340h **P33A-1281 POSTER** The Rationale for a New High-resolution Imaging Radar Mission to Venus: **R R Herrick**, V L Sharpton, R Gens, R R Ghent, M S Gilmore, R E Grimm, C L Johnson, P J McGovern, F Meyer, P J Mouginiis-Mark, J J Plaut, D T Sandwell, M Simons, S C Solomon

P33B Moscone South: Poster Hall Wednesday 1340h
Outer Planets II Posters

Presiding: **J D Menietti**, University of Iowa

1340h **P33B-1282 POSTER** Thermal and Near-Infrared Structural Evolution of the 2009 Wesley Jupiter Impact from 1.5-24.5 Micron Imaging: **Z S Greene**, G S Orton, L N Fletcher, P A Yanamandra-Fisher, O Mousis, B Fisher, N Reshetnikov, S Lai, E Otto, H B Hammel, I De Pater, M Edwards

1340h **P33B-1283 POSTER** Cloud Structure of Uranus and Neptune: **K Mihalka**, S K Atreya, P Egeler-Dowd

1340h **P33B-1284 POSTER** Growth Rate Analysis of Ordinary Mode Saturn Kilometric Radiation: **J D Menietti**, R L Mutel, L Lamy, C S Arridge, D A Gurnett, B Cecconi, P M Zarka, A J Coates

1340h **P33B-1285 POSTER** Properties of the magnetic field and plasma in the kronian magnetotail lobes and current sheet: **C M Jackman**, C S Arridge, M K Dougherty, A J Coates

1340h **P33B-1286 POSTER** Altitude and temperature of Saturn's aurora from VIMS observations: **A Adriani**, M L Moriconi, B M Dinelli, E D'Aversa, M B Lystrup, L Brower, G Filacchione, A Coradini

1340h **P33B-1287 POSTER** Scope of Jovian lightning observation by ground-based and spacecraft instruments: **T Fukuhara**, Y Takahashi, M Sato, K Nakajima

P33C Moscone South: 305 Wednesday 1340h
Astrobiology and Society: Challenges and Opportunities (*joint with B, PA*)

Presiding: **C M Bertka**, Carnegie Institution of Washington;
L Billings, George Washington University

1340h **P33C-01** Astrobiology: Interdisciplinary Research Providing a Vision for Planetary Exploration: **M A Voytek**, M H New, L Billings

1355h **P33C-02** Astrobiology in Mars exploration: from Viking to Mars Science Laboratory and beyond: **M A Meyer**

1410h **P33C-03** Kepler: First step in discovering the extent of life in our galaxy: **W J Borucki**, D Koch

1425h **P33C-04** Gaia Through Time: The Coevolution of Life and Climate: J F Kasting, **J Haqq-Misra**

1440h **P33C-05** Are We All There Is? Astrobiology in Culture: **L Billings**

1455h **P33C-06** Might Astrobiological Findings Evoke a Religious Crisis?: **T Peters**, J L Froehlig

1510h **P33C-07** Astrobiology, Evolution, and Society: Public Engagement Insights: **C M Bertka**

1525h **P33C-08** Ethical issues in astrobiology: a Christian perspective (*Invited*): **R O Randolph**

P33D Moscone South: 307 Wednesday 1340h
Return to the Moon: Latest Science Results IV: Lunar Geology and Geophysics (*joint with SH, V*)

Presiding: **B J Thomson**, JHU Applied Physics Lab; **M D Dyar**, Mount Holyoke College

1340h **P33D-01** Calculation of lunar Bouguer gravity anomaly using Chang'E-1 topography data: Interpretation for mascons: **Q Liang**, C Chen, J Du, B Chen

1355h **P33D-02** Basin-Induced Stresses and KREEP Magma Transport in the Moon: **W B Moore**, P H Warren

1410h **P33D-03** Solidifying the lunar magma ocean: Model results and geochronology (*Invited*): **L T Elkins-Tanton**, S D Burgess, J Meyer, J Wisdom

1425h **P33D-04** Experimental Constraints on Early Lunar Magma Ocean Cumulates as Possible Source Lithologies for the Mg - Suite: **S M Elardo**, D S Draper, C K Shearer

1440h **P33D-05** Oxygen Isotope Variations in Lunar Mare Basalts through Fractional Crystallization: **Y Liu**, M Spicuzza, J M Day, J W Valley, L A Taylor

1455h **P33D-06** WITHDRAWN

1510h **P33D-07** Mechanisms for Incorporation of Hydrogen in and on the Lunar Surface: **M D Dyar**, C Hibbitts, Y Liu, L A Taylor, G R Rossman, T M Orlando, S J Seaman, J M Tucker, C M Pieters

1525h **P33D-08** Lunar obliquity during a Cassini-state transition: **B G Bills**, W B Moore, M A Siegler

Paleoceanography and Paleoclimatology

PP33A Moscone West: 2008 Wednesday 1340h
Merging New and Old Proxies: Techniques, Limitations, and Applications From the Geological Record II (*joint with OS*)

Presiding: **S A Robinson**, University College London; **J W Thurow**, UCL

1340h **PP33A-01** A new dimension to the Sr isotope system - (88/86)Sr record of marine carbonates in the Phanerozoic: **H Vollstaedt**, A Eisenhauer, A Krabbenhoef, J Farkas, J Veizer

1355h **PP33A-02** Coupled calcium and carbon isotopes in the aftermath of the Permo-Triassic Extinction: **A V Turchyn**, J Payne, A Paytan, D J Depaolo

1410h **PP33A-03** Evolution of Seawater $^{44}\text{Ca}/^{40}\text{Ca}$ Through the Late Cretaceous and Cenozoic: **P R Castillo**, K Gopalan, R D Norris, C MacIsaac, X Liu, J D Macdougall

1425h **PP33A-04** Interrogating coccolith calcite: paleoceanographic proxy data from nannofractions, foraminifera and single coccolith specimens: **P R Bown**, J A Lees, J Young, S A Robinson, K G MacLeod, D R Grocke, D N Schmidt, R Hinton

1440h **PP33A-05** Tracking sea surface salinity variations in tropical oceans across glacial terminations with Mg/Ca, $\delta^{18}\text{O}$ and $\delta^{44/40}\text{Ca}$ ratios: C Horn, A Eisenhauer, D Nuernberg, J Schönfeld

1455h **PP33A-06** Regional Versus Global Influences on North Atlantic Climate Across Plio-Pleistocene Climate Transitions: a Multi-Proxy Based Approach: **K T Lawrence**, S M Sosdian, Y Rosenthal, H E White

1510h **PP33A-07** Who's on top? SST proxy comparison from the Peru Margin Upwelling System: **C Chazen**, T Herbert, M A Altabet

1525h **PP33A-08** Understanding controls on organic ($\text{U}^{37}_{\text{org}}$ and TEX_{86}) and inorganic (Mg/Ca) SST proxies: insights from a long term Mozambique Channel sediment trap study: **I S Castañeda**, U Fallet, G A Brummer, J S Sinninghe Damsté, S Schouten

PP33B Moscone West: 2006 Wednesday 1340h
Younger Dryas Boundary: Extraterrestrial Impact or Not? II (*joint with A, B, C, GC, P, NH*)

Presiding: **M Boslough**, Sandia National Laboratories; **P F Claeys**, Vrije Univ Brussels; **A West**, GeoScience Consulting; **T E Bunch**, Northern Arizona University

1340h **PP33B-01** Putting the Younger Dryas Cold Event into Context (*Invited*): **W S Broecker**, G Denton, R Edwards, H Cheng, R B Alley, A Putnam

1352h **PP33B-02** Are Nanodiamonds Evidence for a Younger Dryas Impact Event?: **A West**, J Kennett, D J Kennett, T E Bunch, T W Stafford, Jr., W S Wolbach

1404h **PP33B-03** Airbursts in the Sky with Diamonds? Shock Limits to a Younger Dryas Impact. (*Invited*): **H J Melosh**

1416h **PP33B-04** Lost Impacts (*Invited*): **P H Schultz**, A M Stickle

1428h **PP33B-05** Cosmic impact: What are the odds?: **A W Harris**

1440h **PP33B-06** High resolution Osmium isotopes in deep-sea ferromanganese crusts reveal a large meteorite impact in the Central Pacific at 12 ± 4 ka (*Invited*): M Sharma, C Chen, B P Jackson, W Abouchami

1452h **PP33B-07** No support from osmium isotopes for an impact event at the Bölling-Allerød/Younger Dryas transition: **F Paquay**, G E Ravizza

1504h **PP33B-08** Testing Younger Dryas ET Impact (YDB) Evidence at Hall's Cave, Texas: **T W Stafford**, E Lundelius, J Kennett, D J Kennett, A West, W S Wolbach

1516h **PP33B-09** Pleistocene Megafaunal Collapse in North America Preceded the Younger Dryas: Evidence from the Midwest: **J L Gill**, J Donnelly, S T Jackson, K B Lininger, J P Marsicek, G Robinson, B M Simonson, J W Williams

1528h **PP33B-10** Summary of impact markers and potential impact mechanisms for the YDB impact event at 12.9 ka: **T E Bunch**, P H Schultz, J H Wittke, A West, J Kennett, D J Kennett

SPA - Aeronomy

SA33A Moscone South: Poster Hall Wednesday 1340h
Causes and Effects of Ionospheric Density Gradients V Posters

Presiding: **S Basu**, Institute for Scientific Research; **R A Heelis**, University of Texas at Dallas

1340h **SA33A-1433 POSTER** CORISS Observations of Ionospheric Scintillation: **P R Straus**, R L Bishop, R G Caton, K M Groves, C S Carrano

1340h **SA33A-1434 POSTER** C/NOFS Observations of Plasma Density and Electric Field Responses to High Speed Streams in the Solar Wind: **L C Gentile**, W J Burke, O de la Beaujardiere, D E Hunton, P A Roddy, R F Pfaff, M Crown

1340h **SA33A-1435 POSTER** Effects of the April 2002 magnetic storm on density gradients in the middle and low latitude ionosphere: **T J Immel**, R A Heelis, J Huba, J Krall, R F Pfaff, R F Benson

1340h **SA33A-1436 POSTER** Relating OGO-5 H⁺ Plasmopause Transitions to Mid-Latitude Topside-Ionospheric Signatures: V Truhlik, **R F Benson**, D Bilitza, J M Grebowsky, Y Wang

1340h **SA33A-1437 POSTER** Dayside Mid-Latitude F-Region Enhancements During Small or Moderate Geomagnetic Disturbances: **M David**, J J Sojka

1340h **SA33A-1438 POSTER** On the evaluation of Ne gradients at equatorial and low-latitudes during geomagnetically quiet and disturbed periods: **M T Muella**, E R de Paula, C N Mitchell, P M Kintner

1340h **SA33A-1439 POSTER** Conjugate Observations Of Low And Mid Latitude Ionospheric Processes In The American Sector: **C R Martinis**, J L Baumgardner, J Wroten, M Mendillo

1340h **SA33A-1440 POSTER** Can the Weddell Sea anomaly and related phenomena be explained by conjugate effects?: **A G Burns**, S C Solomon, W Wang, C Lin, G Jee, C Rocken, Y Kuo

1340h **SA33A-1441 POSTER** Electron Density Gradients associated with Sudden Stratospheric Warmings: W Rideout, **A J Coster**, L P Goncharenko, T Tsugawa, C E Valladares

1340h **SA33A-1442 POSTER** Vertical structures of the TEC enhancement at mid-latitudes in the morning and the daytime sectors: **Y Goi**, A Saito, M Nishioka

1340h **SA33A-1443 POSTER** 3D Spectrum of Equatorial Density Irregularities Generated from Observed 1D Spectra: **G S Bust**, F S Rodrigues, M Psiake, M C Kelley, P A Roddy

1340h **SA33A-1444 POSTER** Imaging Ionospheric Perturbations Using L-band Space-Borne Radar: **X Pi**, B D Chapman, A Freeman

1340h **SA33A-1445 POSTER** Numerical Study of Latitudinal Dependence and Propagation of Nighttime Medium-Scale Traveling Ionospheric Disturbances: **T Yokoyama**, D L Hysell

1340h **SA33A-1446 POSTER** Development of four Fabry-Perot interferometers for measurements of thermospheric wind and temperature: **Y Otsuka**, K Shiokawa, S Oyama, M Satoh, Y Katoh, Y Hamaguchi, Y Yamamoto, S Nozawa, T Ogawa, J W Meriwether

1340h **SA33A-1447 POSTER** Generation of Traveling Atmospheric Disturbances During a Pulsating Geomagnetic Storm: **L C Gardner**, R W Schunk

SA33B Moscone South: 303 Wednesday 1340h
Ice Layers in the Mesopause Region and Their Relationship to the Environment in Which They Form I

Presiding: **S M Bailey**, Virginia Tech; **J M Russell**, Hampton University

1340h **SA33B-01** Relationships between PMC and PMSE from SOFIE and radar observations in both hemispheres (*Invited*): **M E Hervig**, L L Gordley, M Rapp, S Kirkwood, J M Russell, S M Bailey

1355h **SA33B-02** Polar Mesosphere Summer Echoes and Their Relation to Noctilucent Clouds: Towards a Quantitative Understanding (*Invited*): **M Rapp**, Q Li, I Strelnikova, R Latteck, G Baumgarten, N Mueller, M E Hervig

1410h **SA33B-03** Latitude-Dependent PMC Local Time Variability: **M T DeLand**, E P Shettle, G E Thomas, J J Olivero

1425h **SA33B-04** The multi-year NLC data set above ALOMAR: **J Fiedler**, G Baumgarten, N Mueller, U Berger, P Hoffmann, F Luebken

1440h **SA33B-05** AIM/CIPS Measurements of PMCs in relation to Temperature and Water Vapor: **C E Randall**, L Harvey, S Benze, K Hoppel, D E Siskind, J D Lumpe, S Bailey, J M Russell, A W Merkel

1455h **SA33B-06** Evidence for Interhemispheric Coupling during the Unusual Northern Polar Summer Mesosphere of 2002: **R A Goldberg**, A Feofilov, A Kutepov, F J Schmidlin, J M Russell

1510h **SA33B-07** Stratospheric effects on trends of mesospheric ice clouds (*Invited*): **F Luebken**, G Baumgarten, U Berger

1525h **SA33B-08** 30-year PMC variability modeled by WACCM (*Invited*): **D R Marsh**, A W Merkel

SPA - Solar and Heliospheric Physics

SH33A Moscone South: Poster Hall Wednesday 1340h
Energetic Particles in the Heliosphere II Posters

Presiding: **M A Dayeh**, Southwest Research Institute; **R T Duffin**, George Mason University

1340h **SH33A-1475 POSTER** Type III-L Solar Radio Bursts and their Associations with Solar Energetic Proton Events: **R T Duffin**, S M White, P S Ray, M L Kaiser

1340h **SH33A-1476 POSTER** Observation of energetic protons penetrating previous shock wave: **A Al-Sawad**, O Saloniemi, T L Laitinen, L G Kocharov, E Valtonen

1340h **SH33A-1477 POSTER** Interplanetary Proton and Electron Enhancements Associated with Radio-loud and Radio-quiet CME-driven Shocks: **P A Makela**, N Gopalswamy, H Xie, S Akiyama, S Yashiro

1340h **SH33A-1478 POSTER** Solar flare electrons at the Sun and near the Earth. Insights from interplanetary transport simulations: **N Agueda**, S Krucker, R P Lin, R O Vainio, D D Lario, B Sanahuja

1340h **SH33A-1479 POSTER** Anisotropy signatures of solar energetic particle transport along perturbed regions beyond 1 AU: R O Vainio, **N Agueda**, D D Lario, B Sanahuja

1340h **SH33A-1480 POSTER** A Statistical Study of Spectral Hardening in Solar Flares and Related Solar Energetic Particle Events: **J Grayson**, S Krucker, R P Lin

1340h **SH33A-1481 POSTER** Effects of Plasma Beta on Multiple Island Ion Acceleration: **K M Schoeffler**, J F Drake, M M Swisdak

1340h **SH33A-1482 POSTER** Diffusive Shock Acceleration to Relativistic Energies in the Solar Corona: **A Sandroos**, R O Vainio

1340h **SH33A-1483 POSTER** Large solar proton events associated with coronal mass ejections: **J Hwang**, K Cho, R Kim, Y Moon, Y Park

1340h **SH33A-1484 POSTER** Probabilistic Models for Solar Particle Events: **J H Adams**, M A Xapsos

1340h **SH33A-1485 POSTER** Relationship of Ground Level Enhancement with Solar Flare, Coronal Mass Ejection and Solar Energetic Particle: **K M Firoz**, K Cho, J Lee, P Kumar, J Hwang, S Y Oh

1340h **SH33A-1486 POSTER** Effects of a Radial Dependence in Transport Parameters on the Estimation of Solar Particle Fluence at Jupiter's Orbit: **A Saiz**, D J Ruffolo, J W Bieber, P A Evenson

1340h **SH33A-1487 POSTER** Multi-point observations of CIR-associated energetic ions: R Gómez-Herrero, O Malandraki, N Dresing, E Kilpua, B Heber, **P Dunzlaff**, A Klassen, R Müller-Mellin, R F Wimmer-Schweingruber

1340h **SH33A-1488 POSTER** Analysis of Jovian Jets Observed by Pioneer 10/11 and Ulysses: **P Dunzlaff**, A Kopp, B Heber, J Gieseler

1340h **SH33A-1489 POSTER** Understanding near-Earth energetic particle environment during large SEP events with the PATH code: **O P Verkhoglyadova**, G Li, G P Zank, Q Hu, C M Cohen, R A Mewaldt, G M Mason, D K Haggerty, T T von Rosenvinge, M D Looper

1340h **SH33A-1490 POSTER** Three Dimensional Time Dependent Stochastic Method for Cosmic-ray Modulation: **C Pei**, J W Bieber, R A Burger, J M Clem

1340h **SH33A-1491 POSTER** Monte-Carlo simulations of the interaction between Alfvén waves and energetic particles: **J Köhler**, R F Wimmer-Schweingruber

1340h **SH33A-1492 POSTER** Proton intensity gradients and radiation dose equivalents in the inner heliosphere: Modeling and Prediction: **M A Dayeh**, M I Desai, K A Kozarev, N A Schwadron, L W Townsend, M PourArsalan, C J Zeitlin, R D Hatcher

1340h **SH33A-1493 POSTER** Empirical Determination of the Heliocentric Potential using GOES Data: **H H Sauer**

1340h **SH33A-1494 POSTER** Test of the Angle Detecting Inclined Sensor (ADIS) Technique for Measuring Space Radiation: **J J Connell**, C Lopate, K R McLaughlin

SH33B Moscone South: Poster Hall Wednesday 1340h
Instruments and Methods in Solar and Heliospheric Physics Posters

Presiding: **M L Stevens**, Boston University; **S Christe**, NASA GSFC

1340h **SH33B-1495 POSTER** A thin dead-layer avalanche photodiode enables low energy ion measurement for space plasmas: **K Ogasawara**, S A Livi, E B Grotheer, D J McComas

1340h **SH33B-1496 POSTER** The Focusing Optics Solar X-ray Imager (FOXSI): **S Christe**, L Glesener, S Krucker, B Ramsey, S Ishikawa, T Takahashi

1340h **SH33B-1497 POSTER** Characterization of the RPW Electric Antenna System aboard Solar Orbiter: **D Plettemeier**, H O Rucker, T Oswald, M Sampl, G Fischer, W Macher, M Maksimovic

1340h **SH33B-1498 POSTER** The tandem Fabry Perot Full-Disk Solar Vector Magnetogram system for the Solar Magnetic Activity Research Telescope (SMART): **K Otsuji**, S Nagata, S Ueno, R Kitai, G Kimura, Y Nakatani, T Ishii, S Morita, K Shibata

1340h **SH33B-1499 POSTER** The Interface Region Imaging Spectrograph (IRIS) Small Explorer: **B De Pontieu**, A M Title, C J Schryver, J R Lemen, L Golub, C C Kankelborg, M Carlsson

1340h **SH33B-1500 POSTER** EUV Solar Instrument Development at the Marshall Space Flight Center: **K Kobayashi**, J W Cirtain, J M Davis, E West, L Golub, K E Korreck, S Tsuneta, T Bando

1340h **SH33B-1501 POSTER** Degradation-Free Spectrometers for Solar EUV Measurements: A Progress Report: **S R Wieman**, D L Judge, L V Didkovsky

1340h **SH33B-1502 POSTER** Mkit 1.0: The First Release of the IDL Multiscale Toolkit: **C Young**

1340h **SH33B-1503 POSTER** Development and application of advanced spectral analysis tools for Wind SWE: **M L Stevens**, J C Kasper, B Maruca, A J Lazarus

1340h **SH33B-1504 POSTER** Enabling Distributed access to SDO Data with VSO: **F I Suarez Sola**, A Amezcua, R Bogart, A R Davey, J Hourclé, J Spencer

1340h **SH33B-1505 POSTER** The VSO Interface to SDO Data - On Top and Underneath: **A R Davey**, J A Hourclé, F I Suarez Sola

1340h **SH33B-1506 POSTER** Accessing Solar Irradiance Data Products From the LASP Interactive Solar Irradiance Datacenter (LISIRD): **A Ware DeWolfe**, A Wilson, D M Lindholm, C K Pankratz, M Snow, T N Woods

SH33C Moscone South: I04 Wednesday 1440h
Parker Lecture (This session will be Webcast) (joint with SA, SM)

Presiding: **R L McPherron**, Univ Calif Los Angeles; **J J Sojka**

1445h **SH33C-01** A Voyage through the Heliosphere (*Invited*):
L F Burlaga

SPA - Magnetospheric Physics

SM33A Moscone South: Poster Hall Wednesday 1340h
Advances in Cusp and Polar Cap Dynamics III Posters (joint with SA)

Presiding: **C Kletzing**, **K Nykyri**, Embry-Riddle Aeronautical University

1340h **SM33A-1542 POSTER** High-altitude Boundary Layers near the Cusp: Cluster Observations: **Q Shi**, Q Zong, H Zhang, Z Pu, S Fu, L Xie, Y CHEN, L Li, L Xia, Z Liu, A N Fazakerley, H Reme, E A Lucek

1340h **SM33A-1543 POSTER** Global Simulations of the Response of the Cusp to Rapid Northward Turnings of the IMF: **J Berchem**, R L Richard, C P Escoubert, M G Taylor, H E Laakso, A Masson, J Bosqued, I S Dandouras, H Reme, F Pitout, M W Dunlop, E A Lucek

1340h **SM33A-1544 POSTER** Investigation of Foreshock Waves and Cusp Energetic Ions by 3-D Hybrid Simulation: **X Wang**, Y Lin, S Chang

1340h **SM33A-1545 POSTER** Cusp ion structures and their relation to reconnection: Results from OpenGGCM simulation: **H KIM**, J Raeder

1340h **SM33A-1546 POSTER** Particle Energization in Cusp-Like Diamagnetic Cavities: T Bhattacharya, **A Otto**, E T Adamson, K Nykyri

1340h **SM33A-1547 POSTER** Energetic electrons in the exterior cusp and along the high latitude magnetopause: **B Walsh**, T A Fritz, M M Klida, J Chen

1340h **SM33A-1548 POSTER** Intense electric field irregularities placed in context of dayside magnetospheric boundary layers: **K S Jacobsen**, **J Moen**

1340h **SM33A-1549 POSTER** Oxygen Ion Heating Rate within Alfvénic Turbulence in the Cusp: **V N Coffey**, N Singh, M O Chandler

1340h **SM33A-1550** WITHDRAWN

1340h **SM33A-1551** POSTER Low energy electron precipitation in the polar cap region observed by STSAT-1: **J Hong**, J Lee, K Min, K Park, K Kim

1340h **SM33A-1552** POSTER Localized Dayside Proton Aurora in the Polar Cap: **C R Bryant**, K A McWilliams, H U Frey

1340h **SM33A-1553** POSTER Evolution of Saturn's Bright Polar Aurora: **T Stallard**, D C Grodent, S V Badman, S Miller, H Melin, M B Lystrup, R H Brown

1340h **SM33A-1554** POSTER An optical statistical analysis of the dayside open/closed [1#28|]field line boundary location: **M G Johnsen**, D Lorentzen

1340h **SM33A-1555** POSTER PolarDARN Radar Observations of Plasma Flows Associated with Morning Polar Cap Forms Detaching from the Auroral Oval: **A V Koustov**, K Hosokawa, N Nishitani, T Ogawa, K Shiokawa, H Liu

1340h **SM33A-1556** POSTER Distributed ground-based optical observations of polar cap patches: **J M Holmes**, T R Pedersen, R Esposito

1340h **SM33A-1557** POSTER Tracing of High-Density Plasma in the Polar Cap: **K Oksavik**, V L Barth, J Moen

1340h **SM33A-1558** POSTER SIMULATION OF TRANSPOLAR POTENTIAL SATURATION FOR NORTHWARD IMF:

S K Bhattarai, R E Lopez, R J Bruntz, E J Mitchell, S Cockrell, J Lyon, M J Wiltberger

1340h **SM33A-1559** POSTER Polar Cap Electric Field Saturation During IMF Bz North and South Conditions: **F D Wilder**, C R Clauer, J B Baker

1340h **SM33A-1560** POSTER Cusp-related Pc3-5 Wave Activity: V Pilipenko, **M J Engebretson**, A Kozlovsky, V Belakhovsky, M Lessard, T K Yeoman

1340h **SM33A-1561** POSTER GPS Total Electron Content Variations Associated with a Polar Cap Arc: **P T Jayachandran**, K Hosokawa, J W MacDougall, S C Mushini, R B Langley, K Shiokawa

1340h **SM33A-1562** POSTER Climatology of GNSS ionospheric scintillation at high latitudes: L Spogli, **L Alfonsi**, G De Franceschi, V Romano, M Aquino, A Dodson, C N Mitchell

1340h **SM33A-1563** POSTER Ground and Satellite Conjunction Study of Small-scale Neutral Upwelling in the Cusp: **B Sadler**, M Lessard, E J Lund, H Luhr, S Marker, G Crowley, A Otto

SM33B Moscone South: Poster Hall Wednesday 1340h
Investing in Science: Space Plasma Data Archiving I Posters
(joint with SA, SH)

Presiding: A Masson, European Space Agency

1340h **SM33B-1564** POSTER The potential of THEMIS satellite and ground-based measurements for data mining: **S Frey**, V Angelopoulos, D G Sibeck, T Phan, J P Eastwood, A Runov, H U Frey

1340h **SM33B-1565** POSTER The evolution of Stanford University's ELF/VLF broadband data archive: U S Inan, **D I Golden**, M Spasojevic

1340h **SM33B-1566** POSTER NMDB: an archive for neutron monitor data in Europe and beyond: **K Klein**, C T Steigies

1340h **SM33B-1567** POSTER The ISIS Story – Science Return from Rescuing, Archiving and Analyzing a Unique Dataset: **D Bilitza**, R F Benson, B W Reinisch, X Huang

1340h **SM33B-1568** POSTER Cluster Ion Spectrometry (CIS) Data Archiving in the CAA: **I S Dandouras**, A Barthe, E Penou, S Brunato, H Reme, L M Kistler, A Blagau, G Facsko, E Kronberg, H E Laakso

1340h **SM33B-1569** POSTER Statistical study of ionospheric ion beams observed by CLUSTER above the polar caps: **R Maggiolo**, M Echim, D Fontaine, A F TESTE, C Jacquey

1340h **SM33B-1570** POSTER Implementing a Federated Data Archive with Asynchronous Data Query, Gathering and Analysis Capabilities: R Rankin, M Gordon, **R Potter**

1340h **SM33B-1571** POSTER Symbiosis of Data Archives and Virtual Observatories: **J Merka**, A Szabo, R J Walker, T W Narock, T A King, J B Faden

1340h **SM33B-1572** POSTER Electron density estimation in cold magnetospheric plasmas with the Cluster Active Archive: **A Masson**, A Pedersen, M G Taylor, C P Escoubet, H E Laakso

SM33C Moscone South: Poster Hall Wednesday 1340h
The Scientific Promise of Nanosatellites and CubeSats to Advance Geospace and Upper Atmosphere Science I Posters
(joint with AE, SA)

Presiding: K A Lynch, Dartmouth Physics; **D M Klumppar**, Montana State University; **G R Swenson**, University of Illinois; **C Swenson**, Utah State University

1340h **SM33C-1573** POSTER Implications of contamination and surface area ratios for Langmuir probe diagnostics on CubeSats: **P Suresh**, C Swenson

1340h **SM33C-1574** POSTER Exploring the Radiation Belts with the Explorer-1 [Prime] CubeSat: **K W Mashburn**, D M Klumppar, L Springer, E Mosleh

1340h **SM33C-1575** POSTER DUST Sounder and Temperature Imager Experiment (DUSTIE): M J McHugh, **C S Fish**, M J Taylor, L L Gordley, M E Hervig, M E Summers, D E Siskind

1340h **SM33C-1576** POSTER Satellites Probing the Alfvénic Resonator Cavity Experiment : SPARC-E: M E Dearborn, R L Balthazor, M G McHarg, **J J Huffman**

1340h **SM33C-1577** POSTER FIREFLY: A cubesat mission to study terrestrial gamma-ray flashes: **J H Klenzing**, D E Rowland, J Hill, A T Weatherwax

1340h **SM33C-1578** POSTER Electric Field Wire Boom System and instrument for CubeSats: **E M Stromberg**, S Burr, D Hui, C Swenson

1340h **SM33C-1579** POSTER Nanosatellite standardization and modularization as an asset to space weather measurements: **D Voss**, D Carsow, T A Fritz, H D Voss

1340h **SM33C-1580** POSTER Expected Performance of double probe instrumentation on CubeSats: **S Burr**, D Hui, J Pratt, C Swenson

1340h **SM33C-1581** POSTER Canadian Advanced Nanospace eXperiment 2 Orbit Operations: Over a Year of Pushing the Nanosatellite Performance Envelope: **R E Zee**, K Sarda, S H Skone, B Quine

1340h **SM33C-1582** POSTER Dipping Thermospheric Explorer CubeSat: **B Udrea**, R B Cosgrove, R A Doe, F Herrero, M P Hickey, S Vadas, J Malsbury, S Fuller, A Huang

1340h **SM33C-1583** POSTER Cubesat energetic particle measurements: Design, models, and scientific application at LEO: **E MacDonald**, J R Terry, Y Chen, K Henderson, J Burward-Hoy, M Kippen, M F Thomsen

1340h **SM33C-1584** POSTER CubeSat Constellations for Measurements of High Latitude Energy Input: **C Swenson**, M F Larsen, J J Sojka, C S Fish

1340h **SM33C-1585** POSTER CubeSat: Colorado Student Space Weather Experiment: **X Li**, S E Palo, D L Turner, D Gerhardt, T Redick, J Tao

1340h **SM33C-1586** POSTER GreenCube and RocketCube: Low-Resource Sensorcraft for Atmospheric and Ionospheric Science: **P J Bracikowski**, K A Lynch, A K Slagle, M H Fagin, S R Currey, M U Siddiqui

1340h **SM33C-1587** POSTER Low Altitude Emission (LAE) of Energetic Neutral Atoms (ENA) Observed by TWINS and its Relation to the CINEMA CubeSat Mission: D Bazell, T Sotirelis, H Nair, **E C Roelof**, P C Brandt

1340h **SM33C-1588** POSTER TIWS: Thermospheric/Ionospheric Wave Studies: **C Carlson**, G R Swenson, J J Makela, A Ghosh, V Coverstone, G Earle

1340h **SM33C-1589** POSTER The OSIRIS CubeSat Mission: A System of Satellites for Investigating the Response of the Stimulated Ionosphere: **S G Bilen**, P Pribula, A T Kummer, A C Escobar, J V Urbina, P A Bernhardt, M T Rietveld, M Kosch, S A Gonzalez, J M Rosado-Roman

1340h **SM33C-1590** POSTER Small Sensors for Space Weather: CubeSat Missions: T T Finne, **A C Nicholas**, C Coker, S A Budzien, M S Johnson, S P Arnold, F Herrero, M G McHarg, R L Balthazor, R A Doe, G S Bust, G Crowley, P R Straus

1340h **SM33C-1591** POSTER An Integrated Small Satellite Approach for Measurements of the Near-Earth Space Environment: **A Q Rogers**, L J Paxton, A Darrin

1340h **SM33C-1592** POSTER TRIO (Triplet Ionospheric Observatory) Mission: **D Lee**, J SEON, H Jin, K Kim, J Lee, M Jang, S Pak, K Kim, R P Lin, G K Parks, J S Halekas, D E Larson, J P Eastwood, E C Roelof, T S Horbury

1340h **SM33C-1593** POSTER Nanosatellite Potential for Unique Research and Education: **H D Voss**, J F Dailey, D Voss

1340h **SM33C-1594** POSTER CubeSat-Scale O2 Atmospheric Band (0-0) Imaging Spectrograph: **R A Doe**, S R Watchorn, J Noto, G Crowley, T G Slinger

Study of Earth's Deep Interior (DI)

DI33A Moscone South: Poster Hall Wednesday 1340h
Composition, Structure, and Thermodynamics of the Earth's Core I Posters (*joint with GP, MR, S*)

Presiding: **D Antonangeli**, Institut de minéralogie et de physique des milieux condensés, Institut de Physique du Globe de Paris, Université Paris 6 et 7; **A F Deuss**, University of Cambridge

1340h **DI33A-1606** POSTER Gravitational Driving of Inner Core Super-Rotation: **M Dumberry**

1340h **DI33A-1607** POSTER A dynamic origin for the innermost inner core?: **R Deguen**, P CARDIN

1340h **DI33A-1608** POSTER Hemispherical variation in inner core anisotropy from normal mode splitting functions: **A F Deuss**, J C Irving

1340h **DI33A-1609** POSTER Modeling Seismic Coda Waves for Textures of the Uppermost Inner Core: **K He**, V F Cormier

1340h **DI33A-1610** POSTER P-wave Velocity Structures near the Inner Core Boundary in the Eastern and Western Hemispheres: **T Yee**, J Rhie

1340h **DI33A-1611** POSTER Core Structure Reexamined Using new Teleseismic Data Recorded in Antarctica: Evidence for, at Most, Weak Cylindrical Seismic Anisotropy in the Inner Core: D Leykam, **H Tkalcic**, A M Reading

1340h **DI33A-1612** POSTER Intermittence of Inner-Core Boundary Reflectivity Beneath Northern Mexico Using Earthscope Transportable Array Data: **J J Jasbinsek**, K G Dueker

1340h **DI33A-1613** POSTER Array analysis of PKP(BC) phase with station corrections for travel times and amplitudes: **S Tanaka**

1340h **DI33A-1614** POSTER A Search of Rigid Zone at the Top of the Outer Core with Underside Reflection of PKKP waves Recorded by the USArray: **C L Kelly**, J huang, F Niu

1340h **DI33A-1615** POSTER Viscosity in the Lowermost Outer Core: **V F Cormier**, J Attanayake

1340h **DI33A-1616** POSTER Iron/Light-Element Alloys at Extreme Conditions and Their Implications for the Earth's Core: **M L Whitaker**, W Liu, D J Weidner, B Li

1340h **DI33A-1617** POSTER Equation of State and Magnetic Properties of Fe₃C to Multi-Megabar Pressure with Implications for the Earth's Inner Core: **L Gao**, B Chen, P K Dera, B Lavina, V Prakapenka, E E Alp, W Sturhahn, J Zhao, H Yavas, J Li

1340h **DI33A-1618** POSTER Carbon content in the Earth's inner core from the elasticity of iron carbide at high pressure: G Steinle-Neumann, **M Mookherjee**

1340h **DI33A-1619** POSTER An ab initio study on the effect of silicon and nickel iron alloys in the Earth's inner core: **A S Côté**, L Voadlo, J P Brodholt

1340h **DI33A-1620** POSTER Sound velocity measurements on Fe_{0.89}Ni_{0.04}Si_{0.07} to 108 GPa: mineral physics constraints on the silicon abundance in the Earth's core: **D Antonangeli**, J siebert, J Badro, D Farber, F J Ryerson, G Fiquet

1340h **DI33A-1621** POSTER Density measurement of core forming Fe Si liquids at high pressure: **T Ryuji**, E Ohtani, H G Terasaki, K Nishida, A Suzuki, T Kikegawa

1340h **DI33A-1622** POSTER Equation of state of Fe₆₄Ni₃₆ alloy by synchrotron radiation and applications to Earth's inner core: **D M Reaman**, J S Pigott, Y Meng, W R Panero

1340h **DI33A-1623** POSTER Thermoelastic properties of γ -Fe and γ -Fe₆₄Ni₃₆ alloys: N Tsujino, Y Nishihara, Y Nakajima, E Takahashi, K Funakoshi

1340h **DI33A-1624** POSTER First-principles Exploration of Crystal Structures of Pure Iron at Earth's Inner Core Conditions: **T Ishikawa**, T Tsuchiya, J Tsuchiya

1340h **DI33A-1625** POSTER Determination of B1-B8 Transition Boundary in FeO up to 208 GPa and 3800 K: **H Ozawa**, K Hirose, S Tateno, N Sata, Y Ohishi

DI33B Moscone West: 2003 Wednesday 1340h
Linking Earth's Deep Interior to the Surface Environment II
(joint with MR, PP, S, EP, V, T)

Presiding: **P D Clift**, University of Aberdeen; **C P Conrad**, University of Hawaii; **A M Shaw**, WHOI

1340h **DI33B-01** Dynamics of Mantle Circulation Associated with Slab Window Formation: Insights from 3D Laboratory Models: **B Guillaume**, F Funiciello, M Moroni, C Faccenna, J Martinod

1355h **DI33B-02** Deep Onset of Carbonated Silicate Melting in the Earth's Upper Mantle and Degassing of C-O-H Volatiles to the Exosphere (*Invited*): **R Dasgupta**

1410h **DI33B-03** Cycling of Volatiles and Stable Isotopes During High-P Subduction Dehydration of Serpentinite: **J Alt**, C J Garrido, W C Shanks, A V Turchyn, V López-Sánchez-Vizcaino, M Gómez-Pugnaire

1425h **DI33B-04** Role of granite subduction on the mechanism of supercontinent breakup: **H Senshu**, S Maruyama, S Rino, M Santosh

1440h **DI33B-05** INITIATION OF SUBDUCTION IN THE LABORATORY FROM SOLUTAL CONVECTION IN A COMPLEX-RHEOLOGY FLUID: **E Di Giuseppe**, A B Davaille

- 1455h **DI33B-06** The initiation of subduction by crustal extension at continental margins: **F Levy**, C P Jaupart
- 1510h **DI33B-07** New geophysical insight into the origin of the Denali volcanic gap: **S Rondenay**, L G Montesi, G A Abers
- 1525h **DI33B-08** A Hypothesis on the Link Between Outer-Rise Faults, Water, and Intermediate-Depth Earthquakes: **E Kiser**, M Ishii, C H Langmuir, P M Shearer, H Hirose

Mineral and Rock Physics

MR33A Moscone South: Poster Hall Wednesday 1340h **Crystallographic Fabrics: Geodynamic Marker of Earth's History and Today's Internal Structure II Posters** (*joint with S, T*)

Presiding: **K Michibayashi**, Shizuoka University

- 1340h **MR33A-1656** POSTER Microstructure and Elastic Anisotropy of Shales: **W Kanitpanyacharoen**, H Wenk, F Kets, R Mokso
- 1340h **MR33A-1657** POSTER The role of water in neocrystallization of feldspar during shear deformation: water distributions revealed by FT-IR mapping: **J Fukuda**, T Okudaira, K Michibayashi
- 1340h **MR33A-1658** POSTER Thermometry of Quartz Mylonites: **D Grujic**, M Stipp, J Wooden
- 1340h **MR33A-1659** POSTER Transition between dislocation creep and diffusion creep in upper greenschist- to lower amphibolite-facies metacherts: **T Okudaira**, D Ogawa, T Miyazaki, K Michibayashi
- 1340h **MR33A-1660** POSTER Fabric Characterization of Mantle beneath South Central North America: Constraints from Peridotite Xenoliths from Knippa and Kilbourne Hole: **T Satsukawa**, K Michibayashi, U Raye, R J Stern, E Y Anthony
- 1340h **MR33A-1661** POSTER Microstructural and fabric development and seismic anisotropy of the low-velocity zone beneath the volcanic front in the mantle wedge: insights from peridotite xenoliths in the Avacha volcano, Kamchatka Peninsula: **K Michibayashi**, T Oohara, T Satsukawa
- 1340h **MR33A-1662** POSTER Heterogeneous distribution of Fe in olivine grains generated by serpentinization: **J Ando**, H Ohfuji, Y M Urata, K Murata, H Maekawa
- 1340h **MR33A-1663** POSTER Development of seismic anisotropy during serpentinization: **T Watanabe**, Y Shirasugi, H Yano, K Michibayashi
- 1340h **MR33A-1664** POSTER Trench-parallel anisotropy developed in the serpentinized forearc mantle: An example from the Ohmachi Seamount, Izu-Bonin frontal arc: **K Hirauchi**, K Michibayashi, H Ueda, I Katayama
- 1340h **MR33A-1665** POSTER Olivine and Antigorite Lattice Preferred Orientation Patterns in Hydrated Peridotite and their Implications for Forearc Seismic Anisotropy: **S Wallis**, A Nishii, H Kobayashi, T Mizukami, K Michibayashi, T Watanabe
- 1340h **MR33A-1666** POSTER Deformation Fabrics and Water Content of Deep Continental Mantle: A Clue From an Ultra-Deep Upper Mantle Xenolith: **Z Jiang**, Z Sethna, S Karato
- 1340h **MR33A-1667** POSTER Transformation and deformation textures in MgGeO₃ post-perovskite: Implications for D'' anisotropy: **L M Miyagi**, W Kanitpanyacharoen, S Stackhouse, B Militzer, H Wenk
- 1340h **MR33A-1668** POSTER Brillouin scattering and preferred orientation of polycrystalline MgO at high-pressure: **A E Gleason**, H Marquardt, B Chen, S Speziale, L M Miyagi, R Jeanloz

- 1340h **MR33A-1669** POSTER Interdiffusion of deuterium and hydrogen in olivine and enstatite: Initial results: **J A Tyburczy**, **W L Du Frane**, T G Sharp

- 1340h **MR33A-1670** POSTER Monitoring the Change of Carbonate Rock Properties upon Injection of CO₂-rich fluids: **S Vialle**, T Vanorio, G Mavko, Y Guglielmi

- 1340h **MR33A-1671** WITHDRAWN

MR33B Moscone South: Poster Hall Wednesday 1340h **Physics of Anelasticity and Dissipation in Earth and Planetary Bodies II Posters** (*joint with C, G, P, V, DI, S*)

Presiding: **J C Castillo**, JPL/Caltech; **N Bagdassarov**, University Frankfurt

- 1340h **MR33B-1672** POSTER Intragranular strain field in columnar ice during elasto-viscoplastic transient creep regime, and relation with the local microstructure: **F Grennerat**, M Montagnat, P Duval, P Vacher, **O Castelnau**

- 1340h **MR33B-1673** POSTER Global deformation of different 3D earth models subjected to external forces: **S Zhang**, H Xing, Y Shi

- 1340h **MR33B-1674** POSTER Simultaneous ultrasonic velocities, porosity and pressure measurements at upper to lower crustal pressures using piston-cylinder apparatus: Influence of microcracks on the elastic properties of crustal rocks: **S Saito**, M Ishikawa, M Arima, Y Tatsumi

- 1340h **MR33B-1675** POSTER The role of water in the anelastic response of porous rocks: **T W Darling**, P A Johnson, J A Ten Cate, P Le Bas, J W Carey

- 1340h **MR33B-1676** POSTER Elastic properties of natural orthoenstatite up to 18GPa: **J Zhang**, J D Bass

- 1340h **MR33B-1677** POSTER Elasticity of hydrous aluminum-bearing orthopyroxene by Brillouin scattering spectroscopy: **C Sanchez-Valle**, J Wang, R Stalder

- 1340h **MR33B-1678** POSTER Shear Attenuation and Dispersion in Olivine + Orthopyroxene Aggregates (Synthetic Harzburgite): **M I Sundberg**, R F Cooper

- 1340h **MR33B-1679** POSTER Anelastic loss mechanisms associated with phase transitions in perovskites: **Z Zhang**, J Koppensteiner, W Schranz, M A Carpenter

- 1340h **MR33B-1680** POSTER Effects of Stress Concentrations on the Attenuation by Diffusionally-assisted Grain Boundary Sliding: **L Lee**, S Morris, T Zohdi

Seismology

S33A Moscone South: Poster Hall Wednesday 1340h **Advances in Signal Processing Methods for Seismology I Posters**

Presiding: **H Yao**, MIT; **O V Poliannikov**, MIT

- 1340h **S33A-1737** POSTER Automatic Detection Aftershocks of Spitsbergen Event at ARCES in 2008 using the multi-channel Wiener filter: **J Wang**, J Schweitzer, F Tilmann, R S White

- 1340h **S33A-1738** POSTER Ascertaining study on the order of Fresnel volume in seismic migration to seismic reflection method: **T Kawabayashi**, J Takekawa, T Goto, H Mikada, K Onishi

- 1340h **S33A-1739** POSTER Numerical simulation of seismic Ambient noise in the 10-50s period band using the Spectral Element Methods: **L Stehly**, P Cupillard, B A Romanowicz

1340h **S33A-1740 POSTER** Source/receiver depopulation potential for 1D and 2D surface wave imaging using cross-correlation methods: P Gouedard, P Roux, M Campillo, A Verdel, **H Yao**, R D van der Hilst

1340h **S33A-1741 POSTER** Estimation of the effect of non-isotropic distributed energy on the apparent arrival time in correlations: **B FROMENT**, M Campillo, P Roux, A Verdel, R Weaver

1340h **S33A-1742 POSTER** Empirical approaches for fast robust inversion of seismic moment tensor from surface waves: J Barriot, **D Reymond**, R Crusem

1340h **S33A-1743 POSTER** The generalized cross-validation method applied to geophysical linear traveltime tomography: **A Bassrei**, N P Oliveira

1340h **S33A-1744 POSTER** Crustal and upper mantle reflectors from noise autocorrelations: **I M Tibuleac**, D H von Seggern, A Stroujkova, J N Louie

1340h **S33A-1745 POSTER** 3D Time-domain wave modeling in fluid-solid coupled media: a cell-based finite-difference method approach: **H Lee**, D Min, S Lim, J Yang, B Kwon, H Yoo

1340h **S33A-1746 POSTER** Using Seismic Signals as a Quality Assessment Tool of USArray stations at the Array Network Facility: **L Astiz**, J A Eakins, V G Martynov, F L Vernon, R L Newman, J C Reyes, T A Cox, G H Karasu

1340h **S33A-1747 POSTER** Recovery of Near-Fault Ground Motions From the Strong-Motion Records of the 2008 Wenchuan, China Earthquake: **H Chiu**

1340h **S33A-1748 POSTER** Exploring the Limits of Waveform Correlation Event Detection as Applied to Three Earthquake Aftershock Sequences: C J Young, **D Carr**, M Resor, S Duffey

1340h **S33A-1749 POSTER** Using SVD to extract more information from correlograms for seismic interferometry: **M G Silva**, A E Malcolm

1340h **S33A-1750 POSTER** A Novel Circular-Array Method to Infer Rayleigh-to-Love Power Partition Ratios Using Ambient Noise: **T Tada**, I Cho, Y Shinozaki

1340h **S33A-1751 POSTER** Biot Theory Frequency Dependent Seismic Attributes: **N Saxena**, D W Eaton, H W van Gent, J L Urai

1340h **S33A-1752 POSTER** Fluctuations of correlations and Green's function reconstruction: role of scattering: A Derose, **E F Larose**, P Roux, M Campillo

1340h **S33A-1753 POSTER** Robust Delineation of Seismic Coda with k-Order α -Hull: D Krasnoshchekov, V Polishchuk

1340h **S33A-1754 POSTER** Improved Near-surface Velocity Models from Waveform Tomography Applied to Vibroseis MCS Reflection Data: **B Smithyman**, R M Clowes

1340h **S33A-1755 POSTER** Probing High-Frequency Earthquake Source Properties With The Wavelet Transform Modulus Maxima Analysis: **J A Ruiz-Paredes**, J E Elkhoury, J P Ampuero

1340h **S33A-1756 POSTER** On the applicability of Benford's Law in the Geosciences: M Sambridge, **H Tkalcic**, A Jackson

S33B Moscone South: Poster Hall Wednesday 1340h
Development of 3-D Models for Seismic Monitoring III Posters
(joint with DI, T)

Presiding: S C Myers, LLNL; **L Steck**, Los Alamos National Laboratory

1340h **S33B-1757 POSTER** 3D Travel Time Prediction for Earthquake Location - An Assessment of Methods and Models: M L Begnaud, S Ballard, **C A Rowe**, C J Young, L Steck, J R Hipp

1340h **S33B-1758 POSTER** A Global 3D P-Velocity Model of the Earth's Crust and Mantle for Improved Event Location: **S Ballard**, C J Young, J R Hipp, M Chang, J Lewis, M L Begnaud, C A Rowe

1340h **S33B-1759 POSTER** Normal modes inversion and synthetic seismograms in a 3 dimensional Earth: **J Roch**, E Clevede, G C Roullet

1340h **S33B-1760 POSTER** Complex Frequency Shifted PML Auxiliary Differential Equation Implementation for Seismic Wave Modeling in Cartesian, Spherical and General Curvilinear Coordinates: **W Zhang**, Y Shen

1340h **S33B-1761 POSTER** A Database of Global Finite-frequency Sensitivity Kernels based upon Spectral-element Simulations: **Q Liu**

1340h **S33B-1762 POSTER** Full Waveform Teleseismic Tomography: **S W Roecker**, B Baker, J McLaughlin

1340h **S33B-1763 POSTER** Validation of 3D Ray-Theoretical and Finite-Frequency Tomographic Images of the Western U.S. Lithosphere: Comparison of Synthetic Seismograms Generated via the Spectral Element Method: C A Rowe, **M Maceira**, R M Allen, M J Obrebski, L Steck

1340h **S33B-1764 POSTER** Crust and upper mantle structures beneath eastern Asia by SS precursors: B Heit, **X Yuan**, M Bianchi, R Kind, J Gossler

1340h **S33B-1765 POSTER** 3D Velocity Structure of Chukou Fault Area, Taiwan from Seismic Tomography: **C Chen**, W Chang, W Jian

1340h **S33B-1766 POSTER** THE LITHOSPHERIC STRUCTURE OF THE WESTERN TURKEY AND AEGEAN REGION: **T Afacan Ergun**, H Karabulut

1340h **S33B-1767 POSTER** FIRST HIGH RESOLUTION 3D VELOCITY STRUCTURE OF THE VOLCANIC TENERIFE ISLAND (CANARY ISLANDS, SPAIN): **A García-Yeguas**, J Ibáñez, I Koulakov, V Sallares

1340h **S33B-1768 POSTER** Ambient seismic noise tomography of Southeast Asia and Australia: **A Gorbatov**, E Saygin

1340h **S33B-1769 WITHDRAWN**

1340h **S33B-1770 POSTER** S-Wave Velocity Structure and Seismic Anisotropy beneath Tibetan Plateau: **S Ceylan**, Q Zhang, Y J Chen, J F Ni, E A Sandvol

1340h **S33B-1771 POSTER** Crustal Structure of the Himalayan Foothills using Noise Correlation Tomography: **N P Rao**, P Gerstoft

1340h **S33B-1772 POSTER** Compilation of a combined controlled source seismology (CSS) and local earthquake tomography (LET) three dimensional (3D), P-wave model of the lithosphere in the greater Alpine region: **M Wagner**, E H Kissling, S Husen, D Giardini

1340h **S33B-1773 POSTER** Two-point Ray Tracing and Determination of Hypocentral Parameters in the Media with 3-D Descending Slab: **W Kim**, T Kang

1340h **S33B-1774 POSTER** Very Broadband Rayleigh-Wave Dispersion (0.06 - 60 Hz) and Shear-Wave Velocity Structure Under Yucca Flat, Nevada Test Site: **K A Schramm**, S L Bilek, H J Patton, R E Abbott, R Stead, A Pancha, R White

1340h **S33B-1775 POSTER** Efficient computation of NACT seismograms: **Z Zheng**, B A Romanowicz

1340h **S33B-1776 POSTER** ON MULTIMODE COMPUTATIONS FOR Laterally-Heterogeneous Structures with Variable Surface Curvature: Modal Lateral Scattering and the Fundamental Assumption: **G Gurung**, F A Schwab, B G Jo

1340h **S33B-1777 POSTER** The Effects of Radial Parametrization in Surface-wave Inversions: Implications for Crustal Tomography Using Long-period Surface Waves: **K Liu**, Y Zhou

1340h **S33B-1778 POSTER** Upper Mantle Structure beneath the Chinese Capital Region from Teleseismic Finite-Frequency Seismic Tomography: **F Yang**, J Huang

1340h **S31D-05 POSTER** Frequency Domain Waveform Tomography with Plane Wave Sources: Implications for Teleseismic Imaging: **P B van Kooten**, R G Pratt

1340h **S33B-2066 POSTER** Adjoint Tomography of the Southern California Crust (*Invited*) (*Invited*): **C Tape**, Q Liu, A Maggi, J Tromp

S33C Moscone West: 2005 Wednesday 1340h
Earthquake Source Modeling II (*joint with T, G*)

Presiding: **B Aagaard**, U.S. Geological Survey; **G Shao**, University of California, Santa Barbara

1340h **S33C-01** What did We Learn from the Exercise of the Source Inversion Validation Blind Test I?: X Li, **G Shao**, C Ji, D Lavallee

1355h **S33C-02** Rupture process of the 2009 Suruga-bay earthquake in Japan—Moderate-sized intraplate earthquake with the complex fault geometry—: **W Suzuki**, S Aoi, H Sekiguchi

1410h **S33C-03** A Possible Coseismic Rupture on Conjugate Faults: **E Fukuyama**

1425h **S33C-04** The 2007 Java Intermediate-Depth Earthquake: Large Slip Triggered by Small Moment Release: **K Kuge**

1440h **S33C-05** Rapid determination of the energy magnitude Me: **D Di Giacomo**, S Parolai, P Bormann, H Grosser, J Saul, R Wang, J Zschau

1455h **S33C-06** Detection of high-frequency radiation sources during the 2004 Parkfield earthquake by a matched filter analysis: **T Uchide**, P M Shearer

1510h **S33C-07** Probabilistic estimates of surface slip including the effects of creep and afterslip: **B Aagaard**, J J Lienkaemper, D P Schwartz

1525h **S33C-08** Surface Slip Roughness of Large Earthquakes: **B E Shaw**

S33D Moscone West: 2007 Wednesday 1340h
Research and Development in Nuclear Explosion Monitoring II (*joint with A, H, PA*)

Presiding: **A Michelini**, INGV; **K Suyehiro**

1340h **S33D-01** Tsunami early warning using earthquake rupture duration (*Invited*): **A Michelini**, A Lomax

1355h **S33D-02** Comparison of CEA hydroacoustic bulletin and IDC hydroacoustic monitoring in the Pacific: O Hyvernaud, **D Raymond**

1410h **S33D-03** Seismo-acoustic events recorded at the USArray: **C D deGroot-Hedlin**, K Walker, M A Hedlin

1425h **S33D-04** Monitoring infrasound sources over Europe: from study to operational: **V Julien**, A LE PICHON, L Ceranna, H Pascal

1440h **S33D-05** Towards a continuous seismic scanning in the region of the Mendocino Triple Junction, California (*Invited*): **A Guilhem**, D S Dreger, R A Uhrhammer

1455h **S33D-06** Seismic Detection and Location Capabilities of the International Monitoring System: **E R Engdahl**, E A Bergman

1510h **S33D-07** Rapid Yield and Depth Estimation from Global Calibrated Paths: **S Ni**, R Chu, D V HelMBERGER

1525h **S33D-08** Vertically Integrated Seismological Analysis I: Modeling: **S Russell**, N S Arora, M I Jordan, E Sudderth

Tectonophysics

T33A Moscone South: Poster Hall Wednesday 1340h
Continental Deformation and Rheological Complexity III
Posters

Presiding: **K Regenauer-Lieb**, University of Western Australia; **G Rosenbaum**, The University of Queensland; **R F Weinberg**, Monash University

1340h **T33A-1859 POSTER** Strain localization in granodiorite mylonites: a microstructural and electron backscatter diffraction (EBSD) study of the South Mountains core complex, Arizona: **R M Greenberg**, E Miranda

1340h **T33A-1860 POSTER** Continental elastic thickness: back on track: **J F Kirby**, C J Swain

1340h **T33A-1861 POSTER** Naturally Constrained Profiles of the Strength of the Middle Crust Near the Brittle-Ductile Transition: **W M Behr**, J P Platt

1340h **T33A-1862 POSTER** Experimental Constraints on the Rheology of the Lithospheric Mantle: **S Mei**, A M Suzuki, D L Kohlstedt, N A Dixon, W B Durham

1340h **T33A-1863 POSTER** Dynamics of the seismogenic layer of Central and East Asia: Fault friction and the role of crustal buoyancies versus boundary conditions: **E C Klein**, L M Flesch, W E Holt

1340h **T33A-1864 POSTER** Volcanism as a new constraint on the rheology of continents: S Tait, **M Devès**, G C King, R Grandin, P Tapponnier

1340h **T33A-1865 POSTER** Post-orogenic extension and metamorphic core complexes in a heterogeneous crust, the role of preexisting nappes: **B Huet**, L Le Pourhiet, L Labrousse, E B Burov, L Jolivet

1340h **T33A-1866 POSTER** A statistical approach for comprehensively understanding crustal activity in terms of seismicity and strain rate (II): **M Kawamura**, T Kudo, K Yamaoka

1340h **T33A-1867 POSTER** Basin architecture and lithospheric structure of the Barents Sea region from geophysical modelling: **L Marelllo**, J Ebbing, L Gernigon

1340h **T33A-1868 POSTER** Inversion of seismic reflection data for the lateral correlation structure of subsurface velocity heterogeneity: **M Scholer**, J D Irving, K Holliger

1340h **T33A-1869 POSTER** The Influence of Margin Geometry on Extensional Deformation in Orogens: **S S Haq**, L M Flesch

1340h **T33A-1870 POSTER** Cenozoic Crustal Extension in Southeastern Arizona and Implications for Models of Core Complex Development: M S Arca, **R A Johnson**, P Kapp

1340h **T33A-1871 POSTER** Steady-State Deformation Using Matrix Exponentials: **S Titus**, J R Davis

1340h **T33A-1872 POSTER** CONSTRAINING FOLD GEOMETRY AT SHEEP MOUNTAIN ANTICLINE, WY, USING AIRBORNE LASER SWATH MAPPING DATA AND GEOLOGIC MAPPING: **C J Zahasky**, P J Lovely, D D Pollard

1340h **T33A-1873 POSTER** Skeleton-migration: Applications in deep crustal reflection seismic profiling: D W Eaton, **K Vasudevan**

1340h **T33A-1874 POSTER** Constraints From Deep-Imaging Magnetotellurics on the Lithospheric Structure and Evolution of the Enigmatic Okwa Terrane, Botswana: **M R Muller**, A G Jones, R L Evans

1340h **T33A-1875 POSTER** Thermochronological Constraints on the Exhumation of the Lys Caillouas Massif, West-Central Pyrenees: **J R Metcalf**, P G Fitzgerald, S Baldwin, J Muñoz, S E Perry, E B Feinberg

1340h **T33A-1876 POSTER** Decoupling during collision: insights from lithosphere-scale analogue modeling: **E Willingshofer**, D Sokoutis

1340h **T33A-1877 POSTER** Strain in Archean Granite-Greenstone terrains: C M Robin, **R C Bailey**

T33B Moscone South: Poster Hall Wednesday 1340h Earthquake Geology and Active Tectonics in South and East Asia III Posters (*joint with S*)

Presiding: **J Lee**, Academia Sinica; **J H Shyu**, National Taiwan University

1340h **T33B-1878 POSTER** Interim report on the 2008 Southern and the Central Japan Alps Transect (SCAT): **N Komada**, K Murata, M Hayakawa, N Tsumura, K Kano, T Sato, T Miyauchi, S Kojima, T Iwasaki, Y Ikeda, H Sato, N Hirata, S Abe, Y Miyake, T Otsuka, S Yamakita, Y Fukahata, K Kawamoto, H Kaneda, Y Panayotopoulos, A Hashima, T Ito, T Kawanaka, S Mizohata, S Abe, A Takahashi

1340h **T33B-1879 POSTER** Seismic reflection survey across the Kitakami lowland fault zone, northeast Japan: 2008 Hanaizumi and 2009 Nanshozan Profiles: **K Kagohara**, H Kosaka, A Miwa, T Imaizumi, T Ishiyama, S Koshiya, S Toda, N Marushima, Y Tashiro

1340h **T33B-1880 POSTER** The Effect of the Collision of the Izu-Bonin Arc on Long-Term Deformation in the Kanto Region, Japan: **A Hashima**, T Sato, T Ito, T Miyauchi, H Furuya, H Kaneda, N Tsumura, K Kameo, S Yamamoto

1340h **T33B-1881 POSTER** Stress field in the middle part of Kyushu, Japan inferred from focal mechanisms of micro earthquakes: **S Matsumoto**, S Nakao, H Shimizu, T Matsushima, K Uehira

1340h **T33B-1882 POSTER** Geological Structure of the Itoigawa - Shizuoka Tectonic Line, Northern Fossa Magna, Central Japan: **H Kim**, T Iwasaki

1340h **T33B-1883 POSTER** Developing process of active fault system in the west-central Japan: **K Yasue**, R Doke, T Ishimaru

1340h **T33B-1884 POSTER** Holocene Tsunami deposits associated with earthquakes along Pacific coast, northeast Japan: **H Suzuki**, T Imaizumi, T Ishiyama, T Miyauchi, K Kagohara, T Haraguchi, N Marushima, T Omachi

1340h **T33B-1885 POSTER** Nankai earthquakes recorded in tsunami sediments during the last 5000 years: **H Matsuoka**, M Okamura

1340h **T33B-1886 POSTER** Late Quaternary uplift rate across the Shimokita peninsula, northeastern Japan forearc: **T Matsu'ura**

1340h **T33B-1887 POSTER** Geomorphic response to active strike-slip faulting in Japanese mountains: quantitative analyses of channel offsets using LiDAR DEMs: **Z Lin**, H Kaneda

1340h **T33B-1888 POSTER** Deformation characteristics and history along the Ilkwang Fault, SE Korea: **K Jin**, Y Kim, S Yang, J Choi

1340h **T33B-1889 POSTER** Lateral variation of Moho discontinuity beneath the Yellow Sea region: **C YOO**, K Kim, M Suh, B Suk, R Paul, S Kang, Y Park, X Yi, T Hao, J Liu

1340h **T33B-1890 POSTER** Crustal deformation along Ryukyu Arc: **C Lo**, C Wang, W Wu, S Hsu, B F Chao

1340h **T33B-1891 POSTER** Late Holocene paleoearthquake activity in the Ruyeh fault in the Longitudinal valley system, eastern Taiwan: **N Matta**, C Chi, C B Yang, N Huang, Y Chu, I Yen, W Chen

1340h **T33B-1892 POSTER** A Non-Rigid Block Extrusion Induced by Arc-Continent Collision Corner: Present-day Crustal Deformation and Neotectonics in Northern Hualien, Taiwan: **C Chen**, J Lee, Y Chen, R Chen

1340h **T33B-1893 POSTER** The Holocene strath terraces of the Longitudinal Valley at Chihshang in eastern Taiwan and its Implication to the activity of the Chihshang Fault: **Y Liu**, J Lee, R Chen

1340h **T33B-1894 POSTER** Investigating lateral variations in the long-term slip rate of the Chelungpu fault, Central Taiwan: **M Simoes**, O Beyssac, Y Chen, D Shinde, A K Singhvi

1340h **T33B-1895** WITHDRAWN

1340h **T33B-1896 POSTER** Advances in 3D imaging of the geometry of the Chi-Chi earthquake thrust system in western Taiwan: **C Chou**, J Suppe, S Carena, S Huang

1340h **T33B-1897 POSTER** Temporal and spatial variation of stress fields before and after the 1999 Chi-Chi Taiwan earthquake: **Y Hsu**, Y Wu, C Chang, L S Teng, M Nakamura

1340h **T33B-1898 POSTER** Estimating Stress Magnitudes Using Petroleum Exploration Data in the West-central Fold and Thrust Belt of Taiwan: **J Hung**, C Fan

1340h **T33B-1899 POSTER** Neotectonic Patterns of Taiwan Based on Recent Multi-Source Data: **C Lu**, Y Chan, L Kuo, J Lee, K Chang

1340h **T33B-1900 POSTER** Long-lived interplay of Taiwan's Central Range topography and foreland basin architecture: **T Wilcox**, K J Mueller, Y Chen, S Huang

1340h **T33B-1901 POSTER** Neotectonic effect of Late Quaternary Deposits of the Changhua Coastal Plain in the Frontal Arc-Continent Collision Belt of Central Taiwan: **H W Chen**, L Wu, T Lee, M Chen, S Chang, T Lai

1340h **T33B-1902 POSTER** Segmentation of the Hsuehshan Range, central Taiwan revealing by thermochronology data: **Y Lee**, W Lo, T B Byrne, R Rau

1340h **T33B-1903 POSTER** Active Normal Faulting in Northern Taiwan: Evidence from LiDAR-derived DTM and Geologic Observations: **Y Chan**, K Chang, R Chen, J Lee, Y Hsieh

1340h **T33B-1904 POSTER** Quantitative description and analysis of earthquake-induced deformation zones along strike-slip and dip-slip faults: A M Johnson, **W Huang**

1340h **T33B-1905 POSTER** Precise Sediment Yield and Riverbed Change Detected by using LiDAR DTMs before and after a Typhoon Season: **Y Hsieh**, Y Chan, J Hu, C Lin

1340h **T33B-1906 POSTER** Azimuthal anisotropy beneath the Central Taiwan from array analysis of fundamental-mode Rayleigh waves: **Y Lai**, B Huang, H Yen

1340h **T33B-1907 POSTER** Focal Mechanisms of Earthquakes in the Taiwan Strait: **Y Chen**, L Zhao, L Chiao, Q Chen

1340h **T33B-1908 POSTER** Crust and upper mantle structure of South China Sea and its tectonic implications: **J TANG**, X Song, S Zheng

1340h **T33B-1909 POSTER** Deep electric structure beneath the northeastern margin of the Tibetan plateau, China: **Z Yan**, Z Guo, W Jijun, C Xiaobin, W Lifeng, T Ji, X Qibin, J Zhao

1340h **T33B-1910 POSTER** Fault segmentation and slip distribution along the 1957 Gobi-Altay earthquake rupture, Mongolia: **J Choi**, K Jin, D Enkhbayar, A Bayasgalan, Y Kim

1340h **T33B-1911 POSTER** THE 1971 ARTYK EARTHQUAKE SEQUENCE, NORTHEAST RUSSIA: **M S McLean**, K Fujita, K G Mackey, B M Koz'min

1340h **T33B-1912 POSTER** Smoking gun of the May-1912 Burma earthquake? Neotectonics of the Kyaukkyan fault system, Eastern Burma (Myanmar): **Y Wang**, K E Sieh, S Min, S Khaing, S Tun

1340h **T33B-1913 POSTER** Joint Inversion for Crustal and Pn Velocities and Moho Depth for Red River fault, northern Vietnam: **H Huang**, Z Xu, Y Wu, X Song, N Minh

1340h **T33B-1914 POSTER** Teleseismic Relocation of Earthquakes along the Sumatra-Andaman Subduction Zone: **J D Pesicek**, C H Thurber, H Zhang, H R DeShon, E R Engdahl

1340h **T33B-1915 POSTER** Variation in deformational mechanisms in the Banda Arc: Uplift and tectonic implications of Kisar, Indonesia: **J R Major**, R A Harris, H Chiang, C Prasetyadi, C Shen

1340h **T33B-1916 POSTER** Convergent margin structure and tectonics of the Java subduction zone (105°E-122°E): **H Kopp**, U Barckhausen, Y Djajadihardja, M Engels, E R Flueh, D A Hindle, E Lueschen, C Mueller, L Planert, C J Reichert, A A Shulgin, A Wittwer

1340h **T33B-1917 POSTER** New insight on the Great Sumatra Fault, offshore NW Sumatra, from recent marine data: **D Ghosal**, S C Singh, A Chauhan, N D Hananto

1340h **T33B-1918 POSTER** Preservation of Holocene Paleo-Earthquakes, Sungai Pinang, Western Sumatra: **T Dura**, C M Rubin, H M Kelsey, B Horton, C Grand Pre, A D Hawkes, M Daryono, T Ladinsky

T33C Moscone South: Poster Hall Wednesday 1340h
Intraplate Deformation and Sedimentary Basins: A Record of Plate Margin Processes? I Posters

Presiding: **G A Hagen-Peter**, University of Vermont; **M Stypula**, University of Vermont

1340h **T33C-1919 POSTER** Testing the Existence of the South Gobi Microcontinent: U-Pb Zircon Dating of Tectonites within the East Gobi Fault Zone, Southeastern Mongolia: **J P Taylor**, L E Webb, C L Johnson, M J Heumann, G A Hagen-Peter, G E Gehrels

1340h **T33C-1920 POSTER** Evidence for partial melting at northern Tavan Har and relationship to Late Triassic sinistral shear in the East Gobi Fault Zone, southeastern Mongolia: **M Stypula**, L E Webb, G A Hagen-Peter

1340h **T33C-1921 POSTER** Large-scale folding in the Tavan Har basement block, southeastern Mongolia and its relevance to Phanerozoic intercontinental deformation: **G A Hagen-Peter**, L E Webb, M Stypula

1340h **T33C-1922 POSTER** The Fairway-Aotea Basin and the New Caledonia Trough, witnesses of the Pacific-Australian plate boundary evolution : from mid-Cretaceous cessation of subduction to Eocene subduction renewal: J Collot, **L B Geli**, Y Lafoy, R Sutherland, R H Herzer, W R Roest

1340h **T33C-1923 POSTER** A structural study of the Nouméa Basin sediments, New Caledonia: **S M Bragg**, K N Nicholson, K Kuerterman, D Moody, T Taylor

1340h **T33C-1924 POSTER** Intraplate shearing and basin deformation in the Pacific Plate as a result of the Yakutat Block collision with North America: **R Reece**, S P Gulick, G L Christeson, L L Worthington

1340h **T33C-1925 POSTER** Constraints on the post-middle-Pleistocene tectonic development of the Confidence Hills, southern Death Valley, California: **J T Goodman**, S J Caskey

1340h **T33C-1926 POSTER** Sedimentary response to tectonism in the extensional Chihuahuan trough, Cretaceous of Southern North America: **P Budhathoki**, R P Langford, T L Pavlis

1340h **T33C-1927 POSTER** Cretaceous combined structure in eastern Sichuan Basin, China: **P Wang**, S Liu

1340h **T33C-1928 POSTER** Morphotectonic, seismic characteristics and development of the Off Pearl River Mouth Canyon, North South China Sea margin: **W Ding**

1340h **T33C-1929 POSTER** The Geounri Shear Zone in the Paleozoic Taebaeksan Basin of Korea and Its Tectonic Implication: **S Lee**, J Ree, R Han, K K Min

1340h **T33C-1930 POSTER** Quaternary complex deformation along active fold-and-thrust belts in plate collision zone as revealed by integration of geological, geomorphological and paleoseismological studies: An example from the Fujikawa-kako fault zone, central Japan: **T Maruyama**, M Saito

1340h **T33C-1931 POSTER** The 3D geometry of the Zechstein Z3 carbonate/anhydrite member: implications for the study of salt structures and hydro-carbon production: **H W van Gent**, J L Urai, M de Keijzer

1340h **T33C-1932 POSTER** DECOUPLED ACCOMMODATION OF CONVERGENCE BETWEEN AFRICA AND EURASIA. MODELLING THE LITHOSPHERIC STRUCTURE ACROSS THE GORRINGE BANK AND THE NW MOROCCAN MARGIN: **I Jimenez-Munt**, M Fernandez, J Verges, D Garcia-Castellanos, M Perez-Gussinye, J Afonso, J Fulla

1340h **T33C-1933 POSTER** The North Namibian Margin during the Meso-Cenozoic: deformation and topography: **O Dauteuil**, F Deschamps, O Bourgeois, A Mocquet, F Guillocheau

1340h **T33C-1934 POSTER** HuBLE-UK, the Hudson Bay Lithospheric Experiment: Insights into the Formation of the Canadian Shield From Seismic Tomography and Shear-Wave Splitting: **I D Bastow**, J M Kendall, G R Helffrich, J Wookey, D A Thompson, D B Snyder, D W Eaton, F A Darbyshire

1340h **T33C-1935 POSTER** Initial results from continuous GPS stations at Hudson Bay: **K F Tiampo**, A Dwivedi, G Kapp, Y Toya, F A Darbyshire, D W Eaton

1340h **T33C-1936 POSTER** Variations in Lithospheric Structure Across Northern Hudson Bay From Rayleigh Wave Array Tomography: **F A Darbyshire**, I D Bastow, J M Kendall, G R Helffrich, J Wookey, D Thompson, D B Snyder, D W Eaton

1340h **T33C-1937 WITHDRAWN**

T33D Moscone West: 2009 Wednesday 1340h
Arc Systems, Ophiolites, and Continental Crust Formation V
(joint with V)

Presiding: **J E Snow**, University of Houston; **Y Ohara**, Hydrographic and Oceanograph Department of Japan

1340h **T33D-01** Supra-subduction zone (SSZ) ophiolites: the Fore-arc connection (*Invited*): **J W Shervais**, R V Metcalf

1355h **T33D-02** Forearcs and Supra-Subduction Zone Ophiolites: Some Similarities and Differences (*Invited*): **J A Pearce**, P T Robinson

1410h **T33D-03** Forearc oceanic crust in the Izu-Bonin arc – new insights from active-source seismic survey -: **S Kodaira**, N Noguchi, N Takahashi, O Ishizuka, Y Kaneda

1425h **T33D-04** Structure and Geochemistry of Tethyan Ophiolites and Their Multi-Stage Arc-Forearc Magmatic Evolution in Subduction Rollback Systems (*Invited*): **Y Dilek**

1440h **T33D-05** The Southern Mariana Convergent Margin: A Pre-Ophiolite Analogue (*Invited*): **F Martinez**, R J Stern

1455h **T33D-06** Godzilla Mullion: current understanding on the nature of the world's largest oceanic core complex: **Y Ohara**, J E Snow

1510h **T33D-07** Secular evolution of partial melting and melt stagnation during the formation of Godzilla Mullion, Philippine Sea: **J E Snow**, Y Ohara, Y Harigane, K Michibayashi, E Hellebrand, A Von der Handt, M Loocke, T Ishii

1525h **T33D-08** Similarities between Oceanic Core Complexes formed at Very Different Spreading Rates: **H J Dick**, Y Ohara, S Nakata

T33E Moscone West: 201 I Wednesday 1340h
Gulf of California-Salton Trough Rift Margin: Recent Findings and Remaining Questions II (*joint with S, G*)

Presiding: **S E Bennett**, Univ. of California, Davis; **J W Kluesner**, Scripps Inst. of Oceanography; **D S Brothers**, Scripps Institution of Oceanography

1340h **T33E-01** Crustal Recycling by Surface Processes Along the Pacific-North America Plate Boundary: From the Colorado Plateau to the Salton Trough and Gulf of California: **R J Dorsey**

1355h **T33E-02** Interseismic Strain Accumulation in the Imperial Valley and Implications for Triggering of Large Earthquakes in Southern California: **B W Crowell**, Y Bock, D T Sandwell

1410h **T33E-03** Transtensional Rifting in the Late Proto-Gulf of California Near Bahía Kino, Sonora, México: **S E Bennett**, M E Oskin, R J Dorsey

1425h **T33E-04** Dynamic Upwelling in the Mantle Beneath the Gulf of California (*Invited*): **D W Forsyth**, Y Wang, B Savage

1440h **T33E-05** Climatic influence on rift structure: Axial rift evolution in Guaymas Basin during the past 250,000 years: **J W Kluesner**, P Lonsdale, S E Kirtland

1455h **T33E-06** Deformation in the Central Gulf of California from Geodetic data (*Invited*): **C Plattner**, R Malservisi, F Amelung

1510h **T33E-07** 2-D tomographic imaging of continental crust and relic slab beneath Baja California: **D S Brothers**, A J Harding, G Kent, N Driscoll

1525h **T33E-08** Active faulting and seismicity across the SW Gulf of California plate margin: anomalous rifting at slow geologic rates 2-3 m.y. after spreading initiated: **R Arrowsmith**, M M Busch, P J Umhoefer, G Kent, N Driscoll, G Martínez-Gutiérrez, S J Maloney, B Buchanan

Volcanology, Geochemistry and Petrology

V33A Moscone South: Poster Hall Wednesday 1340h
Dynamics and Geochemical Consequences of Melting, Melt Migration, and Melt-Rock Reaction in a Multiscale Heterogeneous Mantle II Posters (*joint with T*)

Presiding: **Y Liang**, Brown University; **M A Hesse**, University of Texas at Austin

1340h **V33A-2023 POSTER** Evidence for diffusion and folding process based on the Mg# profile and the symmetrical layered structure in Horoman peridotite, Hokkaido, Japan: **T Nakano**, A Toramaru

1340h **V33A-2024 POSTER** Structural, petro-geochemical and modelling constraints on melt migration by porosity waves in sub-arc mantle: **P Bouilhol**, J A Connolly, U Schaltegger, J Burg, M Chiaradia

1340h **V33A-2025 POSTER** Compositional Heterogeneities in the Oceanic Mantle Lithosphere: the Role of Melt-Rock Reactions: **P I Luffi**, C Lee

1340h **V33A-2026 POSTER** Chemical provinces and dynamic melting of the NE Atlantic mantle: **R G Tronnes**

1340h **V33A-2027 POSTER** Progressive melting of a hot mantle diapir with entrainment beneath southwestern Japan: **T Sakuyama**, M Yoshikawa, T Shibata, S Nakai, H Sumino, K Ozawa

1340h **V33A-2028 POSTER** Geochemical Diversity of Near-Ridge Seamounts: Insights into Oceanic Magmatic Processes and Sources: **N L Baxter**, M R Perfit, R E Wendt, C Lundstrom, D A Clague

1340h **V33A-2029 POSTER** Quantitative characterization of 3-dimensional melt distribution in partially molten olivine-basalt aggregates using X-ray synchrotron microtomography: **W Zhu**, G A Gaetani, F Fusseis

1340h **V33A-2030 POSTER** Melt permeability barriers as a function of spreading rate beneath mid-ocean ridges: L B Hebert, **L G Montesi**

1340h **V33A-2031 POSTER** Partitioning of protactinium, uranium, thorium and other trace elements between columbite and hydrous silicate melt: **F Huang**, M W Schmidt, D Günther, J Eikenberg

1340h **V33A-2032 POSTER** Shear-induced melt localization and microstructures within a crystallizing magma: **H Kawabata**, D Nishiura, H Ohfuji, K Tani, H Sakaguchi, Y Tatsumi

V33B Moscone South: Poster Hall Wednesday 1340h
EARTHTIME and the Frontiers of U-Pb Geochronology I Posters

Presiding: **S A Bowring**

1340h **V33B-2033 POSTER** Using statistics and software to maximize precision and accuracy in U-Pb geochronological measurements: **N McLean**, J F Bowring, S A Bowring

1340h **V33B-2034 POSTER** Automating U-Pb IDTIMS data reduction and reporting: Cyberinfrastructure meets geochronology: **J F Bowring**, N McLean, J D Walker, J M Ash

1340h **V33B-2035 POSTER** U-Pb zircon geochronology of the Butedale pluton, British Columbia: **S W Denyszyn**, R Mundil, S J Brownlee, P R Renne

1340h **V33B-2036 POSTER** Timing of melting associated with the exhumation of HP-UHP rocks, D'Entrecasteaux Islands, SE Papua New Guinea: **S M Gordon**, S A Bowring, S Baldwin, T A Little, B R Hacker

1340h **V33B-2037 POSTER** U-Pb systematics in coexisting zircon, rutile and titanite from granophyres in the Archean Stillwater Complex: metamictization and the fate of radiogenic Pb: **R M Friedman**, C J Wall, J S Scoates, W P Meurer

1340h **V33B-2038 POSTER** Assessing Metamorphic Ages from Complex Zircons Using Multi-Step Chemical-Abrasion TIMS: **A R Kylander-Clark**, J M Mattinson, B R Hacker

1340h **V33B-2040 POSTER** Laser Ablation ICP-MS U-Pb Dating and Hf Isotopic Measurements of Granulite Facies Rocks from the Southern Part of Bohemian Massif (Czech Republic): **M Svojtka**, J Slama, J Kosler

1340h **V33B-2041 POSTER** Detrital zircon U-Pb isotopic constraints on the source provenance of the Eocene-Miocene sedimentary rocks, northern Taiwan: **W Shao**, W Chen, S Chung

1340h **V33B-2042 POSTER** Detrital zircon and apatite (U-Th)/He thermochronology of intercalated baked sediments: a new approach to dating young basalts: **F J Cooper**, M C Van Soest, K Hodges

1340h **V33B-2043 POSTER** Exploring Routine Laser Ablation Multicollector ICPMS U-Pb Dating of Apatite: **S N Thomson**, G E Gehrels, R Cecil, J Ruiz

1340h **V33B-2044 POSTER** OG1: A Natural Reference Material for Quantifying SIMS Instrumental Mass Fractionation of Pb Isotopes During Zircon Dating: **S Bodorkos**, R A Stern, S Kamo, F Corfu, A H Hickman

1340h **V33B-2045 POSTER** ²³⁸U-²³⁰Th disequilibrium in hydrothermally altered material: a tool for dating volcano flank-collapse events: **A SALAUN**, B VILLEMANT, M Gérard, J C Komorowski, P Louvat, G Manhès, A Michel, J Moureau

1340h **V33B-2046** POSTER CHRONOLOGICAL CONSTRAINTS ON FLUID CIRCULATION IN MESOZOIC FORMATIONS OF THE EASTERN PART OF THE PARIS BASIN INFERRED FROM U-Pb DATING OF SECONDARY INFILLING CARBONATES:

C Pisapia, P Deschamps, B Hamelin, S Buschaert

1340h **V53B-07** POSTER Use of multiple channeltrons for U-Pb laser ablation ICP-MS dating of accessory minerals with improved spatial resolution: **J Kosler**, J Slama, R Pedersen

V33C Moscone South: Poster Hall Wednesday 1340h
Mantle Heterogeneity: Origin, Scales, and Caveats II Posters
(joint with MR, DI, T)

Presiding: **P Armienti**, University of Hawaii;
J G Konter, University of Texas at El Paso

1340h **V33C-2047** POSTER Local heating of lithosphere in northern Victoria Land (Antarctica): a common source for Cenozoic magmatism and Transantarctic Mountains uplift. Petrological evidence from mantle peridotites: **C Perinelli**, P Armienti

1340h **V33C-2048** POSTER The Dupal isotope anomaly in the Paleo-Asian sub-oceanic mantle: Nd-Sr-Pb isotope evidence from ophiolites in Northern China: **X LIU**, P R Castillo, J Xu, Q Hou

1340h **V33C-2049** POSTER Detecting pyroxenite in the genesis of Afar plume lavas using Ni concentrations in olivine: G Magner, **W R Nelson**, T Furman

1340h **V33C-2050** POSTER Porosity localization by pure shear flow in a compacting porous medium: **S L Butler**

1340h **V33C-2051** POSTER Global MORB = N-MORB + E-MORB: **R Arevalo**, W F McDonough

1340h **V33C-2052** POSTER The Oxygen Fugacity Structure of the Sub-Oceanic Lithosphere and Upper Mantle as Recorded by Spinel Peridotite and Garnet Clinopyroxenite Xenoliths from O'ahu, Hawai'i: **N J Tibbetts**, M Bizimis, S Keshav, M Longo, V J Salters, C A McCammon

1340h **V33C-2053** POSTER The Nb/La vs Th/La representation: a relevant geochemical tool for the analysis of mantle related processes Insights on the residual state and nature of large scale mantle sources heterogeneities: **M J LOUBET**

1340h **V33C-2054** POSTER Mantle Heterogeneity in the Source of Ninetyeast Ridge Basalt: Implications From The Compositions of Submarine Glasses: M S Pringle, **F A Frey**, A Piotrowski, P R Meleney, S Huang

1340h **V33C-2055** POSTER Diversity and Chemical Signatures of Melt-Rock Interaction in the Mantle: **E Hellebrand**

1340h **V33C-2056** POSTER Plume or Mantle Heterogeneity? Numerical Modeling of the Mid-Atlantic Ridge between 2°-14°S: **J Hasenclever**, M K Hort, J Phipps-Morgan

1340h **V33C-2057** POSTER The Giles Complex, South Australia: mantle plume or SCLM source?: **B F Schaefer**, B Wade

1340h **V33C-2058** POSTER Geochemical Variation of Alkaline Basalts from Petit-spot Volcanoes in the Northwestern Pacific: **S Machida**, N Hirano, Y Kato, N Abe

1340h **V33C-2059** POSTER Constraints on melting processes and ridge segmentation by new high-precision investigation of basalts from the FAMOUS segment, Mid-Atlantic Ridge: **A Gale**, M Laubier, S Escrig, C H Langmuir, S B Jacobsen

1340h **V33C-2060** POSTER Heavy Noble Gases from the Southwest Indian Ridge: Insights into the Nature and Distribution of Mantle Heterogeneities: **R Parai**, S Mukhopadhyay, J J Standish

1340h **V33C-2061** POSTER Correlations Between Helium Isotopes and Major Elements Along the Southwest Indian Ridge: **J J Standish**, S Mukhopadhyay, R Parai, H J Dick, M D Kurz

V33D Moscone South: Poster Hall Wednesday 1340h
Uranium Distribution in Time and Space: A Faithful Record of Earth's Evolution I Posters (joint with PP)

Presiding: **A Bekker**, University of Manitoba; **E J Krogstad**; **M Fayek**, University of Manitoba

1340h **V33D-2062** POSTER Reaction paths and host phases of uranium isotopes (235U; 238U), Saanich Inlet: **M Amini**, C E Holmden, R H Francois

1340h **V33D-2063** POSTER Seawater alteration of Arctic mid-ocean ridge basalts: **L J Elkins**, K W Sims, N W Dunbar

1340h **V33D-2064** POSTER Uranium Isotope Variation in Riverine Waters: Physical and Chemical Weathering Proxies: **C You**, R Wang, S Li, Z Jin, K Huang, C Chung

1340h **V33D-2065** POSTER The Lac Cinquante Uranium Deposit, Nunavut, Canada: **N J Bridge**, N R Banerjee, C S Finnigan, R Carpenter, J Ward

V33E Moscone West: 2018 Wednesday 1340h
Standards for Microanalysis: EPMA, LA-ICPMS, and SIMS: Where Are We and Where Do We Need to Go? II (joint with MR)

Presiding: **A E Koenig**, US Geological Survey; **J Fournelle**, University of Wisconsin; **N Kita**, UW-Madison

1340h **V33E-01** Preliminary results of trace element contents in mantle derived specimens from Kakanui, New Zealand, of the Jarosewich's Microbeam Reference Samples Collection: The first step of a new program: **M Logan**

1355h **V33E-02** Improving EPMA Standards and Standards Measurement by Updating Correction Parameters, Refining Measurement Procedures, and Accounting for Surface Coatings (Invited): **J T Armstrong**

1410h **V33E-03** Advances in Quantitative Analyses and Reference Materials Related to Laser Ablation ICP-MS: A Look at Methods and New Directions: **A E Koenig**, W I Ridley

1425h **V33E-04** Sm-Nd isotopic compositions of LREE minerals for use as reference materials for in situ analysis by LA-MC-ICPMS: **C M Fisher**, C R McFarlane, P Sylvester, J M Hanchar, R Lam, M D Schmitz

1440h **V33E-05** A new correction scheme and standards for the analysis of oxygen isotopes in garnet by ion microprobe (Invited): **F Page**, N Kita, J W Valley

1455h **V33E-06** Influence of Bulk Chemical Composition on Relative Sensitivity Factors for ⁵⁵Mn/⁵²Cr by SIMS: Implications for the ⁵³Mn-⁵³Cr Chronometer: **J Matzel**, B Jacobsen, I D Hutcheon, N Kita, F J Ryerson

1510h **V33E-07** A Synthetic Calcite Standard for Determination of Relative Mn/Cr Sensitivity Factor: **W Fujiya**, K Ichimura, N Takahata, N Sugiura, Y Sano

1525h **V33E-08** U-Pb Homogeneity of Duluth Gabbro Baddeleyite from Microgram to Nanogram Scales: **A K Schmitt**, K Chamberlain, S M Swapp, T M Harrison

V33F Moscone West: 2020 Wednesday 1340h
Volcanic Dynamics: Temporal Changes of Physical Properties at Volcanoes With and Without Surficial Activity IV (joint with A, G, H, NH, S, NS)

Presiding: **M M Haney**, Boise State University; **M E Pritchard**, Cornell University

1340h **V33F-01** Using geoelectrical signals to monitor ground water flow in geothermal systems and active volcanoes (Invited): **A Revil**

1355h **V33F-02** Signals from the circulating fluids. The voice of hydrothermal system during unrest events in volcanic areas: **A P Rinaldi**, M Todesco, J Vandemeulebrouck

1410h **V33F-03** Self-Potential Changes Caused by Magma Ascent and Degassing: **T Ishido**

1425h **V33F-04** Constraining Volcano-Hydrologic Interaction at Masaya Volcano, Nicaragua Through Continuous Temperature Monitoring and Modeling: **S C Pearson**, C Connor, W E Sanford, K Kiyosugi, H Lehto

1440h **V33F-05** Volcanic unrest periods in quiescent volcanoes caused by magma degassing episodes: **G Chiodini**, S Caliro, C Cardellini, R Avino, C Minopoli, D Granieri

1455h **V33F-06** Physical changes and the dynamics of convection of basaltic magma at persistently degassing volcanoes: **J L Palma Lizana**

1510h **V33F-07** The Control of Viscosity on Eruption Repose Time and Run-Up Time: **L Passarelli**, E E Brodsky, S G Prejean

1525h **V33F-08** Linking Magma Dynamics in Dykes and Geophysical Observations: Study on the Effect of Geometrical Setting: **M Vassalli**, C P Montagna, S Giudice, P Papale, G Saccorotti, A Longo

Union

U34A Moscone South: 103 Wednesday 1600h
Consequences of an Unusually Long and Deep Solar Minimum

Presiding: **J R Jokipii**, University of Arizona; **F B McDonald**, University of Maryland

1600h **U34A-01** Solar magnetic field and irradiance: how unusual is the current minimum? (*Invited*): **S K Solanki**, N Krivova, L A Vieira

1618h **U34A-02** The effects of low solar activity upon the cosmic radiation and the interplanetary magnetic field over the past 10,000 years, and implications for the future. (*Invited*): **K G McCracken**, F B McDonald, J Beer, J Abreu, F Steinhilber

1636h **U34A-03** The Torsional Oscillation and the Solar Minimum: **R Howe**, F Hill, R Komm, J Christensen-Dalsgaard, J Schou, M J Thompson

1646h **U34A-04** Mapping the Sun's Atmosphere Into Interplanetary Space: How Recent Changes in the Solar Dynamo are Affecting the Solar Wind Around Us (*Invited*): **J G Luhmann**, C O Lee, J T Hoeksema

1704h **U34A-05** Radial and solar cycle variations of the magnetic fields in the heliosheath: Voyager 1 observations from 2005 to 2008: **L F Burlaga**, N F Ness

1714h **U34A-06** The Unusual Behavior of Anomalous and Galactic Cosmic Rays During the Present Solar Minimum (*Invited*): **R A Leske**, A C Cummings, R A Mewaldt, E C Stone

1732h **U34A-07** The Unusual Time History of Galactic an Anomalous Cosmic Rays in the Heliosphere over the Deep Solar Minimum of Cycle 23/24: **F B McDonald**, W R Webber, D V Reames, E C Stone, A C Cummings, B C Heikkila, N Lal

1742h **U34A-08** Interpreting Cosmic Rays in the Current Anomalous Sunspot Minimum (*Invited*): **J R Jokipii**

U34B Moscone South: 309 Wednesday 1600h
Quantifying the Sensitivity of Landscapes to Climate Change I
(*joint with EP, GC, H, NH*)

Presiding: **M A Ellis**, British Geological Survey; **J P Syvitski**, CSDMS

1603h **U34B-01** Rapid coastal erosion on the Beaufort Sea coast: A triple whammy induced by climate change (*Invited*): **R S Anderson**, C W Wobus, I Overeem, G D Clow, F E Urban, T P Stanton

1618h **U34B-02** Numerical Modeling of Geomorphic Change on Sandy Coasts as a Function of Changing Wave Climate: **P N Adams**, D McNamara, A B Murray, J Lovering

1631h **U34B-03** Stochastic Geomorphology: Indexing Climate Change Through Shifts in Probability Densities of Erosion, Sediment Flux, Storage and Habitats: **L E Benda**

1645h **U34B-04** Testing and calibrating a landscape evolution model using a natural experiment in post-glacial landscape evolution (*Invited*): **G E Tucker**, S G Doty, D N Bradley, B J Yanites, K R Merriman

1700h **U34B-05** Toward a Parsimonious Ecohydrological Vegetation Dynamics Model for Predicting the Impacts of Climate on Landscape Evolution (*Invited*): **E Istanbuluoglu**, D Wedin

1715h **U34B-06** How does biological and anthropogenic soil mixing contribute to morphologic evolution of landscapes and terrestrial carbon cycles? (*Invited*): **K Yoo**, S M Mudd, C Chen, A K Aufdenkampe, B Weinman, J Ji, M D Hurst, J Klaminder

1730h **U34B-07** Sensitivity of fluvial sediment flux to climate change in the 21st Century: Waipaoa River, New Zealand. (*Invited*): **A J Kettner**, B Gomez, Y Cui, J P Syvitski

1745h **U34B-08** Feedbacks between climate change, surface processes, and extreme convective precipitation events (*Invited*): **J Galewsky**

Atmospheric Sciences

A34A Moscone West: 3008 Wednesday 1600h
Aerosol Precursor Emissions, Secondary Aerosol Production, and Climate-Forcing Gas Exchange in the Midwestern United States I (*joint with B*)

Presiding: **J Chen**, University of Toledo; **P V Doskey**, Michigan Tech University; **J T Walker**, US EPA

1608h **A34A-01** Soil Emissions of N₂O and NO in Agricultural Production Systems in the Upper Midwest U.S.: Management Controls and Measurement Issues (*Invited*): **R T Venterea**, J M Baker

1622h **A34A-02** Fluxes of nitrous oxide and carbon dioxide over four potential biofuel crops in Central Illinois: **M Zeri**, G C Hickman, C Bernacchi

1636h **A34A-03** 3 Years of Ammonia Monitoring in the Upper Green River Basin, Wyoming: **F M Schwandner**, H Sewell, J L Collett, J V Molenar, C Archuleta, M Tigges, L Sherman, Y Li, S Raja

1650h **A34A-04** Isoprene Emission from the Midwestern United States: Why are model estimates different and which one is right? (*Invited*): **A B Guenther**, T Duhl, C Geron

1704h **A34A-05** Modeling of Global Biogenic Emissions for Key Indirect Greenhouse Gases (*Invited*): **A Jain**, X Yang

1718h **A34A-06** DAYCENT Model Projections of Land Use Change Impacts on N Gas Emissions in the Central US (*Invited*): **S Del Grosso**, W J Parton, S M Ogle

1732h **A34A-07** Ecosystem Responses to the Changing Climate in the Midwest: What Do We Know about CO₂ and H₂O Fluxes?: **J Chen**, G P Robertson, K Nadelhoffer

1746h **A34A-08** Improved estimates of the North American atmospheric reactive nitrogen budget using chemical transport models, surface measurements, and space-based observations of NH₃ and NO₂: **R W Pinder**, J T Walker, M Shephard, K Cady-Pereira, M Luo, C P Rinsland, D K Henze, K E Pickering, D J Allen, R Martin, C Sioris

A34B Moscone West: 3004 Wednesday 1600h
Composition of the Arctic Atmosphere: Sources, Transport, Chemistry, and Impacts on Clouds and Climate IV

Presiding: P Quinn, NOAA; C S McNaughton, University of Hawaii

1600h **A34B-01** Radiative Heating Rates of Canadian Boreal Forest Fire Smoke During ARCTAS: **A Bucholtz**, J Redemann, S Schmidt, E Bierwirth

1615h **A34B-02** Aerosol Direct Radiative Forcing During ARCPAC: **A C McComiskey**, C A Brock, D A Lack, P Quinn, J Cozic, A Jefferson, J Holloway

1630h **A34B-03** Why is the Arctic summer clean? Observationally quantifying the relative roles of wet scavenging and transport efficiency: **T J Garrett**, C Zhao

1645h **A34B-04** Limited Particle Scavenging in Biomass Burning Layers Transported to the Alaskan Arctic During ARCPAC: **C A Brock**, J Cozic, R Bahreini, J Brioude, O R Cooper, J deGouw, K D Froyd, J Holloway, G Hubler, D A Lack, A M Middlebrook, J W Peischl, T B Ryerson, J P Schwarz, J R Spackman, T D Thornberry, P R Veres, C Warneke, A G Wollny

1700h **A34B-05** Black Carbon in Arctic Snow and its Effect on Surface Albedo: **S J Doherty**, S G Warren, T C Grenfell, D Hegg, A D Clarke

1715h **A34B-06** Aircraft Observations of Depletion of Black Carbon Mass in the Arctic Boundary Layer: **J R Spackman**, R Gao, W D Neff, J P Schwarz, W Laurel A, D W Fahey, J Holloway, T B Ryerson, J W Peischl, O R Cooper, C A Brock

1730h **A34B-07** Carbohydrate-Like Composition of Submicron Atmospheric Particles and their Production from Ocean Bubble Bursting: **L M Russell**, L N Hawkins, A A Frossard, P Quinn, T S Bates

1745h **A34B-08** Aerosol Chemical Composition Measured in the Arctic during ASCOS and Arctic-SOLAS: **R Y Chang**, S J Sjostedt, J Abbatt, K L Hayden, S Li, R Leaitch, M Martin, B Sierau, Q Gao, C Leck, M K Tjernstrom

A34C Moscone West: 3006 Wednesday 1600h
Greenhouse Gas Measurements Using Active Optical Remote Sensing I (joint with B)

Presiding: E V Browell, NASA Langley Research Ctr; J B Abshire

1600h **A34C-01** Science Objectives and Measurement Requirements for ASCENDS Mission (*Invited*): **K W Jucks**, C E Miller, A M Michalak

1630h **A34C-02** ACTIVITIES CONDUCTED AT IPLS AND ESA TO SUPPORT A CO₂ DIAL SPACE MISSION FOR CLIMATE CHANGE ISSUE: **P H Flamant**, F Gibert, D Édouart, J Cuesta, D Bruneau

1645h **A34C-03** Research activity of the greenhouse gas measurements using optical remote sensing in Japan (*Invited*): **K Asai**

1715h **A34C-04** Airborne Validation of Active CO₂ LAS Measurements: **E V Browell**, J Dobler, S Kooi, Y Choi, F Harrison, B Moore, T Zacheo

1730h **A34C-05** Pulsed Airborne Lidar measurements of Atmospheric CO₂ Column Absorption and Line Shapes from 3-13 km altitudes: **J B Abshire**, H Riris, G R Allan, C J Weaver, W E Hasselbrack, X Sun

1745h **A34C-06** CHARM-F, the airborne Multi-Wavelength Differential-Absorption Lidar System for the Column-Integrated Dry-Air Mixing Ratio XCO₂ and XCH₄: **G Ehret**, A Fix, A Amediek, M Quatrevalet, M Wirth, J Loehring, A Meissner, J Luttmann, D Hoffmann

A34D Moscone West: 3002 Wednesday 1600h
Multiscale in Situ and Remote Observations of Air Quality and Climate Processes in California I

Presiding: R A VanCuren, California Air Resources Board; P O Wennberg, Caltech

1600h **A34D-01** Isotopic Tracers to Identify Far-traveled Pollutant and Mineral Aerosols in Northern California (*Invited*): **D J Depaolo**, J N Christensen, S A Ewing, S S Cliff, S T Brown, R A VanCuren

1620h **A34D-02** Biosphere Effects on AeRosols and Photochemistry Experiment (BEARPEX): Overview and Experiment Design (*Invited*): **R C Cohen**, A H Goldstein

1640h **A34D-03** An overview of the CalNex 2010 field mission: research to extend the understanding of climate and air quality issues in California (*Invited*): **T B Ryerson**

1700h **A34D-04** Summertime Ozone over California: A Model-Measurement Analysis across Scales: **G Pfister**, L K Emmons, C Wiedinmyer, D P Edwards

1715h **A34D-05** Oxygenated VOCs as indicators of regional-scale photochemistry: comparison of CMAQ model results with measurements from the UC Blodgett Forest Station, California: **A J Huisman**, J P DiGangi, A Kammrath, S B Henry, A G Carlton, F Keutsch

1730h **A34D-06** Measurements of Greenhouse Gases around the Sacramento Area: The Airborne Greenhouse Emissions Survey (AGES) Campaign: **A Karion**, M L Fischer, J C Turnbull, C Sweeney, I C Faloona, N Zagorac, T P Guilderson, S Saripalli, T Sherwood

1745h **A34D-07** Sources of Light Absorbing Aerosols Deposited to the Sierra Nevada Snowpack: **R A VanCuren**, S S Cliff, K Perry, Y Zhao

Biogeosciences

B34A Moscone West: 3018 Wednesday 1600h
Dynamics of Dissolved Organic Matter in Watersheds II (joint with H, PA)

Presiding: M F Benedetti, Institut de Physique du Globe de Paris; H Wilson, Yale University; N Xu, Yale University

1600h **B34A-01** Decoupling of DOC and DON at the watershed scale – what can it tell us about DOM and watershed function? (*Invited*): **W H McDowell**, M L Daley, J A Aitkenhead-Peterson

1615h **B34A-02** Evidence of long-term change in fluvial DOC composition – why is fluvial DOC increasing and is it having more impact on the atmosphere?: **F Worrall**, T P Burt

1630h **B34A-03** Bioavailability of organic matter in aquatic environments throughout Siberia's Kolyma River watershed during summer baseflow: **W V Sobczak**, E B Bulygina, A G Bunn, S Chandra, K E Frey, R Holmes, J D Schade, V V Spektor, S A Zimov

1645h **B34A-04** The effect of in-line lakes on stream dissolved organic matter (DOM) in oligotrophic mountain systems: **K J Goodman**, M A Baker

1700h **B34A-05** Dissolved organic matter export in glacial and non-glacial streams along the Gulf of Alaska: **E W Hood**, D Scott, A Jeffery, S Schreiber, M Heavner, R Edwards, D V D'Amore, J Fellman

1715h **B34A-06** Ecoregional linkages between DOM optical properties, landscape-watershed attributes and climatology in Florida Gulf Coast Rivers: **R N Conmy**, J C Lehrter, P G Coble

1730h **B34A-07** Predicting Dissolved Organic Matter Transport In the Neponset River Watershed: **R F Chen**, W Huang, D Wang, Y Q Tian

1745h **B34A-08** Zn isotopic fractionation: Does Organic Matter?: **M F Benedetti**, D Jouvin, P Louvat, C Maréchal

B34B Moscone West: 3016 Wednesday 1600h
Global Soil Change: New Frontiers for the Biogeosciences I
(joint with GC)

Presiding: **S A Billings**, University of Kansas; **M G Kramer**, University of California, Santa Cruz; **A F Plante**, University of Pennsylvania; **D Richter**, Duke University

1600h **B34B-01** Short- and Long-term Perspectives of Soil Change: Interactions between Capacity and Intensity (Invited): **D W Johnson**, D Richter

1615h **B34B-02** Soil carbon dioxide emissions from the Mojave Desert: evidence for a carbonate source?: **J P Sparks**, C K McCalley, K L Sparks

1630h **B34B-03** Polynesian land use decisions in Hawai`i and Rapa Nui (Easter Island) (Invited): **T N Ladefoged**, O Chadwick, S Haoa, C Stevenson, P Vitousek

1645h **B34B-04** Large non-CO₂ fluxes from human modification of carbon rich soils: **W L Silver**, Y Teh, O Sonnentag, M Detto, M Kelly, D D Baldocchi

1700h **B34B-05** Nutrient stoichiometry of temperate trees and effects on the coupled cycles of carbon, nitrogen, and cations in soil: **K E Mueller**, J Oleksyn, S E Hobbie, P Reich, J D Chorover, K H Freeman, D Eissenstat

1715h **B34B-06** Historical mining of soil nitrogen was a likely source of atmospheric nitrous oxide: **E A Davidson**

1730h **B34B-07** Tracking the influence of global change on soil organic C: opportunities and challenges: **S A Billings**, S E Ziegler, J Li

1745h **B34B-08** Can agricultural soils effectively remove legacy carbon from the atmosphere? Lessons from Australian long-term soil experiments. (Invited): **J Sanderman**, J Baldock, R Farquharson

Cryosphere

C34C Moscone West: 3003 Wednesday 1715h
Cryospheric Climate Data Records II (joint with IN)

Presiding: **D K Hall**, NASA - GSFC; **M R Anderson**, University of Nebraska

1715h **C34C-01** A climate-data record of the "clear-sky" surface temperature of the Greenland Ice Sheet (Invited): **D K Hall**, J C Comiso, N E Digirolamo, L V Stock, G A Riggs, C A Shuman

1730h **C34C-02** The passive microwave sea ice CDRs: Approaches, results, challenges (Invited): **T Markus**, C Parkinson, D J Cavalieri, J C Comiso

1745h **C34C-03** A Northern Hemisphere Snow Extent Climate Data Record (Invited): **D A Robinson**, T Estilow

C34A Moscone West: 3014 Wednesday 1600h
Hydrology and Ice Sheet Dynamics II (joint with H)

Presiding: **R V Wal**, IMAU; **A Vieli**, Durham University; **A Shepherd**, University of Leeds

1600h **C34A-01** Inspiration & Insight – a tribute to Niels Reeh: **A P Ahlstrom**, A Vieli

1615h **C34A-02** Fast-flow of Greenland outlet glaciers: Does water matter? (Invited): **I M Howat**

1630h **C34A-03** Hydrological forcing of ice motion at the margin of the Greenland Ice Sheet: **I D Bartholomew**, P Nienow, D Mair, A Hubbard, M King

1645h **C34A-04** Melt Water Export from the Greenland Inland Ice Investigated with Stream Observation and a Linear Reservoir Network Model: **A K Rennermalm**, L C Smith, V W Chu, R R Forster, J E Box

1700h **C34A-05** A double-layer hydrological model dedicated to glacier sliding: **B de Fleurian**, O Gagliardini, E LeMeur, G Durand

1715h **C34A-06** Modeling Outburst Flooding as a Turbulent Hydraulic Fracture Parallel to a Nearby Free Surface: **V C Tsai**, J R Rice

1730h **C34A-07** Multi-sensor Assessment of Crane Glacier Drawdown 2002-2009, Larsen B Embayment, Antarctica: T A Scambos, **C A Shuman**, E Berthier, C L Hulbe, E W Domack

1745h **C34A-08** Subglacial lake outburst floods and Antarctic ice dynamics (Invited): **L A Stearns**, B E Smith, G S Hamilton

C34B Moscone West: 3003 Wednesday 1600h
Studies of Processes in Polar Snow and Firn II

Presiding: **R L Hawley**, Dartmouth College; **Z Courville**, CRREL

1600h **C34B-01** High-resolution annual accumulation rate measurements using FMCW radar, Devon Ice Cap, Nunavut, Canada (Invited): **H Marshall**, M N Demuth, L Gray, D O Burgess, E M Morris

1615h **C34B-02** Microstructural Characterization of Snow and Firn (Invited): **I Baker**, R Obbard, S Chen, R W Lomonaco

1630h **C34B-03** Trace Gas Dynamics in Snow and Their Role in Snow-Atmosphere Surface Exchanges (Invited): **D Helmig**, R E Honrath, B A Van Dam, L J Kramer, L Ganzeveld, B Seok, P V Doskey, H Jacques

1645h **C34B-04** Firn Densification and Meltwater Runoff in Western Greenland: **J T Harper**, N F Humphrey, W T Pfeffer, J M Brown, D West, J H Bradford

1700h **C34B-05** Metamorphism of stratified firn at Dome Fuji, Antarctica: A mechanism for local insolation modulation of gas transport conditions during bubble close-off: **S Fujita**, J Okuyama, A Hori, T Hondoh

Education and Human Resources

ED34A Moscone West: 3020 Wednesday 1600h
Teacher Professional Development Programs Promoting Authentic Scientific Research in the Classroom II

Presiding: **G Scowcroft**, University of Rhode Island; **S M Pompea**, Natl Optical Astronomy Obs

1600h **ED34A-01** The Lasting Impacts of an Oceanographic Teacher Research Experiences in a Land-locked Classroom (Invited): **C Manning**, R A Pockalny, S L D'Hondt

1615h **ED34A-02** An RET Experience with Geochemical Analysis of Azores Lavas: **C Carpenter**, D d'Albany, M Humayun, P Dixon

1630h **ED34A-03** ANDRILL: INVOLVING TEACHERS IN FIELD RESEARCH ENHANCES THE TRANSFER OF SCIENTIFIC KNOWLEDGE TO CLASSROOMS AND TO OTHER EDUCATORS: **M cattadori**, L T Huffman, B Trummel

1645h **ED34A-04** Young Engineers and Scientists (YES) 2009 - Engaging Students and Teachers in Space Research: **D C Boice**, P H Reiff

1700h **ED34A-05** International Astronomical Search Collaboration: An Online Student-Based Discovery Program in Astronomy (*Invited*): C Pennypacker, **P Miller**

1715h **ED34A-06** Lamont-Doherty Research Collaboration with Public High Schools in New York City: **R Newton**, R Sambrotto, S N Chillrud, S Vincent, M Gonzalez, M Moshos, E Olivieri

1730h **ED34A-07** Teachers as Researcher: Bringing authentic research experiences into the K-12 classroom through the NOAA Teacher-at-Sea program and PolarTREC: **M A Pella-Donnelly**

1745h **ED34A-08** Using Web-based Tools for Professional Development and Scientific Inquiry: **T Jordan**, M Bardeen

Geodesy

GC34A Moscone West: 3022 Wednesday 1600h
Geodetic Studies of Strike-Slip Fault Systems: Results in Light of EarthScope II (*joint with T, S, NH*)

Presiding: **I A Johanson**, UC Berkeley; **G J Funning**, University of California, Riverside

1600h **GC34A-01** Moment accumulation rate on faults in California inferred from viscoelastic earthquake cycle models (*Invited*):

K M Johnson

1615h **GC34A-02** Deformation at a Complex Strike-Slip Plate Boundary: Modeling the Southern California GPS Velocity Field: **W R Thatcher**, J R Murray-Moraleda

1630h **GC34A-03** Geodetic constraints on fault interaction and stressing rates in southern California: **J P Loveless**, B J Meade

1645h **GC34A-04** Interseismic deformation pattern tells the extent of a fault rupture: Lessons from dense GPS observation around the Atotsugawa Fault, central Japan: **T Sagiya**, M Ohzono, K Hirahara, M Hashimoto, A Takeuchi, Y Hoso, Y Wada, R Doke, K Ozawa, Y Asahi, K Onoue, F Ohya

1700h **GC34A-05** Denali Fault Earthquake Postseismic Deformation Models (*Invited*): **J T Freymueller**, A M Freed, K M Johnson, R Burgmann, E Calais, F F Pollitz, J Biggs

1715h **GC34A-06** Investigation of the influence of laterally varying lithospheric properties on asymmetric strain accumulation across strike-slip faults: **W Huang**, K M Johnson

1730h **GC34A-07** The 2008 Chilton Earthquake Sequence: Implications for strain partitioning along the western Indian plate margin: **W M Szeliga**, D Mohammad Kakar, R Bilham, P Molnar

1745h **GC34A-08** Mapping the extent of fault creep along the Hayward-Rodgers Creek-Macama fault system using PS-InSAR: **G J Funning**, R Burgmann, A Ferretti, F Novali

Global Environmental Change

GC34A Moscone West: 3001 Wednesday 1600h
Methodologies of Climate Model Confirmation and Interpretation I (*joint with A, IN*)

Presiding: **J Kiehl**, NCAR; **L Mearns**, NCAR

1600h **GC34A-01** Should we believe model predictions of future climate change? (*Invited*): **R Knutti**

1615h **GC34A-02** Confirmation and Adequacy-for-Purpose in Climate Modeling (*Invited*): **W Parker**

1630h **GC34A-03** "On Clocks and Clouds:" Confirming and Interpreting Climate Models as Scientific Hypotheses (*Invited*): **L Donner**

1645h **GC34A-04** Uncertainty and Risk in the Predictions of Global Climate Models. (*Invited*): **E Winsberg**

1700h **GC34A-05** Quantitative Decision Support Requires Quantitative User Guidance: **L A Smith**

1715h **GC34A-06** Robustness and inferences to causes: **E A Lloyd**

1730h **GC34A-07** Uncertainty Estimation in Regional Climate Change: Extracting Robust Information from Perturbed Physics Ensembles: **D Stainforth**, A Lopez, F Niehoerster, E Tredger, N Ranger, L A Smith

1745h **GC34A-08** Examples of Selecting Global Climate Models for Regional Projection: **M Wang**, J E Overland

Geomagnetism and Paleomagnetism

GP34A Moscone West: 2002 Wednesday 1600h
Planetary Paleomagnetism and Rock Magnetism I (*joint with P*)

Presiding: **B P Weiss**, Massachusetts Institute of Technology; **M Fuller**

1600h **GP34A-01** On the origin of lunar magnetization (*Invited*): **M A Wieczorek**, B P Weiss

1620h **GP34A-02** Can the Moon be magnetized by shock?: **J Gattacceca**, M Boustie, L L Hood, M Fuller, L Berthe, T de Resseguier, N A Artemieva, P Rochette

1635h **GP34A-03** New magnetic surveys of planetary crustal magnetism (*Invited*): **M E Purucker**

1655h **GP34A-04** Near-surface magnetic fields and dust transport at lunar swirls (*Invited*): **I Garrick-Bethell**, J W Head, C M Pieters

1715h **GP34A-05** The paleomagnetic record of pallasite meteorites: **J A Tarduno**, R D Cottrell, J Hopkins, A M Erickson

1730h **GP34A-06** Mineral Magnetism of Dusty Olivine: A Potential Carrier of Pre-Accretionary Remanence?: **R J Harrison**, S Lappe, J M Feinberg, S Russell, G Bromiley, A Bastos da Silva Fanta, R Dunin-Borkowski

1745h **GP34A-07** Evidence for a Metallic Core in the CV Chondrite Parent Planetesimal: B P Weiss, **L Carporzen**, D S Ebel, J Gattacceca, D L Shuster

Hydrology

H34A Moscone West: 3011 Wednesday 1600h
Fate and Transport of Radionuclides in the Environment II (*joint with B*)

Presiding: **B J Andraski**, US Geological Survey; **D A Stonestrom**, US Geological Survey; **P Jardine**

1600h **H34A-01** Radiogenic isotopic approaches for quantifying radionuclide transport (*Invited*): **K Maher**, D J Depaolo, M J Singleton, J N Christensen, M E Conrad

1612h **H34A-02** Composition and stability of U(IV) phases at Rifle, CO (*Invited*): **K M Campbell**, J Bargar, H Veeramani, R Bernier-Latmani, D Giammar, L Blue, K H Williams, J A Davis

1624h **H34A-03** In Situ Immobilization of Uranium in Structured Porous Media (*Invited*): **S C Brooks**, B Gu, W Wu, B P Spalding, D B Watson, P Jardine

1636h **H34A-04** Development and testing of conceptual models describing plutonium subsurface transport (*Invited*): **B A Powell**

1648h **H34A-05** Plutonium Oxidation State Distribution under Aerobic and Anaerobic Subsurface Conditions for Metal-Reducing Bacteria: **D T Reed**, J Swanson, H Khaing, R Deo, B Rittmann

1700h **H34A-06** The deep vadose zone as a source of contaminant uranium recharge to the near-shore aquifer at the Hanford Site, Washington: **J P McKinley**, D C Girvin, J M Zachara, C T Resch, J L Phillips, R M Kaluzny, M D Miller, T A Beck

1712h **H34A-07** Impact of Mobile-Immobile Water Domains on the Retention of Technetium (Tc-99) in the Vadose Zone: **D P Jansik**, D M Wellman, E Cordova, D Wildenschild

1724h **H34A-08** Microbial metabolism of triethylphosphate, a potential phosphate source for radionuclide mineralization: **C H Wu**, B R Lam, J Chou, M Bill, J Henriksen, K E Wright, E L Brodie, G L Andersen, T C Hazen, Y Fujita, M E Conrad

1736h **H34A-09** Mobilization Of Polonium-210 In Naturally-Contaminated Groundwater, Churchill County, Nevada: **R L Seiler**, L L Stillings, N Cutler

1748h **H34A-10** Derivation of radionuclide apparent Kd from multicomponent geochemical reactive transport modelling for a HLW repository: **J Samper**, C Lu, J Cormenzana, H Ma, L Montenegro, M Cuñado

H34B Moscone West: 3005 Wednesday 1600h
Managing Water Resources Risks and Innovating Adaptation Strategies in a World of Change III (*joint with GC, PA*)

Presiding: **P M Reed**, The Pennsylvania State University;
D E Rosenberg, Utah State University

1600h **H34B-01** Relating Climate Change Risks to Water Supply Planning Assumptions: Recent Applications by the U.S. Bureau of Reclamation (*Invited*): **L D Brekke**

1612h **H34B-02** Incorporating Climate Uncertainties into Water Planning (*Invited*): **L Kaatz**, M Waage

1624h **H34B-03** Management of the Israeli National Water System under Uncertainty: **U Shamir**, M Housh, A Ostfeld, M Zaide

1636h **H34B-04** Tailoring seasonal climate forecasts for hydropower operations in Ethiopia's upper Blue Nile basin: **P J Block**

1648h **H34B-05** Hydroelectric Optimized System Sensitivity to Climate: **J C Howard**, C D Howard

1700h **H34B-06** An Integrated Hydrologic-Economic Modeling Tool for Evaluating Water Management Responses to Climate Change in the Boise River Basin: **R D Schmidt**, R G Taylor, L D Stodick, B A Contor

1712h **H34B-07** Probabilistic Assessment of Climate Risk to Water Supply Reliability: **C M Brown**, M Martin, Y Ghile

1724h **H34B-08** Representing low-frequency variability in GCM simulations of rainfall: **A Sharma**, F Johnson

1736h **H34B-09** Risk-based transfer responses to climate change, simulated through autocorrelated stochastic methods: **B Kirsch**, G W Characklis

1748h **H34B-10** Comparing administered and market-based water allocation systems using an agent-based modeling approach: **J Zhao**, X Cai, Z Wang

H34C Moscone West: 3009 Wednesday 1600h
Measuring, Modeling, and Assessment of Groundwater Nonpoint Source Contamination II (*joint with PA*)

Presiding: **C Green**, USGS; **T Harter**, University of California Davis

1600h **H34C-01** Linking Groundwater Age and Chemistry Data to Determine Redox Reaction Rates and Trends in Nitrate Concentrations in Agricultural Areas. (*Invited*): **A J Tesoriero**, L Puckett

1620h **H34C-02** WITHDRAWN

1636h **H34C-03** Phosphorus Geochemistry and Transport along Groundwater Flow paths at Five Agricultural Watersheds, USA:

J L Domagalski, H M Johnson

1652h **H34C-04** Reactive Transport at Aquifer – River Interfaces - Panacea for River Restoration or Ticking Time Bomb?: **E Naden**, L Angermann, N J Cassidy, D Kaeser, A M Binley, L Heathwaite, **S Krause**

1708h **H34C-05** Nitrate distribution and isotopic composition in vadose-zone sediments underlying large dairy operations: **B K Esser**, M J Singleton, J E Moran, S K Roberts, C G Barton, N Watanabe, T Harter

1724h **H34C-06** Nitrate in groundwater in the United States: **K R Burow**, B T Nolan, M G Rupert, N M Dubrovsky

1740h **H34C-07** Land Use Change Impacts on Water, Salt, and Nutrient Cycles: Case Study Semiarid Southern High Plains, Texas, USA (*Invited*): **B R Scanlon**, R C Reedy, J B Gates

H34D Moscone West: 3007 Wednesday 1600h
Reactive Transport and Mixing in Complex Environments: Recent Advances in Theory and Experiments III (*joint with NG, OS*)

Presiding: **J Cushman**, Purdue University; **M Dentz**, Insitute of Environmental Assessment and Water Research (IDAEA-CSIC); **X B Hu**, Florida State University; **A Englert**, Ruhr University Bochum

1600h **H34D-01** Upscaling of Nonlinear Reactive Transport via Multiple-Scale Expansions: **I Battiato**, D M Tartakovsky

1615h **H34D-02** Laboratory-scale Experiments to Evaluate Tidal Effects on Groundwater Contaminant Discharging to Coastal Waters: **H Chen**, G Pinder

1630h **H34D-03** Numerical Simulation of Mixing in Viscous-Fingering Displacements: **B Jha**, L Cueto-Felgueroso, R Juanes

1645h **H34D-04** Modeling of Calcite Precipitation Driven by Bacteria-facilitated Urea Hydrolysis in A Flow Column Using A Fully Coupled, Fully Implicit Parallel Reactive Transport Simulator: **L Guo**, H Huang, D Gaston, G D Redden

1700h **H34D-05** Quantifying Mixing in Confined Stratified Aquifer Flows: **D Bolster**, F J Valdés-Parada, T Le Borgne, M Dentz, J Carrera Ramirez

1715h **H34D-06** Multiscale Modeling for Biomass Growth Associated with Bioremediation and Its Impact on Permeability Change and Distribution of Contaminants: **G K Oka**, G Pinder

1730h **H34D-07** Coupling of Mass Transfer and Reactive Transport for Non-Linear Reactions in Heterogeneous Media: **M Willmann**, J Carrera Ramirez, X Sanchez-Vila, O Silva, M Dentz

1745h **H34D-08** Biofilm Growth in Porous Media: Validation of three-dimensional characterization of biofilm growth in packed bead columns: **G Iltis**, R T Armstrong, D P Jansik, B D Wood, D Wildenschild

H34E Moscone West: 2016 Wednesday 1600h
Tracers, Isotopes, and Other Biogeochemical Techniques in Ecohydrology I (*joint with A, B, GC*)

Presiding: **D A Riveros-Iregui**, University of Colorado; **M S Johnson**, University of British Columbia; **H R Barnard**, University of Colorado; **M Weiler**, Institute of Hydrology

1600h **H34E-01** Effect of hemlock and deciduous forest canopy on chemistry of throughfall, West Whately, Massachusetts: **A L Rhodes**, A J Guswa, J McNicholas, S Mehter, C Spence

- 1615h **H34E-02** On the spectrum of soil moisture from hourly to inter-annual scales (*Invited*): **G G Katul**, A Porporato, E Daly, M B Siqueira
- 1630h **H34E-03** Using multiple tracers to examine the scaling and coupling of water and carbon fluxes in a larger nested catchment: M Speed, **D Tetzlaff**, C Soulsby, M hrachowitz, J J Dawson, C Imholt, S Waldron
- 1645h **H34E-04** Interpreting the propagation and filtering of hydrological and biogeochemical signals in forested watersheds through the intersection of vegetation organization and topography (*Invited*): **R E Emanuel**, B L McGlynn
- 1700h **H34E-05** Linking the leaf uptake of carbonyl sulfide (COS) to transpiration, photosynthesis and carbon isotope fractionation: **U Seibt**, J Kesselmeier, J A Berry
- 1715h **H34E-06** Evaluating the influence of changes to hydrologic flow pathways on carbon cycling in a sub-arctic catchment (*Invited*): **S W Lyon**, G Destouni, M Mörth, C Humborg, R Giesler
- 1730h **H34E-07** Diatom tracing at the watershed scale : A new approach for assessing the geographic sources of water: **L Pfister**, J J McDonnell, S Wrede, D Hlúbiková, P Matgen, F Fenicia, L Ector, L Hoffmann
- 1745h **H34E-08** Towards Creating a Stand-Scale Ecohydrological Measurement Suite: Observations from Integrating Multiple Hydrological and Biophysical Approaches in a California Oak Savanna (*Invited*): **G R Miller**, D D Baldocchi, Y Rubin, X Chen

Earth and Space Science Informatics

IN34A Moscone South: 301 Wednesday 1600h
Data and Informatics for Environmental Decision Making II
(joint with PA)

Presiding: **P A Fox**, Rensselaer Polytechnic Inst.; **R G Raskin**, Jet Propulsion Laboratory

- 1600h **IN34A-01** How Best to Use Climate Scenarios to Inform Climate-Related Decisions? (*Invited*): **R Lempert**
- 1615h **IN34A-02** Water Planning in Phoenix: Managing Risk in the Face of Climatic Uncertainty: **P Gober**
- 1630h **IN34A-03** An Integrated Framework for Improved Stream Temperature Predictions to Mitigate Fish Mortality: **R J Caldwell**, E Danner, A Pike, B Rajagopalan, F S Melton, S Lindley, R R Nemani
- 1645h **IN34A-04** The Space Environmental Impact System: **E A Kihn**
- 1700h **IN34A-05** A National Crop Progress Monitoring and Decision Support System Based on NASA Earth Science Results: **L Di**, Z Yang
- 1715h **IN34A-06** Toward the Modularization of Decision Support Systems: **R G Raskin**
- 1730h **IN34A-07** Data-Driven Geospatial Visual Analytics for Real-Time Urban Flooding Decision Support: **Y Liu**, D Hill, A Rodriguez, L Marini, R Kooper, J Myers, X Wu, B S Minsker
- 1745h **IN34A-08** NASA Water-Cycle Solutions Networks and Community of Practice Approaches to enhance Decision-making: **W Pozzi**, J Ward, E L Cox, R G Lawford, D Matthews, P Houser, M Doherty

IN34B Moscone South: 102 Wednesday 1600h
Emerging Issues in e-Science: Collaboration, Provenance, and the Ethics of Data II

Presiding: **M A Parsons**, National Snow and Ice Data Center; **D L McGuinness**, Rensselaer Polytechnic Institute and McGuinness Associates

- 1600h **IN34B-01** Graduate Ethics Curricula for Future Geospatial Technology Professionals (*Invited*): **D J Wright**, D DiBiase, F Harvey, M Solem
- 1615h **IN34B-02** Freeing data through The Polar Information Commons: T De Bruin, **R S Chen**, M A Parsons, D J Carlson
- 1630h **IN34B-03** Talkoot Portals: Discover, Tag, Share, and Reuse Collaborative Science Workflows (*Invited*): **B D Wilson**, R Ramachandran, C Lynnes
- 1645h **IN34B-04** Reasoning About Knowledge in Cross-Disciplinary Teams: **D D Pennington**
- 1700h **IN34B-05** Climate Data, Data Set Archaeology and the Missing Rosetta Stone (*Invited*): **A J Fleig**
- 1715h **IN34B-06** Oceanographic Observatory Data Provenance in MBARI's Shore Side Data System: **M P McCann**, K Gomes
- 1730h **IN34B-07** Domain Knowledge and Provenance in Science Data Systems: **S Zednik**, P A Fox, D L McGuinness
- 1745h **IN34B-08** Filtered Push: Annotating Distributed Data for Quality Control and Fitness for Use Analysis: **P J Morris**, M A Kelly, D B Lowery, J A Macklin, R A Morris, D Tremonte, Z Wang

Natural Hazards

NH34A Moscone West: 201 Wednesday 1600h
Drilling and Monitoring for Earthquake Disaster Mitigation II
(joint with G, S, T)

Presiding: **J C Moore**, UC Santa Cruz; **R Kobayashi**, Kagoshima University

- 1605h **NH34A-01** Kanto Asperity Project -Background and Outline-: **R Kobayashi**, Y Yamamoto, T Sato, M Shishikura, D Curewitz
- 1615h **NH34A-02** Kanto Asperity Project - A New Concept - (*Invited*): **T Sato**, R Kobayashi, Y Yamamoto, H Ito, K Kawamura, M Shishikura, M Shinohara
- 1630h **NH34A-03** Forecasting probabilistic seismic shaking for greater Tokyo from 400 years of intensity observations (*Invited*): **S Bozkurt**, R S Stein, S Toda
- 1645h **NH34A-04** Deep-sea turbidite records on the recurrence of large earthquakes along the Sagami and Nankai troughs, central Japan (*Invited*): **K Ikehara**
- 1700h **NH34A-05** Does Earthquake Rupturing Initiate in Fluid-Overpressured Crust? - The Case for Scientific Drilling in NE Honshu: **R H Sibson**
- 1715h **NH34A-06** In situ stress and deformation patterns across the Nankai Kumano basin and forearc: Results from IODP Expedition 319: **L C McNeill**, D Saffer, T Byrne, E Araki, N O Eguchi, K Takahashi, S Toczko, N Hayman, G Huftile, J C Moore, W Lin, T Ito, M Doan, P B Flemings, Y Kano, D F Boutt, M Conin, A Sacks
- 1730h **NH34A-07** Stress and Pore Pressure Measurement in IODP Riser Drilling: An Example from Expedition 319, Kumano Basin offshore SW Honshu, Japan: **D M Saffer**, L C McNeill, T B Byrne, E Araki, P B Flemings, M Conin, N O Eguchi, K Takahashi, S Toczko, D F Boutt, M Doan, Y Kano, T Ito, W Lin

1745h **NH34A-08** Long-term in situ monitoring at Dashgil mud volcano, Azerbaijan: A link between seismicity, pore pressure transients and methane emission: M Lange, **A Kopf**, G Delisle, E Faber, B Panahi, C Aliyev, I Guliyev

NH34B Moscone West: 2006 **Wednesday** **1600h**
Integrated Tsunami Risk Research I (*joint with OS*)

Presiding: B G McAdoo, Vassar College; D Dominey-Howes, UNSW

1600h **NH34B-01** The Tsunami Project: Integrating engineering, natural and social sciences into post-tsunami surveys: **B G McAdoo**, J R Goff, H M Fritz, R Cochard, L S Kong

1615h **NH34B-02** An Evaluation of Infrastructure for Tsunami Evacuation in Padang, West Sumatra, Indonesia (*Invited*): **V Cedillos**, N Canney, G Deierlein, S Diposaptono, E L Geist, S Henderson, F Ismail, N Jachowski, B G McAdoo, A Muhari, D H Natawidjaja, K E Sieh, J Toth, B E Tucker, K Wood

1630h **NH34B-03** Educating the Community - reaching the real "end" in end-to-end tsunami preparedness (*Invited*): **W C Dudley**

1645h **NH34B-04** "Hello, HELLO! Anyone there? - on the need to assess the tsunami risk to global submarine telecommunications infrastructure: **D Dominey-Howes**, J R Goff

1700h **NH34B-05** Caribbean tsunamis - Regional exposure and local risk assessment: **S Glimsdal**, C B Harbitz, N Zamora, N Gour, R Frauenfelder, H C Smebye, K Sverdrup-Thygeson, F Lovholt, H Bungum

1715h **NH34B-06** Using Eyewitness Reports to Reconstruct the Coastal Impact of the 2004 Indian Ocean Tsunami in Khao Lak, Thailand: A Skelton, **J Mård Karlsson**, M Sandén, M Ioualalen, N Kaewbanjak, N Pophet, J Asavanant, A von Matern

1730h **NH34B-07** Comparison between the Coastal Impacts of Cyclone Nargis and the Indian Ocean Tsunami: **H M Fritz**, C Blount

1745h **NH34B-08** Palaeotsunami databases: Can they be used as palaeo DART buoys for prehistoric events?: **J R Goff**, C Chague-Goff, D Dominey-Howes

Planetary Sciences

P34A Moscone South: 307 **Wednesday** **1600h**
Mineralogy of the Lunar Crust: Results From the Moon Mineralogy Mapper II (*joint with MR, V*)

Presiding: R L Klima, Brown University; L A Taylor, University of Tennessee

1600h **P34A-01** A Year at the Moon on Chandrayaan-1: Moon Mineralogy Mapper Data in a Global Perspective: **J W Boardman**, C M Pieters, R N Clark, J Combe, R O Green, P Isaacson, S Lundeen, E Malaret, T B McCord, J W Nettles, N E Petro, M Staid, P Varanasi

1615h **P34A-02** Spectroscopic Character and Spatial Distribution of Hydroxyl and Water Absorption Features Measured on the Lunar Surface by the Moon Mineralogy Mapper Imaging Spectrometer on Chandrayaan-1: **R O Green**, C M Pieters, J Goswami, R N Clark, M Annadurai, J W Boardman, B J Buratti, J Combe, M D Dyar, J W Head, C Hibbitts, M Hicks, P Isaacson, R L Klima, G Y Kramer, S Kumar, K E Livo, S Lundeen, E Malaret, T B McCord, J F Mustard, J W Nettles, N E Petro, C J Runyon, M Staid, J M Sunshine, L A Taylor, S Tompkins, P Varanasi

1630h **P34A-03** Water, Hydroxyl, and the Search for Alteration and Oxidation on the Moon (*Invited*): **R N Clark**, C M Pieters, R O Green, J W Boardman, B J Buratti, J W Head, P Isaacson, K E Livo, T B McCord, J F Mustard, J W Nettles, N E Petro, J M Sunshine, L A Taylor

1645h **P34A-04** Interpretations of OH/HOH IR Absorptions on the Moon from Chandrayaan-1 Moon Mineralogy Mapper (*Invited*): **T B McCord**, L A Taylor, T M Orlando, R N Clark, C M Pieters, J Combe, G Y Kramer, J M Sunshine, M D Dyar, C Hibbitts

1700h **P34A-05** New Mg-Spinel Rock-Type on the Lunar Farside and Implications for Lunar Crustal Evolution (*Invited*): **C M Pieters**, J W Boardman, B Buratti, R N Clark, J Combe, R O Green, J W Head, M Hicks, P Isaacson, R L Klima, G Y Kramer, S Lundeen, E Malaret, T B McCord, J F Mustard, J W Nettles, N E Petro, C J Runyon, M Staid, J M Sunshine, L A Taylor, K G Thaisen, S Tompkins, P Varanasi

1715h **P34A-06** Hidden in Plain Sight: Spinel-Rich Deposits on the Central Nearside of the Moon: **J M Sunshine**, C M Pieters, S Besse, J W Boardman, B J Buratti, R N Clark, J Combe, R O Green, J W Head, M Hicks, P Isaacson, R Klima, G Y Kramer, S Lundeen, E Malaret, T B McCord, J F Mustard, J W Nettles, N E Petro, C J Runyon, M Staid, L A Taylor, K G Thaisen, S Tompkins, P Varanasi

1730h **P34A-07** The Role of Spinel Minerals in Lunar Magma Evolution: **L A Taylor**, J W Head, C M Pieters, J M Sunshine, M Staid, P Isaacson, N E Petro

1745h **P34A-08** Lunar Magma Ocean Bedrock Anorthosites Detected at Orientale Basin by M³: **C M Pieters**, J W Boardman, B Buratti, L Cheek, R N Clark, J Combe, R O Green, J W Head, M Hicks, P Isaacson, R Klima, G Y Kramer, S Lundeen, E Malaret, T B McCord, J F Mustard, J W Nettles, N E Petro, C J Runyon, M Staid, J M Sunshine, L A Taylor, S Tompkins, P Varanasi

Paleoceanography and Paleoclimatology

PP34A Moscone West: 2004 **Wednesday** **1600h**
Empirical and Modeling Reconstructions of the Tempo, Mode, and Origin of Paleocirculation and Climate Change During the Holocene and Prior Periods II (*joint with C, EP*)

Presiding: D Ariztegui, University of Geneva; D R Grocke, Durham University; C Moy; P I Moreno, Universidad de Chile; M R Kaplan, LDEO of Columbia University; C J Poulsen, University of Michigan; D Selby, University of Durham

1600h **PP34A-01** Atmospheric circulation changes and Neoglacial conditions in the Southern Hemisphere mid-latitudes: insights from PMIP2 simulations at 6kyr. (*Invited*): **M Rojas**, P I Moreno

1615h **PP34A-02** New records of Neoglaciation in the northeastern North American Arctic (*Invited*): **J P Briner**, G H Miller, H A Stewart, N Young, R Anderson

1630h **PP34A-03** Deciphering the Holocene Duration of a Small Rhone Glacier, Switzerland, using *in situ* ¹⁰Be and ¹⁴C (*Invited*): **B M Goehring**, J M Schaefer, C Schlüchter, N A Lifton, R C Finkel, A T Jull, R B Alley

1645h **PP34A-04** Lacustrine evidence of anti-phase distribution of moisture in Southern South America during the Neoglacial period (*Invited*): **E Piovano**, D Ariztegui, F Sylvestre, F Córdoba

1700h **PP34A-05** Reduced Atlantic overturning with intensification of Northern Hemisphere Glaciation (*Invited*): **B C Reynolds**

1715h **PP34A-06** U-series radionuclide evidence for deglacial sediment transport and circulation changes south of Iceland: **K J Mohamed-Falcon**, L F Robinson, J F McManus

1730h **PP34A-07** Reconstructing the climate of the Earth through geological times : what can be expected from models, what can be used as proxies ? (*Invited*): **Y Godderis**, Y Donnadieu

1745h **PP34A-08** Ocean Circulation at the Permian-Triassic Boundary: Modeling Anoxia and Upwelling Patterns with CCSM3: **C Winguth**, A M Winguth

PP34B Moscone West: 2008 Wednesday 1600h
Merging New and Old Proxies: Techniques, Limitations, and Applications From the Geological Record III (*joint with OS*)

Presiding: S A Robinson, University College London; J W Thurow, UCL

1600h **PP34B-01** Seasonal and Interannual variability in Mg/Ca and $\delta^{18}\text{O}$ of planktonic foraminifera from the Cariaco Basin, Venezuela: K E Wejnert, R Thunell, Y Astor

1615h **PP34B-02** Paleo proxies of SST tell us more than we usually ask them: **B Schneider**, G Leduc, W Park

1630h **PP34B-03** Partial Shell Dissolution and Geochemical Proxies in Planktic Foraminifers: **B Hoenisch**, J Bijma

1645h **PP34B-04** Validating the B/Ca proxy for seawater carbonate chemistry: evidence from culture experiments with the planktic foraminifer *Orbulina universa*: **K A Allen**, B Hoenisch, S M Eggins, H J Spero, J Yu, H Elderfield

1700h **PP34B-05** Lithium content of the aragonitic skeletons of massive *Porites* corals: a new tool to reconstruct tropical sea surface temperatures?: **E Hathorne**, T Felis, A Suzuki, H Kawahata

1715h **PP34B-06** Effects of Diagenesis on Paleoclimate Reconstructions from Modern and Young Fossil Corals: **H R Sayani**, K Cobb, A L Cohen, W Elliott, I S Nurhati, K A Rose, L K Zaunbrecher

1730h **PP34B-07** Mechanisms for "Vital Effects" in Biogenic Carbonates: New Perspectives Based on Abundances of ^{13}C - ^{18}O Bonds: **W Guo**, S Kim, N Thiagarajan, J F Adkins, J M Eiler

1745h **PP34B-08** Old versus new: comparing paleotemperature estimates from stable isotopes of freshwater mollusks and mosses from the Pliocene Arctic with 'clumped isotope' thermometry: **A Z Csank**, A K Tripathi, W P Patterson, R A Eagle, J M Eiler, N Rybczynski, A P Ballantyne

SPA - Aeronomy

SA34A Moscone South: 303 Wednesday 1600h
Enabling Research to Operations in Space Weather I (*joint with A, IN, ED, PA, SM, SH*)

Presiding: R K Schaefer, JHU/ Applied Physics Lab; M Weiss, Johns Hopkins University Applied Physics Laboratory

1600h **SA34A-01** Space weather: Challenges and Opportunities (*Invited*): **T J Bogdan**

1620h **SA34A-02** Operational Space Weather Models: Trials, Tribulations and Rewards: **R W Schunk**, L Scherliess, J J Sojka, D C Thompson, L Zhu

1635h **SA34A-03** AFWA-CCMC Partnership to Augment USAF Space Weather Forecasting Capabilities: **J P Reich**, J Cox, R Davila, A Parsons, M M Kuznetsova, D Berrios, M Hesse, A Pulkkinen, P J MacNeice, M Maddox, L Rastaetter, A Taktakishvili

1650h **SA34A-04** Transitioning Models and Model Output to Space Weather Operations: Challenges and Opportunities: **M Hesse**, D Berrios, A Chulaki, M M Kuznetsova, P J MacNeice, M Maddox, L Rastaetter, A Taktakishvili

1705h **SA34A-05** APL experience with space weather modeling and transition to operations: L J Zanetti, **S Wing**

1720h **SA34A-06** Building upon the Electronic Geophysical Year (eGY) Experience: Transitioning Research Results to Operations (*Invited*): **D Baker**

1740h **SA34A-07** Toward a Space Weather Virtual Organization (*Invited*): **L J Paxton**, J M Holm, R K Schaefer, M Weiss

SPA - Magnetospheric Physics

SM34A Moscone South: 305 Wednesday 1600h
Transient Solar Wind Features and Their Effects on the Magnetosphere and the Ionosphere II (*joint with SH, SA*)

Presiding: H Zhang, NASA Goddard Space Flight Center; Q Zong, UML CAR

1600h **SM34A-01** Transient Solar Wind Features and Their Effects on the Magnetosphere and the Ionosphere (*Invited*): **D G Sibeck**, N Omidi

1615h **SM34A-02** Multi-Satellite Observations at Different Scales of Flux Transfer Events and Magnetic Reconnection at the Magnetopause: **M Andre**, A Vaivads, Y V Khotyaintsev, T V Laitinen, H Nilsson, G Stenberg, A N Fazakerley

1645h **SM34A-04** Spatial and Temporal aspects of magnetopause boundary layer formation under northward IMF: **M G Taylor**, A N Fazakerley, M W Dunlop, J Rae, K Nykyri, B Lavraud, A Asnes, H E Laakso, C P Escoubert, A Masson, H J Opgenoorth, M N Nishino, M Lester, S E Milan, J Davies, L M Kistler, C Mouikis, M Volwerk, A Grocott, C Forsyth, A P Walsh, A Lui, C Shen, Z Pu, J Shi

1700h **SM34A-05** Severe Space Weather Events: Global Geospace Responses to Powerful Solar Wind Drivers (*Invited*): **D Baker**

1715h **SM34A-06** Energetic electrons response to ULF waves induced by interplanetary shocks in the outer radiation belt: **Q Zong**, X Li, X Zhou, Z Pu, P Song, D Baker, T A Fritz, P W Daly, M W Dunlop

1730h **SM34A-07** Dual Reversed Convection and Magnetospheric Reconfiguration Under Strongly Northward IMF Conditions (*Invited*): **G Lu**, Q Zong, M Oieroset, J Raeder, D J Larson, Y Deng

1745h **SM34A-08** Interplanetary shock characteristics and associated geosynchronous magnetic field variations deduced from sudden impulses observed on the ground: **C Wang**, H Li, J D Richardson, J R Kan

Mineral and Rock Physics

MR34A Moscone West: 2003 Wednesday 1600h
High-Pressure and High-Temperature Crystallography: Challenges and Novel Technological Developments II (*joint with DI, V*)

Presiding: L Ehm, Stony Brook University; T Boffa Ballaran, Bayerisches Geoinstitut

1600h **MR34A-01** High-pressure behavior of iron-bearing silicates and oxides determined from a synergy of techniques (*Invited*):

J M Jackson, W Sturhahn, J K Wicks, A S Wolf, D Zhang

1615h **MR34A-02** High-pressure studies for minerals by novel developed 3D-XRD technique using high energy synchrotron x-ray (*Invited*): **H Liu**, L Wang, J Zhao, Z Yu

1630h **MR34A-03** X-ray total scattering at high pressure (*Invited*): **L Ehm**

1645h **MR34A-04** SINGLE CRYSTAL DIFFRACTION OF SIDERITE UP TO 54 GPA AND HIGH PRESSURE-HIGH TEMPERATURE PHASES IN THE Fe-C-O SYSTEM (*Invited*):

B Lavina, P K Dera, R T Downs

1700h **MR34A-05** A Quantitative Comparison of Experimental Error in Temperature Measurements with the Laser-Heated Diamond Cell: **L R Benedetti**, Z Geballe, R Jeanloz
 1715h **MR34A-06** Melting Curve of Dense Potassium: **J G O'Rourke**, K K Lee
 1730h **MR34A-07** Phase relations of ZrO₂ phases at high pressure: **Y Al-Khatatbeh**, K K Lee, B Kiefer
 1745h **MR34A-08** COMBRESSIBILITY AND HIGH-PRESSURE BRILLOUIN SCATTERING OF NANOMATERIALS: **I Kantor**, V Prakapenka

Seismology

S34A Moscone West: 2005 Wednesday 1600h
Earthquake Source Modeling III (*joint with T, G*)

Presiding: **G P Ely**; **D D Oglesby**, University of California, Riverside

1600h **S34A-01** Effects of Kinematic Constraints on Teleseismic Finite-Source Rupture Inversions: Great Peruvian Earthquakes of 23 June 2001 and 15 August 2007: **T Lay**, C J Ammon, A R Hutko, H Kanamori
 1615h **S34A-02** Finite Fault Kinematic Rupture Model of the 2009 Mw6.3 L'Aquila Earthquake from Inversion of Strong Motion, GPS and InSAR Data: **T E Yano**, G Shao, Q Liu, C Ji, R J Archuleta
 1630h **S34A-03** The Big Ten earthquake scenarios for Southern California: **G Ely**, T H Jordan, P J Maechling, K B Olsen, S M Day, J H Minster, R W Graves, S Ma, G C Beroza, J Bielak, R Taborda, Y Cui, J Urbanic, S Callaghan
 1645h **S34A-04** Kinematic and dynamic inversion of the 16 December earthquake in Northern Chile: S Ruiz, M Lancieri, **R I Madariaga**, M Sobiesiak, J A Campos
 1700h **S34A-05** Earthquake Dynamics in the Greater Antilles Subduction Zone: **D D Oglesby**, E L Geist, U S Ten Brink
 1715h **S34A-06** Dynamics of Self-Healing Slip Pulses on Velocity-Weakening Interfaces: Formation, steady propagation and interaction with stress heterogeneity: **A E Elbanna**, N Lapusta, T H Heaton
 1730h **S34A-07** Rupture propagation and radiation : comparisons between interface constitutive laws including damage and friction: **J Vilotte**, G Festa, M R Raous, C Henninger
 1745h **S34A-08** Coherence of Mach Fronts During Heterogeneous Supershear Earthquake Rupture Propagation: Simulations and Comparison With Observations: **P Spudich**, A Bizzarri, E M Dunham

S34B Moscone West: 2009 Wednesday 1600h
New Views of Ancient Earthquakes I (*joint with T, NH*)

Presiding: **S E Hough**, U.S. Geological Survey; **R G Bilham**, University of Colorado

1600h **S34B-01** "Earthquake!" The Use of Historic Felt Reports in Seismology. Their Application in the Analysis of the New Madrid Earthquakes: **N K Moran**, A C Johnston
 1615h **S34B-02** Insights into Ground-Motion Processes from Intensity Data (*Invited*): **G M Atkinson**
 1630h **S34B-03** Epicentral Determination from Macroseismic Data: Insights from Four Centuries of Observations (*Invited*): **W M Szeliga**, S Martin, S Hough, R Bilham
 1645h **S34B-04** Revisiting Earthquake Magnitudes and Rates in the New Madrid Seismic Zone: **S E Hough**, M T Page
 1700h **S34B-05** 1755: **J F Fonseca**

1715h **S34B-06** Earthquake history of the Republic of Ragusa (today Dubrovnik, Croatia) (*Invited*): **P Albini**, A Rovida, M Locati
 1730h **S34B-07** Earthquake parameters of historical earthquakes in Europe (*Invited*): M Stucchi, **A Gomez Capera**, R Musson, C A Papaioannou, C Meletti, J Batllo-Ortiz, D Fäh
 1745h **S34B-08** What Can We No Longer Say About The A.D. 1857 Fort Tejon Earthquake: **S O Akciz**, L Grant Ludwig, R Arrowsmith, O Zielke, G R Noriega

S34C Moscone West: 2007 Wednesday 1600h
Research and Development in Nuclear Explosion Monitoring III (*joint with A, H, PA*)

Presiding: **E Blanc**, CEA; **S Tsuboi**, Japan Agency for Marine Sci & Tech

1600h **S34C-01** Detection and localization capability of global and regional infrasound networks (*Invited*): **L Ceranna**, A Le Pichon, J Vergoz
 1615h **S34C-02** Trans-Mediterranean Infrasound Propagation in Summer: Theory and Observations: **M A Garces**, D Fee, R Waxler, C H Hetzer, J Assink, D P Drob, A LE PICHON, A Hofstetter, A Hofstetter
 1630h **S34C-03** Comprehensive Test Ban Monitoring: Contributions from Regional Moment Tensors to Determine Source Type and Depth: **M Hellweg**, D S Dreger, B A Romanowicz
 1645h **S34C-04** Infrasound from lightning: characteristics and impact on an infrasound station: **T Farges**, E Blanc

S34D Moscone West: 2007 Wednesday 1700h
Studies of North Korean Explosions and Implications for Nuclear Explosion Monitoring II (*joint with A, OS, PA*)

Presiding: **J "Xie"**, AFRL

1700h **S34D-01** Moment Tensor Source Analysis of the May 25, 2009 Nuclear Test, Kimchaek, North Korea (*Invited*): **D S Dreger**, S R Ford, W R Walter
 1715h **S34D-02** Monitoring North Korea Explosions: Status and Result of 1st and 2nd Tests (*Invited*): **H Chi**, H Lee, J Shin, J Park, D Sheen, G Kim, I Che, I Lim, T Kim
 1730h **S34D-03** Numerical Simulation of the Seismic Response for the Recent North Korean Nuclear Tests (*Invited*): **A J Rodgers**, O Vorobiev, A Petersson, B Sjogreen, E Matzel
 1745h **S34D-04** Seismic Discrimination of Underground Nuclear Explosions at Low Yield (*Invited*): **W Kim**

Tectonophysics

T34A Moscone South: 104 Wednesday 1600h
Birch Lecture

Presiding: **S D King**, Virginia Tech; **C J Ebinger**, University of Rochester; **H W Green**, University of California

1600h **T34A-01** A Eulogy for Eustasy (*Invited*): **J X Mitrovica**

Volcanology, Geochemistry and Petrology

V34A Moscone West: 2020 Wednesday 1600h
Generation of High-Mg Andesitic and Adakitic Magmas: Petrogenetic Models and Ways Forward II (*joint with S, T*)

Presiding: **G F Zellmer**, Academia Sinica; **P Samaniego**, IRD

1600h **V34A-01** Andean Adakites: Products of Slab Melting, Magma Evolution in Thickened Crust and Crustal Recycling by Forearc Subduction Erosion: **S M Kay**, R W Kay, A Goss

1615h **V34A-02** Adjacent, mantle-derived andesites and basalts: How does this work? (*Invited*): **P B Kelemen**

1630h **V34A-03** THE EXTENT OF SEA FLOOR VOLCANISM AND NATURE OF PRIMITIVE MAGMAS IN THE WESTERN ALEUTIANS: **G M Yogodzinski**, J Turka, M Portnyagin, P B Kelemen, J D Vervoort, K W Sims, I N Bindeman

1645h **V34A-04** Crystallization processes and 'adakitic' magmas: mutually exclusive? (*Invited*): **O Muntener**, P Ulmer

1700h **V34A-05** Origin of primitive andesites by melt-rock reaction in the sub-arc mantle (*Invited*): **R P Rapp**

1715h **V34A-06** Simple mixing as the major control of the evolution of volcanic suites in the Equadorian Andes T: **P Schiano**, M Monzier, J Eissen, H Martin, K T Koga

1730h **V34A-07** WITHDRAWN

1745h **V34A-08** High-Mg andesites petrogenesis by amphibole crystallization and ultramafic crust assimilation: **M Tiepolo**, R Tribuzio, A Langone

V34B Moscone West: 2018 Wednesday 1600h
Innovations in Isotope Mass Spectrometry and Isotope Metrology in Geosciences II

Presiding: J L Mann, NIST; **R D Vocke**

1600h **V34B-01** The use of reference materials in isotope measurements (*Invited*): **R Kessel**

1615h **V34B-02** Bayesian Statistical Modeling for Analysis of Isotopic Reference Materials (*Invited*): **W F Guthrie**

1630h **V34B-03** Matrix effects on the accuracy of Pb isotope ratio measurement by MC-ICP-MS: variation of instrumental mass bias with sampling depth in the plasma: **J Barling**, D A Weis

1645h **V34B-04** Characterization of Matrix Effects During In-situ Mg and Si Isotope Measurements by LA-MC-ICPMS: **P E Janney**, F M Richter, R Mendybaev, M Wadhwa

1700h **V34B-05** Applications of New Synthetic Uranium Reference Materials for Geochemistry Research (*Invited*): **S Richter**, S Weyer, A Alonso, Y Aregbe, H Kuehn, R Eykens, A Verbruggen, R Wellum

1715h **V34B-06** New multiple discrete dynode electron multipliers for accurate U isotope measurements on TIMS and MC-ICPMS (*Invited*): **C Bouman**, J B Schwieters, M Deerberg, D Tuttas

1730h **V34B-07** Noble gas mass spectrometry with a compressor driven recycling system for improved sensitivity: **T Matsumoto**, J Matsuda, M Ozima, I Yatsevich

1745h **V34B-08** LIAISON: A Novel High-Throughput Universal Interface for ¹³C High-Precision Isotope Analysis using Cavity Ring-Down Spectroscopy: **B A Richman**, E Crosson, N M Saad

Thursday A.M.

Union

U41A Moscone South: Poster Hall Thursday 0800h
Chemistry and Flow in Nonaqueous Geologic Systems Posters

Presiding: P McGrail, Pacific Northwest National Lab

0800h **U41A-0001** POSTER Chemical Processes with Supercritical CO₂ in Engineered Geologic Systems: Significance, Previous Study, and Path Forward (*Invited*): **T Xu**, K Pruess

0800h **U41A-0002** POSTER Fundamental Science for Geologic Carbon Sequestration: Molecular Probes for Understanding Wet CO₂ Interaction with Caprock Minerals (*Invited*): **K M Rosso**, D White, E M Murphy, J Hu, D W Hoyt, Z Wang, A S Lea, H T Schaeff, P McGrail

0800h **U41A-0003** POSTER Complex Process Couplings Related to Deep Geologic Sequestration and Energy Recovery (*Invited*): **D Elsworth**

0800h **U41A-0004** POSTER Probing Metal Carbonation Reactions of CO₂ in a Model System Containing Forsterite and H₂O Using Si-29, C-13 Magic Angle Sample Spinning NMR Spectroscopy: **J Hu**, J Kwak, D W Hoyt, J A Sears, K M Rosso, A R Felmy

0800h **U41A-0005** POSTER Prediction of surface tension of monovalent aqueous electrolytic solutions at high salinity: **P Leroy**, A Lassin, M Azaroual

0800h **U41A-0006** POSTER Rapid supercritical CO₂ fluid migration in calcite crystals at ambient conditions: **P Zuddas**, O Lopez, S Salvi

0800h **U41A-0007** POSTER Spontaneous activation of CO₂ and corrosion pathways on iron surface Fe(100): a quantum mechanical study informed by DFT-based dynamics: **V A Glezakou**, P McGrail, L X Dang

0800h **U41A-0008** POSTER *In-situ* Optical Spectroscopy Investigation of Water and Its influence on Forsterite Transformation in Supercritical CO₂: **Z Wang**, C J Thompson, A G Joly, D S Sklarew, L Poindexter, K M Rosso

0800h **U41A-0009** POSTER Aqueous Carbonation of Natural Brucite for CO₂ Sequestration: **L Zhao**, L Sang, J Chen, J Ji, H Teng

0800h **U41A-0010** POSTER H₂S-CO₂ Reaction with Hydrated Class H Well Cement under Geologic Sequestration Conditions: **B G Kutchko**, S Hawthorne, B R Strazisar, D Miller

0800h **U41A-0011** POSTER Experimental Investigations of the Effects of Acid Gas (H₂S/CO₂) Exposure under Geological Sequestration Conditions: **S B Hawthorne**, D Miller, B G Kutchko, B R Strazisar

0800h **U41A-0012** POSTER Pore-Scale Investigation of Mixing-Induced Calcite Precipitation in Silicon-Based Micromodels: **C Zhang**, K Dehoff, C J Werth, A J Valocchi, M Oostrom, T W Wietsma

0800h **U41A-0013** POSTER Well Integrity and Sealing in CO₂ Sequestration Wells: **R Sweatman**, A Santra, D Kulakofsky

0800h **U41A-0014** POSTER Basalt Reactivity in the Presence of H₂O-Saturated Supercritical CO₂ Containing Gaseous Sulfur Compounds: **H T Schaeff**, P McGrail, A T Owen

0800h **U41A-0015** POSTER Corrosion of Pipeline and Wellbore Steel by Liquid CO₂ Containing Trace Amounts of Water and SO₂: **P McGrail**, H T Schaeff, A T Owen

U41B Moscone South: Poster Hall Thursday 0800h
Geophysical Monitoring, Verification, and Accounting for Geologic Carbon Sequestration II Posters

Presiding: L Huang, Los Alamos National Laboratory; **T M Daley**, Lawrence Berkeley National Laboratory

0800h **U41B-0016** POSTER Post and Pre-Stack Seismic Reflection Data Processing of a 3D Reflection Seismic Survey over a CO₂ Injection: **W Harbert**, C Purcell, A J Mur

0800h **U41B-0017** WITHDRAWN

0800h **U41B-0018** POSTER Pembina Cardium CO₂-EOR monitoring project: Integrated surface seismic and VSP time-lapse seismic analysis: **A A Alshuhail**

0800h **U41B-0019** POSTER Source Repeatability of Time-Lapse Offset VSP Surveys for Monitoring CO₂ Injection: **Z Zhang**, L Huang, J T Rutledge, H Denli, H Zhang, B J McPherson, R Grigg

0800h **U41B-0020** POSTER Active and Passive Seismic Imaging and Monitoring of CO₂ Storage Sites in Germany: **S Buske**

0800h **U41B-0021** POSTER Interpreting Reservoir Microseismicity Detected During CO₂ Injection at the Aneth Oil Field: **J T Rutledge**

0800h **U41B-0022** POSTER An Efficient Approach for Quasi-Continuous Monitoring of CO₂ Sequestration Reservoirs: **A T Arogunmati**, J M Harris

0800h **U41B-0023** POSTER Quantitative Monitoring for Geologic Carbon Sequestration Using Double-Difference Elastic Waveform Inversion: **H Denli**, L Huang

0800h **U41B-0024** POSTER 4D seismic survey of a CO₂ sequestration flood: Integrating velocity measurements in reservoir rock samples from the SACROC unit: **C C Purcell**, W P Harbert, A J Mur, Y Soong, T McLendon, I Haljasmaa

0800h **U41B-0025** POSTER Furthering Chemical and Geophysical Computations: Analysis of SACROC SEM and CT images to obtain pore percentage, size, and connectivity data: **A J Mur**, C C Purcell, W P Harbert, Y Soong, B G Kutchko, S Kennedy, D McIntyre

0800h **U41B-0026** POSTER Pore-scaling Modeling of Physical Property Changes During CO₂ Injection into Sandstone: Y Keehm, **G Yoo**

0800h **U41B-0027** POSTER Spectral-element simulations of carbon dioxide (CO₂) sequestration time-lapse monitoring: **C Morency**, Y Luo, J Tromp

0800h **U41B-0028** POSTER Poroelastic Seismic Wave Propagation Modeling of CO₂ Sequestration Effects: **D F Aldridge**, L C Bartel

0800h **U41B-0029** POSTER Reflection Seismic and Borehole Geoelectric Numerical Modeling for CCS Monitoring – the Role of Petrophysical and other Parameters: **M H Strahser**, S A al Hagrey, W Rabbel

0800h **U41B-0030** POSTER Imaging of CO₂ plume scenarios in saline reservoirs by (non) optimized crosshole electrode arrays: **S A al Hagrey**, M H Strahser, W Rabbel

0800h **U41B-0031** POSTER Exploration and monitoring of CO₂ storage sites using controlled-source electromagnetics: modelling studies: **M Becken**, R Streich, O Ritter

0800h **U41B-0032** POSTER Self-Potential Monitoring for Geologic CO₂ Sequestration: Y Nishi, T Tosha, **T Ishido**

0800h **U41B-0034** POSTER Advances in Reservoir Monitoring Using High Resolution Radar Imagery: D W Vasco, **A Ferretti**, F Novali, A Tamburini, A Fumagalli, A Rucci, G Falorni

0800h **U41B-0035** POSTER Reducing Risk in CO₂ Sequestration: A Framework for Integrated Monitoring of Basin Scale Injection: **C J Seto**, A S Haidari, G J McRae

0800h **U41B-0036** POSTER Field-based evaluation of geological storage capacity of carbon dioxide: an example of Cretaceous Korean nonmarine basin: **K Egawa**, Y Lee, S Hong, H Lee, T Choi, M Lee, J Kang, K Yoo, J Kim, J Kihm, J Kim

U41C Moscone South: Poster Hall Thursday 0800h
Response of the Arctic Landscape to a Warming Climate I
Posters (joint with B, C, GC, H)

Presiding: **J L Baeseman**, Association of Polar Early Career Scientists;
W B Bowden, University of Vermont; **B T Crosby**, Idaho State University;
M N Gooseff, Penn State University

0800h **U41C-0037** POSTER Hydrologic Reorganization of Degrading Permafrost Landscapes at Multiple Spatial Scales: **M T Jorgenson**, J W Harden, M Z Kanevskiy, R G Striegl, K Wickland, S A Ewing, J Koch, J A O'Donnell, Y Shur, Q Zhuang

0800h **U41C-0038** POSTER Headwater stream morphology, evolution, and feedbacks in a lake-rich, permafrost landscape of the Alaskan Arctic Coastal Plain in a changing climate: **C D Arp**, M Whitman, B M Jones, G Grosse

0800h **U41C-0039** POSTER Effects of Large Scale Forcing on Thermal Regime of Aquatic Ecosystems in the Alaskan Arctic: **S MacIntyre**, J P Fram, P J Kushner, G W Kling

0800h **U41C-0040** POSTER Conceptual ecosystem model of sub-Arctic river response to climate change: Kobuk River, Alaska: **J R Durand**, R Lusardi, R Suddeth, G Carmona, C R Connell, S E Gatzke, J Katz, D Nover, J F Mount, P Moyle, J H Viers

0800h **U41C-0041** POSTER Measuring The Impact Of Localized Permafrost Disturbance On Downstream Sediment Erosion And Water Quality: **S F Lamoureux**, M J Lafreniere, T Lewis

0800h **U41C-0042** POSTER Influences of Thermokarst Failures on Surface Processes in Arctic Landscapes: **W B Bowden**

0800h **U41C-0043** POSTER Progressive Growth, Modulated Supply: How coupling and decoupling between an enormous retrogressive thaw slump and its depositional fan impacts sediment delivery to the Selawik River, Northwest Alaska: **B T Crosby**

0800h **U41C-0044** POSTER Slump Scaling: Common Geometries Observed from Retrogressive Thaw Slumps in Three Different Environments in Arctic Alaska: **K Krieger**, B T Crosby, C Phillips, S Godsey, D J Jerolmack

0800h **U41C-0045** POSTER Change in Arctic surface water: A remote sensing approach using MODIS 250m data: **M Carroll**, J R Townshend, C Dimiceli, R A Sohlberg, P Noojipady

0800h **U41C-0046** POSTER Influence of Temperature and Snow Cover Change on Eurasian Arctic Streamflow Trends: **A Tan**, D P Lettenmaier

0800h **U41C-0047** POSTER Permafrost thaw in upland catchments of central Alaska: groundwater connection and landscape evolution as discerned from U isotopes and dissolved organic carbon: **S A Ewing**, J A O'Donnell, J B Paces, M T Jorgenson, M Z Kanevskiy, J W Harden, G Aiken, R G Striegl

0800h **U41C-0048** POSTER Dissolved organic matter as an indicator of changing watersheds in northern rivers: **G Aiken**, R Spencer, R Striegl, P A Raymond

0800h **U41C-0049** POSTER Seasonal and Annual Fluxes of Nutrients and Major Ions from Large Rivers to the Arctic Ocean: **R M Holmes**, J W McClelland, S E Tank, E B Bulygina, S Thomas, B J Peterson

0800h **U41C-0050** POSTER Nutrient and Organic Matter Export from Rivers to the Alaskan Beaufort Sea: Contemporary Estimates, Implications for Coastal Productivity, and Potential Changes in the Future: **J W McClelland**, A Townsend-Small, R M Holmes, M Stieglitz, F Pan, B J Peterson

0800h **U41C-0051** POSTER The Inputs of Nutrients and Organic Matter from Land to the Arctic Ocean and their Potential Impact on Ocean Processes: **S E Tank**, J W McClelland, R M Holmes, M Manizza, B J Peterson

0800h **U41C-0052** POSTER OCoc- from Ocean Colour to Organic Carbon: **B Heim**, P P Overduin, L Schirrmeister, H Lantuit, R Doerffer

0800h **U41C-0053** POSTER Carbon Storage and Accumulation Rates in Soil Undergoing Permafrost Thaw: **C E Hicks**, E A Schuur, K G Crummer

0800h **U41C-0054** *POSTER* Effect of deep soil warming on ecosystem C fluxes in Alaskan tundra: **S Natali**, E A Schuur

0800h **U41C-0055** *POSTER* Symptoms of change in multi-scale observations of arctic ecosystem carbon cycling: **P C Stoy**, M D Williams, I P Hartley, L Street, T C Hill, A Prieto-Blanco, A Wayolle, M Disney, J Evans, B Fletcher, R Poyatos, P Wookey, L Merbold, T J Wade, J Moncrieff

0800h **U41C-0056** *POSTER* Lacustrine records of historical hydrology: Mackenzie River Delta, N.W.T., Canada: **S C Zipper**, L Giosan, T I Eglinton, D Montlucon, V Galy, C Ponton, A F Dickens, D R Griffith

0800h **U41C-0057** *POSTER* Fate of Carbon in Sediments of a Drying High Latitude Lake, Interior Alaska: **K Wickland**, J A O'Donnell, J C Koch, M T Jorgenson, J W Harden, R G Striegl, L Anderson

0800h **U41C-0058** *POSTER* Thermokarst lake expansion and drainage in continuous permafrost, northern Seward Peninsula, Alaska, USA: **B M Jones**, G Grosse, K M Walter Anthony, L J Plug

0800h **U41C-0059** *POSTER* Monitoring of thaw subsidence, lithals collapse and thermokarst pond aggradation due to climate warming in the discontinuous permafrost zone in Nunavik, Canada: **R Fortier**

0800h **U41C-0060** *POSTER* Multispectral Remote Sensing Technologies Applied to Assess Recent Aeolian Activity and Thaw Lake Changes in Kobuk River Valley, Alaska: M Necsoiu, **C L Dinwiddie**, G R Walter, D M Hooper, R N McGinnis

U41D Moscone South: I03 Thursday 0800h
Scientific Progress in Geophysics From 25 Years of Sharing Data and Resources I

Presiding: **D E James**, Carnegie Institution; **G Nolet**

0800h **U41D-01** Facilitate, Collaborate, Educate: the Role of the IRIS Consortium in Supporting National and International Research in Seismology (*Invited*): **D W Simpson**, S L Beck

0815h **U41D-02** Laboratory-based Interpretation of Seismological Models: Dealing with Incomplete or Incompatible Experimental Data (*Invited*): **I Jackson**, B L Kennett, U H Faul

0830h **U41D-03** RESIF: a French Integrated Antenna for the Observation of Earth Deformation (*Invited*): **H Pedersen**

0845h **U41D-04** From Data-Sharing to Model-Sharing: SCEC and the Development of Earthquake System Science (*Invited*): **T H Jordan**

0900h **U41D-05** GeoSoilEnviroCARS: A National User Facility for Synchrotron Radiation Research in GeoScience: **M L Rivers**, S R Sutton, V Prakapenka, Y Wang, M Newville, P Eng, P K Dera

0915h **U41D-06** Current status of the European seismological data exchange and access; ORFEUS, EMSC, NERIES and EPOS: **T Van Eck**, D Giardini, R Bossu, W Hanka, M Cocco

0930h **U41D-07** Supersites: An Initiative towards open access for InSAR data: **F Amelung**, W Lengert

0945h **U41D-08** A long-term forecast of shallow seismicity based on the Global Strain Rate Map: **P Bird**, C W Kreemer, W E Holt

Atmospheric Sciences

A41A Moscone South: Poster Hall Thursday 0800h
Aerosol Precursor Emissions, Secondary Aerosol Production, and Climate-Forcing Gas Exchange in the Midwestern United States I Posters (*joint with B*)

Presiding: **J Chen**, University of Toledo; **P V Doskey**, Michigan Tech University; **J T Walker**, US EPA

0800h **A41A-0073** *POSTER* Aerosol Precursor Emissions, Secondary Aerosol Production, and Climate-Forcing Gas Exchange in the Midwestern United States: **P V Doskey**

0800h **A41A-0074** *POSTER* Characterizing CH₄ and N₂O Fluxes from a Soybean/Corn Ecosystem in Minnesota: **X Zhang**, X Lee, T J Griffis, J M Baker, M Erickson, N Hu, W Xiao

0800h **A41A-0075** *POSTER* Quantification of Terpenes by 1DGC-MS and 2DGC-TOF-MS: **R M Flores**, J A Perlinger, P V Doskey

0800h **A41A-0076** *POSTER* Aerosol Production from the Great Lakes Surface: **J H Slade**, G Mwaniki, S B Bertman, T M VanReken, P B Shepson

A41B Moscone South: Poster Hall Thursday 0800h
Atmospheric Feedbacks and Climate Change: Necessary Observations and Modeling Improvements III Posters

Presiding: **A E Dessler**, Texas A&M University; **E Fetzer**, Jet Propulsion Laboratory; **B H Kahn**, Jet Propulsion Laboratory

0800h **A41B-0077** *POSTER* Characterization of Cloud Liquid Water Content Distributions With CloudSat: **S Lee**, B H Kahn, J Teixeira

0800h **A41B-0078** *POSTER* Long term precipitation trend in Iran: P KATIRAIE-BOROUJERDY, **M Feiz Rahnemoon**

0800h **A41B-0079** *POSTER* Comparison of Measured and Modeled Outgoing Longwave Radiation for Clear Sky Ocean and Land Scenes using Coincident CERES and AIRS Observations: **L Moy**, D Tobin, H E Revercomb, R O Knuteson, L A Borg, J Susskind

0800h **A41B-0080** *POSTER* Applying CloudSat/A-Train and ECMWF analyses to constrain and evaluate cloud, convection and radiation parameterizations in climate models: **J F Li**, W A Chen, D E Waliser, T L Kubar, B H Kahn, E Fetzer, T S L'Ecuier, J Chern, W Tao, J Neelin

0800h **A41B-0081** *POSTER* High Precision 13CH₄/12CH₄ measurements using Off Axis ICOS at 8 μm: M F Witinski, D S Sayres, J Anderson

0800h **A41B-0082** *POSTER* NCEP/NCAR Reanalysis Performance in Northern North American Extreme Cold Airmasses: **I E Hanks**, J E Walsh

0800h **A41B-0083** *POSTER* Retrieval errors from spherical asymmetry assumption: **W Yeh**, M Chen, T Chiu, Y Liou

0800h **A41B-0084** *POSTER* Estimates of the water vapor climate feedback during the El Niño Southern Oscillation: **A E Dessler**, S Wong

0800h **A41B-0085** *POSTER* Understanding the Boundary Layer and Cloud Structure and Dynamic and Stability Controls on Low Cloud Cover in the Tropics and Subtropics Using A-Train Satellite Data and ECMWF Analyses: **T L Kubar**, D E Waliser, J F Li

0800h **A41B-0086** *POSTER* The Relationships of Upper Tropospheric Water Vapor with Atmospheric Temperature, SST and Clouds in Different Tropical Ocean Basins: **H Su**, H Chuang, X Huang, J H Jiang, W G Read

0800h **A41B-0087** *POSTER* The Effect of CO₂ Forcing on Radiative Climate Feedbacks: **A K Jonko**, K M Shell

0800h **A41B-0088** *POSTER* Global changes in warm cloud morphological properties and feedback mechanisms as measured by the AVHRR satellite sensor: **M J Foster**, A K Heidinger, R Bennartz

0800h **A41B-0089** *POSTER* Comparison of ABL Heights Derived from COSMIC RO and the RUC Model: **S A Goode**, S V Sokolovskiy, L Cucurrull

0800h **A41B-0090** WITHDRAWN

0800h **A41B-0091** *POSTER* Long Term MSU Tropospheric and Ground Temperature Trends (1979-2008) Over Africa: A K Prasad, **H El-Askary**, M Kafatos

0800h **A41B-0092** POSTER How completely do A-Train satellite instruments observe tropical upper tropospheric water vapor?: **E Fetzner**, C Liang, B H Kahn, H T Dang, W G Read

0800h **A41B-0093** POSTER Five-year Climatology of Upper Tropospheric Water Vapor and Cloud Ice from Aura MLS and GEOS-5: **J H Jiang**, H Su, S Pawson, H Liu, W G Read, J Waters, D L Wu, A Lambert, J N Lee, R Fuller, N J Livesey, M L Santee

0800h **A41B-0094** POSTER Characterizing Cloud Properties In The Arctic For Better Understanding Of Climate Feedbacks: **S Mishra**, D L Mitchell

0800h **A41B-0095** POSTER Observational and Modeling Study of Urban Effect on Weather Variables in Guangzhou-Shenzhen, South China: **Q Li**, J Chen

0800h **A41B-0096** POSTER Using AIRS data to Quantify Upper Tropospheric and Lower Stratospheric Water Vapor Enhancement by Deep Convective Clouds: **S G Desouza-Machado**, H Aumann, L Strow, S Hannon

0800h **A41B-0097** POSTER Characterizing Cloud Effects on Temperature, Water Vapor, and Radiation Using the Collocated AIRS/CloudSat/MODIS Data Records: **Q Yue**, E Fetzner, B H Kahn, M M Schreier, G J Manipon

0800h **A41B-0098** POSTER Impact of Carbonaceous Aerosols over Indian Region: **H Fatima**, H Updhyaya, O P Sharma

0800h **A41B-0099** POSTER On the Non-Radiative Nature of Recent New England Warming: **G Eshel**

0800h **A41B-0100** POSTER Satellite Remote Sensing of Mixed Phase Cloud Composition: **R P d'Entremont**, D L Mitchell

0800h **A41B-0101** POSTER Development of the ATOMMS next generation satellite to satellite occultation for global monitoring of climate: **D Ward**, E R Kursinski, A C Otarola, K G Sammler, M Stovern

0800h **A41B-0102** POSTER CLIMATE FEEDBACKS AND FUTURE REMOTE SENSING OBSERVATIONS: **J Teixeira**

A41C Moscone South: Poster Hall Thursday 0800h
Greenhouse Gas Measurements Using Active Optical Remote Sensing I Posters (*joint with B*)

Presiding: **P H Flamant**, École Polytechnique; **C Nagasawa**, Tokyo Metropolitan Univ

0800h **A41C-0103** POSTER Atmospheric Pressure Measurements using the Oxygen A Band: **M A Stephen**, H Riris, M Rodriguez, J Mao, C J Weaver, J B Abshire

0800h **A41C-0104** POSTER Sensitivity analysis of oxygen absorption lines in the 1.26-1.27 micron spectral band: **W C Edwards**, N Prasad, E V Browell

0800h **A41C-0105** POSTER Long open-path TDL based system for monitoring the background concentration for deployment at Jungfraujoch High Altitude Research Station- Switzerland: **V Simeonov**, H van den Bergh, M B Parlange

0800h **A41C-0106** POSTER Methane Measurements using Optical Parametric Technology: **H Riris**, S Li, K Numata, S Wu, J Burris, A W Yu, M Krainak, J B Abshire

0800h **A41C-0107** POSTER Measuring Column Averaged Methane Dry Air Mole Fraction from Space: G C Toon, **K Li**, X Zhang, C E Miller, L R Brown, Y L Yung

0800h **A41C-0108** POSTER Airborne & Ground-based measurements of atmospheric CO₂ using the 1.57- μ m laser absorption spectrometer: D Sakaizawa, S Kawakami, M Nakajima, T Tanaka, Y Miyamoto, I Morino, O Uchino, K Asai

0800h **A41C-0109** POSTER Recent Results From, and Future Plans for the JPL Carbon Dioxide Laser Absorption Spectrometer: **G D Spiers**, R Menzies, S Geier, M Phillips

0800h **A41C-0110** POSTER Broadband Lidar technique for precision CO₂ measurement: **W S Heaps**, E Georgieva, W Huang

0800h **A41C-0111** POSTER High Power OPO Laser and wavelength-controlled system for 1.6 μ m CO₂-DIAL: M Abo, C Nagasawa, Y Shibata

0800h **A41C-0112** POSTER Testing of a Two-Micron Lidar System for Carbon Dioxide Profiling in the Atmosphere: **T F Refaat**, S Ismail, G J Koch, M Rubio, T L Mack, A Notari, J E Collins, J Lewis, R J DeYoung, Y Choi, N Abedin, U N Singh

0800h **A41C-0113** POSTER Development of Coherent Differential absorption lidar for greenhouse gas measurement: **S Ishii**, K Mizutani, B Philippe, H Iwai, T Aoki, T Itabe, A Sato, K Asai

0800h **A41C-0114** POSTER An Optical Parametric Amplifier for Retrievals of CO₂ in the Planetary Boundary Layer: **J Burris**, S X Li, D Richter, S Wu, K Numata, H Riris

0800h **A41C-0115** POSTER Development of Ground-Based DIAL Techniques for High Accurate Measurements of CO₂ Concentration Profiles in the Atmosphere: **C Nagasawa**, M Abo, Y Shibata, T Nagai, M Nakazato, T Sakai, M Tsukamoto, D Sakaizawa

0800h **A41C-0116** POSTER Advanced Airborne CO₂ LAS System: **J T Dobler**, M G Braun, D P McGregor, W H Erxleben, E V Browell, F W Harrison

0800h **A41C-0117** POSTER Refinements in the Calculation of Modeled CO₂ Optical Depths for Comparison with DIAL CO₂ Optical Depth Measurements: **S Kooi**, E V Browell, S Ismail, Y Choi, M A Fenn

0800h **A41C-0118** POSTER Signal to Noise Ratio Analysis of the Data from the Pulsed Airborne CO₂ Lidar Measurements: **X Sun**, J B Abshire, H Riris, G R Allan, W E Hasselbrack

0800h **A41C-0119** POSTER Retrievals of column CO₂ mixing ratio from airborne pulsed lidar measurements: **C J Weaver**, G R Allan, H Riris, W E Hasselbrack, S Biraud, J B Abshire

0800h **A41C-0120** POSTER Optimization of CO₂ LAS Measurements from Space: **T Zaccheo**, E V Browell, J Dobler, F Harrison, B Moore

0800h **A41C-0121** POSTER Simulation Studies of Satellite Laser CO₂ Mission Concepts: **S R Kawa**, G J Collatz, J Mao, J B Abshire, X Sun, C J Weaver

0800h **A41C-0122** POSTER Space-based CO₂ LAS Measurements for ASCENDS: **F W Harrison**, E V Browell, B Moore

0800h **A41C-0123** POSTER A pulsed, high repetition rate 2-micron laser transmitter for coherent CO₂ DIAL: **J Yu**, Y Bai, P Petzar, M Petros, S Chen, B Trieu, G J Koch, M J Kavaya, U N Singh

0800h **A41C-0124** POSTER Wavelength stabilization using a frequency comb for differential absorption lidar measurements of atmospheric greenhouse gases: **A Amediek**, G Ehret, M Quatrevalet, A Fix, M Wirth

0800h **A41C-0125** POSTER Development of a Low SWaP Laser Transmitter for lidar applications: **N Prasad**, A Rosiewicz, S Coleman

0800h **A41C-0126** POSTER International Comparison of FTIR measurements traceable to HITRAN and Gravimetrically prepared Gas Standards: **F Edgar**, V Joëlle, M Philippe, I Faraz, W Robert

A41D Moscone South: Poster Hall Thursday 0800h
Multiscale in Situ and Remote Observations of Air Quality and Climate Processes in California I Posters

Presiding: **P O Wennberg**, Caltech

0800h **A41D-0127 POSTER** Exploring the roles of temperature and NO_x on ozone production in the Sacramento urban plume: **B W LaFranchi**, R C Cohen

0800h **A41D-0128 POSTER** The Estimate of Atmospheric Boundary Layer Height Above a Coniferous Forest During BEARPEX 2007 and 2009: **W Choi**, M McKay, R Weber, A H Goldstein, B M Baker, I C Faloona

0800h **A41D-0129 POSTER** Characterization of Speciated Acyl Peroxy Nitrates Above and Within a Forest Canopy: **S A Harrold**, G M Wolfe, J A Thornton, S E Pusede, E C Browne, B W LaFranchi, R C Cohen, M McKay, R Weber, D R Worton, J Park, J B Gilman, W C Kuster, J deGouw, D Farmer, K Docherty, M Cubison, J L Jimenez

0800h **A41D-0130 POSTER** Nitrogen oxide fluxes over a ponderosa pine plantation during BEARPEX-2009: **K Min**, B W LaFranchi, S E Pusede, E C Browne, P J Wooldridge, R C Cohen

0800h **A41D-0131 POSTER** HCHO Measurements Using an Ultra-Compact Fiber Laser-Induced Fluorescence Instrument During BEARPEX 2009: **J P DiGangi**, J Paul, S B Henry, A Kamrath, F Keutsch

0800h **A41D-0132 POSTER** Measurement of Glyoxal Concentrations and Gradients in a Ponderosa Pine Stand in the Sierra Nevada Mountains: **F N Keutsch**, S B Henry, J Paul, J P DiGangi, A Kamrath

0800h **A41D-0133 POSTER** Exchange of hydrogen peroxide and nitric acid over a ponderosa forest measured by eddy covariance: **F Paulot**, M R Beaver, J St. Clair, K M Spencer, J Crounse, P O Wennberg

0800h **A41D-0134 POSTER** Observations of Products formed from the Interactions of Biogenic and Anthropogenic Emissions over a Ponderosa Pine Forest: **M R Beaver**, J St. Clair, F Paulot, K M Spencer, J Crounse, P O Wennberg

0800h **A41D-0135 POSTER** Gradient Measurements of NO, NO₂, Total Peroxy Nitrates, Total Alkyl Nitrates, and Nitric Acid during BEARPEX-2009: **S E Pusede**, B W LaFranchi, K Min, E C Browne, P J Wooldridge, R C Cohen

0800h **A41D-0136 POSTER** Characterization of Summertime Oceanic Boundary Conditions for Coastal and Regional Atmospheric Chemistry Modeling in California: **G Hübler**, D D Parrish, K C Aikin, S J Oltmans, B J Johnson, M Ives, V Thouret, P Nédélec, J Cammas, A Team

0800h **A41D-0137 POSTER** Impact of Background Ozone Inflow on Summertime Air Quality in California's Sacramento Valley: **D D Parrish**, K C Aikin, S J Oltmans, B J Johnson, M Ives

0800h **A41D-0138 POSTER** A regional-scale modeling study of Ozone transport from oceanic background to northern Sacramento Valley during ARCTAS/California period: **M Huang**, G R Carmichael, B Adhikary, S Kulkarni, S Spak, C Wei, Y Tang, D D Parrish, S J Oltmans, A J Weinheimer, C Wiedinmyer, D G Streets, Q Zhang, A D'Allura, R Pierce, J A Al-Saadi

0800h **A41D-0139 POSTER** Changes in the South Coast air Basin atmospheric sulfur budget between 2002 and 2008: **K M Spencer**, J Crounse, J M St Clair, C A Kuerten, R E Stickel, A T Case Hanks, L G Huey, M Cubison, J L Jimenez, E M Scheuer, J E Dibb, G W Sachse, G S Diskin, S A Vay, J Holloway, D D Parrish, T B Ryerson, P O Wennberg

0800h **A41D-0140 POSTER** Use of a data assimilating WRF-Chem model for Improving Prediction of Particulate Pollution in the LA Basin: **D Chen**, Q Li, Z Li, Y Chao, K Liou

0800h **A41D-0141 POSTER** Distribution of halogenated species over the Los Angeles Basin measured during the 2008 ARCTAS campaign (CARB phase). A case study: HFC-152a: **B Barletta**, S Meinardi, P Nissenon, D Dabub, R A VanCuren, J R Pederson, F S Rowland, D R Blake

0800h **A41D-0142 POSTER** Case study of the 2008 Northern California wildfires and their effect on local air quality: **G B Osterman**, R Pierce

0800h **A41D-0143 POSTER** Assessment of Anthropogenic and Biomass Burning Impact on Aerosol Properties over California as Observed During ARCTAS-CA: **K L Thornhill**, B Anderson, G Chen, A J Beyersdorf, E L Winstead, J E Dibb, E M Scheuer, R Weber, T L Lathem, J L Jimenez, M Cubison, Y Kondo, P O Wennberg, A J Weinheimer, A Wisthaler

0800h **A41D-0144 POSTER** Multi-scale monitoring of a marine geologic methane source in the Santa Barbara Channel using imaging spectrometry, ARCTAS-CARB in situ sampling and coastal hourly total hydrocarbon measurements: **E S Bradley**, I Leifer, D Roberts, P E Dennison, J Margolis, M Moritsch, G S Diskin, G W Sachse

0800h **A41D-0145 POSTER** Spatial variations in atmospheric CO₂ concentrations during the ARCTAS-CARB 2008 Summer Campaign: **K P Vadrevu**, Y Choi, S A Vay

0800h **A41D-0146 POSTER** Seasonal Variations in CH₄ Emissions from Central California: **C Zhao**, A E Andrews, L Bianco, J Eluszkiewicz, T Nehr Korn, M L Fischer

0800h **A41D-0147 POSTER** The Diurnal Cycle of GPS Precipitable Water in California: **J D Means**, D R Cayan, M Tyree

0800h **A41D-0148 POSTER** Future Changes in Low-Level Temperature Inversions in California: **S F Iacobellis**, J R Norris, M Kanamitsu, M Tyree, D R Cayan

0800h **A41D-0149 POSTER** Meteorological and Satellite Analysis of Eddies in the Marine Stratocumulus Photographed by Pilots Over the California Coast: **B M Muller**

0800h **A41D-0150 POSTER** Comparison of Deep Blue and Land Surface Reflectance in the San Joaquin Valley: S Lehmuth, **A Nguyen**, D Fisher, A Nguyen, K Roberts, A W Strawa, L F Johnson, J W Skiles

0800h **A41D-0151 POSTER** Effect of Ship Wake on Glint Ocean Reflectance: **R Poudyal**, C K Gatebe, E M Wilcox

0800h **A41D-0152 POSTER** NOAA ESRL Atmospheric Research Operations in California: **B A Vasel**, J Borgeld, M Ives, T Conway, A Karion, M L Fischer, A E Andrews, C Sweeney, B Andrews, S J Oltmans, B J Johnson, L C Patrick, T Berkoff

A41E Moscone West: 3004 Thursday 0800h
Composition of the Arctic Atmosphere: Sources, Transport, Chemistry, and Impacts on Clouds and Climate V

Presiding: **A J Soja**, National Institute Aerospace; **D J Jacob**, Harvard University

0800h **A41E-01** Canadian and Siberian Boreal Fire Activity during ARCTAS Spring and Summer Phases: **B J Stocks**, M D Fromm, A J Soja, R Servranckx, D Lindsey, E Hyer

0815h **A41E-02** The coordinated multi-sensor, multi-platform ARCTAS fire plume study on June 30, 2008: **J Redemann**, Y Shinozuka, J Livingston, P B Russell, P Pilewskie, S Schmidt, E Bierwirth, R R Johnson, A D Clarke, S Howell, C S McNaughton, S Freitag, L A Remer, S Mattoo, O Torres, P Veefkind, R A Ferrare, C A Hostetler, J W Hair, B Cairns, K D Knobelspiesse, A Bucholtz

0830h **A41E-03** Characterization of hydrocarbons, halocarbons and alkyl nitrates in the high northern hemisphere during summer: Impact of biomass burning and oil sands during ARCTAS: **D R Blake**, I J Simpson, S Meinardi, B Barletta, M M Yang, N J Blake, K A Gorham, F S Rowland, G W Sachse, G S Diskin

0845h **A41E-04** Boreal and California forest fire emissions and influences on atmospheric composition & chemistry during ARCTAS: **H B Singh**, E C Apel, D R Blake, G R Carmichael, R C Cohen, E Czech, D Jacob, J L Jimenez, J R Olson, G W Sachse, S A Vay, A J Weinheimer, P O Wennberg, A Wisthaler, S T Arctas

0900h **A41E-05** Fire Sources of Tropospheric Ozone from the Summer 2008 ARCTAS/ARC-IONS Soundings: Budgets, Trajectory Mapping and IONS-04 and IONS-06 Comparisons: **A M Thompson**, A MacFarlane, D W Tarasick, S J Oltmans, G Forbes, S K Miller, C Klich, J C Witte, A J Soja

0915h **A41E-06** Particulate organic matter, semi-refractory organics, soot, and light absorption in aging forest fire plumes: **S Howell**, A D Clarke, C S McNaughton, S Freitag, V N Kapustin, V Brekhovskikh, L Shank, J R Podolske

0930h **A41E-07** Sources and Sinks of Carbonaceous Aerosols in the Arctic in Spring: **Q Wang**, D J Jacob, J A Fisher, J Mao, P Le Sager, E M Leibensperger, C Carouge, Y Kondo, J L Jimenez, M Cubison, S G Howell, S Freitag, A D Clarke, C S McNaughton, R Weber, E C Apel

0945h **A41E-08** Black carbon aerosol measurements in spring western Arctic troposphere: **S Li**, K Hayden, P Liu, W Strapp, R S Stone, A Herber, M Maturilli, K Dethloff, V Y Sokolov, A Makshtas

A41F Moscone West: 3002 Thursday 0800h
Multiscale Organization of Tropical Convection and Its Interaction With the Large-Scale Circulation: Year of Tropical Convection (YOTC) I

Presiding: **M W Moncrieff**, NCAR; **D E Waliser**

0800h **A41F-01** Year of Tropical Convection (YOTC): Status and Research Agenda: **M W Moncrieff**, D E Waliser

0815h **A41F-02** Excursions into the strong precipitation regime; long tails in water vapor and other tracers (*Invited*): **J Neelin**, C E Holloway, B R Lintner, B Tian, Q Li, L Zhang, P K Patra, M T Chahine, S Stechmann

0830h **A41F-03** Understanding the MJO via data assimilation: **B E Mapes**

0845h **A41F-04** Vertical cloud water structures of the boreal summer intraseasonal variability based on CloudSat observations and ERA-Interim reanalysis: **X Jiang**, D E Waliser, J F Li, C P Woods

0900h **A41F-05** Variance scaling and moist conserved variables from AIRS/CloudSat and comparisons to ECMWF: **B H Kahn**, J Teixeira, E Fetzer

0915h **A41F-06** Atmospheric Diabatic Heating Distributions Derived from a Combination of Satellite Sensor Data: **W S Olson**, T S L'Ecuier, M Grecu, M G Bosilovich

0930h **A41F-07** Easterly Wave Activity And Its Modulation By The Larger Scales During The YOTC Time Period Of Focus: May 2008 – Oct 2009: **Y L Serra**

0945h **A41F-08** On the occurrence and properties of middle tropospheric stable layers over the tropical western Pacific: **D J Posselt**, B Charboneau

A41G Moscone West: 3006 Thursday 0800h
Wildfire Dynamics: Observations and Modeling of Fire-Atmosphere Interactions I (*joint with A*)

Presiding: **C B Clements**, San Jose State University; **R Linn**, Los Alamos National Laboratory

0800h **A41G-01** Representation of fires and fire emissions in global climate models: **O Pechony**, D T Shindell

0820h **A41G-02** Intercontinental, regional and local transport of smoke/haze events over Southern Canada using satellite and ground-based remote sensing techniques: **M Karumudi**, N O'Neill, A Saha, D Daou, K B Strawbridge, B Firanski, I McKendry

0840h **A41G-03** Ventilation of Animal Shelters in Wildland Fire Scenarios: **A S Bova**, G Bohrer, M B Dickinson

0900h **A41G-04** Meteorological Impact on MODIS Observed Boreal Fire Counts: The Role of Lightning: **D A Peterson**, J Wang, C M Ichoku, L A Remer

0920h **A41G-05** Capabilities of current wildfire models when simulating topographical flow: **A Kochanski**, M Jenkins, S K Krueger, R McDermott, W Mell

0940h **A41G-06** Simulation of Strongly Coupled Atmosphere/Fire Interaction in Idealized and Realistic Scenarios Using a Physics-Based Wildfire Model: **R Linn**, J Winterkamp, E Koo, J Canfield, J Sauer, A Brooks, F Pimont, J Dupuy

Atmospheric and Space Electricity

AE41B Moscone West: 3008 Thursday 0900h
Effects of Thunderstorms and Lightning on the Atmosphere-Ionosphere System III (*joint with A, P, SA*)

Presiding: **V P Pasko**, Penn State University; **D D Sentman**

0900h **AE41B-01** Effects of Gravity waves from Thunderstorms in the upper Atmosphere: **E Blanc**, T Farges

0915h **AE41B-02** 27-day variations found in lightning activity and cloud amount, and thier relationship to the solar cycle: **Y Takahashi**, M Sato, H Miyahara, H Peng, K Yamashita, N Hoshino

0930h **AE41B-03** Regional probing of ionospheric perturbations within 500 km of a lightning storm by using LASA VLF/LF broadband waveforms: **E H Lay**, X Shao, A R Jacobson

0945h **AE41B-04** Broadband Electromagnetic Pulses Coinciding with Sprite Luminosity: **M Fullekrug**, R A Roussel-Dupre, E Symbalisty, O Chanrion, O A Van Der Velde, A Odzimek, T Whitley, T Neubert

AE41A Moscone West: 3008 Thursday 0800h
From Cloud Electrification to Lightning: Initiation, Development, and Effects IV (*joint with A, SA*)

Presiding: **D R MacGorman**, NOAA/Natl Severe Storms Lab; **O Pinto**, INPE

0800h **AE41A-01** Artificially Triggered Lightning by Using New-designed Rocket during SHATLE, China: **X Qie**, J Yang, Q Zhang

0815h **AE41A-02** High-speed observations of faint positive lightning leaders and lightning spectra: T A Warner, **RE Orville**

0830h **AE41A-03** Time-synchronized high-speed video images, electric fields, and currents of rocket-and-wire triggered lightning: **C J Biagi**, J D Hill, D M Jordan, M A Uman, V A Rakov

0845h **AE41A-04** Micro-structure of Lightning Discharge and its Progression: **Z Kawasaki**

Biogeosciences

B41A Moscone South: Poster Hall Thursday 0800h **Carbon Cycling in Northern Peatlands I Posters**

Presiding: X Comas, Florida Atlantic University; A S Reeve, University of Maine; L D Slater, Rutgers-Newark

0800h **B41A-0282 POSTER** Warmer and drier conditions stimulate respiration more than photosynthesis in a boreal peatland ecosystem: Analysis of automatic chambers and eddy covariance measurements: **L B Flanagan**, T Cai, K H Syed

0800h **B41A-0283 POSTER** Northern peatlands still function as carbon sinks, but can switch to carbon sources under the changing climate by 2100: **J Wu**, N T Roulet

0800h **B41A-0284 POSTER** Micro-habitat variability in CO₂ exchange and regulation in a Mountain Peatland: **S Lindner**, O D Otieno, M Wartinger, W Borken, J D Tenhunen

0800h **B41A-0285 POSTER** An instrument design and sample strategy for measuring soil respiration in the coastal temperate rain forest: **S M Nay**, D V D'Amore

0800h **B41A-0286 POSTER** Coarse-Resolution Daily Inundation Dynamics over the Alaska-Yukon Region: Comparison with High-Resolution Inundation Products and Influences from Atmospheric Drivers: **R Schroeder**, K C McDonald, M A Rawlins, E Podest, J Whitcomb, M Mogahddam, R Zimmermann

0800h **B41A-0287 POSTER** Decadal Change Characterization in Northern Wetlands Based on Analysis of L-band SAR Satellite Data: **J Whitcomb**, M Moghaddam, K C McDonald, E Podest, B D Chapman

0800h **B41A-0288 POSTER** A carbon accumulation maximum during the Medieval Climate Anomaly in the world's biggest bog, Siberia: **D Beilman**, G M MacDonald

0800h **B41A-0289 POSTER** Variations in Biogenic Gas Content Profiles Along a Crest-Lawn-Fen Transect of an Ombrotrophic Minnesota Peatland from Non-Invasive Geophysical Measurements: **A Parsekian**, L D Slater, X Comas, P H Glaser

0800h **B41A-0290 POSTER** Non-invasive characterization of biogenic gas dynamics in peatlands using the ground penetrating radar (GPR) method: **X Comas**, L D Slater, A S Reeve, P H Glaser, J T Nolan, A Parsekian

0800h **B41A-0291 POSTER** The Influence of Permeable Mineral Lenses on Peatland Pore-Water Flow Patterns: **A S Reeve**, Z Tyzcka, X Comas, L D Slater

0800h **B41A-0292 WITHDRAWN**

0800h **B41A-0293 POSTER** Environmental control of methane fluxes over a Danish peatland: **M Herbst**, R Ringgaard, T Friborg, H Soegaard

0800h **B41A-0294 WITHDRAWN**

0800h **B41A-0295 POSTER** Carbon cycling responses to a water table drawdown and decadal vegetation changes in a bog: **J Talbot**, N T Roulet

0800h **B41A-0296 POSTER** Using C/N ratios to investigate DOM reactivity in northern peatlands: **J Corbett**, J Chanton, D Burdige, P H Glaser, D I Siegel, S S Dasgupta, M M tfaily, W T Cooper

0800h **B41A-0297 POSTER** Reconstruction of inundation and greenhouse gas emissions from Siberian wetlands over the last half-century: **T J Bohn**, E Podest, R Schroeder, K C McDonald, C Chiu, L C Bowling, M Glagolev, D P Lettenmaier

0800h **B41A-0298 POSTER** Complex Dynamics in Models of Peat Accumulation lead to Dramatic Regime Shifts under a Steady Climate: **P J Morris**, A J Baird, L R Belyea

0800h **B41A-0299 POSTER** THE FUTURE OF CARBON STORAGE IN UPLAND BLANKET PEATLANDS- THE CASE OF THE ENGLISH PEAK DISTRICT: G Clay, **F Worrall**, M Evans, A Bonn, M Reed, J Holden

B41B Moscone South: Poster Hall Thursday 0800h **Global Soil Change: New Frontiers for the Biogeosciences II Posters (joint with GC, A)**

Presiding: S A Billings, University of Kansas; A F Plante, University of Pennsylvania; **M G Kramer**, University of California, Santa Cruz; **D Richter**, Duke University

0800h **B41B-0300 POSTER** Is Soil Biogeochemistry Cosmopolitan? A Test in the Atacama Desert: **S J Hall**, W L Silver, R Amundson

0800h **B41B-0301 POSTER** Engineering Biochar Hydrophobicity to Mitigate Risk of Top-Soil Erosion: **T J Kinney**, M R Dean, W C Hockaday, C A Masiello

0800h **B41B-0302 POSTER** Soil erosion and management measures in the Haean catchment of Korea: **S Arnhold**, M Ruidisch, J Kettering, B Huwe, B Glaser, Y Ok, J D Tenhunen

0800h **B41B-0303 WITHDRAWN**

0800h **B41B-0304 POSTER** Bioenergy residues applied as soil amendments: N₂O emissions and C sequestration potential: M Cayuela, P Kuikman, O Oenema, R Bakker, **J Van Groenigen**

0800h **B41B-0305 POSTER** Characteristic Changes in Soil CO₂ Efflux Resulting from Physical Disturbance: **S Klapstein**, D A Risk

0800h **B41B-0306 POSTER** Carbon Degrading Enzymes: Basic Kinetics and Responses to Temperature: **M Stone**

0800h **B41B-0307 POSTER** A Broader Spatial Context for Remote Sensing of Soil Resources: **B Zheng**, J Campbell

0800h **B41B-0308 POSTER** Molecular aspects of aromatic C additions to soils: Implications of char quality for ecosystem functionality: **M Keiluweit**, P S Nico, M G Johnson, M Kleber

0800h **B41B-0309 POSTER** Spatially-explicit model of mercury accumulation in the forest floor of the United States: **C H Perry**, P Zimmerman

0800h **B41B-0310 POSTER** Are freshwater diversion projects in Louisiana wetlands doing more harm than good?: **C J Schulz**, G W Childers

0800h **B41B-0311 POSTER** Horizontal and Vertical Distributions of Metals in Soils in Southeastern PA: Impact of 20th Century Zinc Smelting Operations: **D L Sahagian**, S C Peters, G Yasko, J Blake, K Smith, J Lofaro, J E Burrows

0800h **B41B-0312 POSTER** 12 years of intensive management increases soil carbon stocks in Loblolly pine and Sweetgum stands: **F G Sanchez**, L Samuelson, K Johnsen

0800h **B41B-0313 POSTER** Effects of Biochar amendments on soil chemistry: **A Mukherjee**, A R Zimmerman

0800h **B41B-0314 POSTER** Soil Organic C and N Destabilization and Decline Following a Decade of Free-air CO₂ Enrichment (FACE) in an Aridland Ecosystem: **B D Strahm**, J P Sparks

0800h **B41B-0315 POSTER** Linkages between land Cover, enzymes, and soil organic matter chemistry following encroachment of leguminous woody plant into grasslands: **T R Filley**, D E Stott, T W Boutton, C A Creamer, D Olk

0800h **B41B-0316 POSTER** Priming increases mean age of carbon respired in incubated soils: **F M Hopkins**, S Trumbore, M S Torn

0800h **B41B-0317 WITHDRAWN**

B41C Moscone South: Poster Hall Thursday 0800h
High-Latitude Climate Feedbacks and Their Interactions I
Posters (joint with GC, C)

Presiding: P Camill, Bowdoin College

- 0800h **B41C-0318 POSTER** Photosynthesis, plant growth and nitrogen nutrition in Alaskan tussock tundra: Response to experimental warming: **E Dynes**, J M Welker, D J Moore, P Sullivan, L Ebbs, R Pattison
- 0800h **B41C-0319 POSTER** The Atmospheric Response to Northward Expansion of the Arctic Boreal Forest: **S Liess**, P K Snyder
- 0800h **B41C-0320 POSTER** Can we detect changes in high-latitude soil respiration over decadal time scales?: **B P Bond-Lamberty**, A M Thomson
- 0800h **B41C-0321 POSTER** Stable, charred, or disappeared: Peatland soil temperatures and permafrost sensitivity to interactions between temperature increases and changing disturbance regimes: **C C Treat**, D Wisser, S S Marchenko, S E Frolking
- 0800h **B41C-0322 POSTER** Analyzing the effect of seasonal water cover variability and freeze-thaw timing on methane emissions from boreal and arctic soils: **N Smith-Downey**, R Fu
- 0800h **B41C-0323 POSTER** Trace gas and vegetation feedback responses of Alaskan tussock tundra to long-term snow depth manipulations: **L M Ebbs**, L Taneva, P Sullivan, J M Welker
- 0800h **B41C-0324 POSTER** Performance of two passive warming chamber designs in a northern Mongolian steppe: **A Sharkhuu**, A F Plante, B Casper, B R Helliker, P Liancourt, P Petraitis
- 0800h **B41C-0325 POSTER** Detection of climate change impacts on boreal soil carbon cycling: A model-based analysis of carbon stock and flux changes over the coming decades: **Z Fan**, J Neff
- 0800h **B41C-0326 POSTER** High temporal resolution dynamics of wintertime soil CO₂ flux: **D A Risk**, G S McArthur, N R Nickerson, H Beltrami
- 0800h **B41C-0327 POSTER** Determining Organic Matter Sources to CH₄ Production and Bubbling from Alaskan Lakes using Stable Isotopes and Radiocarbon Ages: **L Brosius**, K M Walter Anthony, J Chanton
- 0800h **B41C-0328 POSTER** Functional feedbacks by dwarf mistletoe of pine into global climate change in a Yellowstone forest ecosystem: **K Cullings**, J Hanely
- 0800h **B41C-0329 POSTER** Snow distribution, soil temperature and late winter CO₂ efflux from soils at the Arctic treeline in northwest Alaska: **P Sullivan**
- 0800h **B41C-0330 POSTER** CH₄ and CO₂ flux observations in northeast Siberian tundra and its implications for modelling of CH₄ fluxes: **K J van Huissteden**, F Parmentier, R Petrescu, L P Van Beek, S Karsanaev, T Maximov, M van der Molen, H Dolman
- 0800h **B41C-0331 POSTER** Soil organic matter mineralization in frozen soils: **S Harrysson Drotz**, T Sparrman, J Schleucher, M Nilsson, M G Öquist
- 0800h **B41C-0332 POSTER** Correlations between Eurasia terrestrial water cycle and boreal drought derived from multi-sensor satellite observations and in-situ data: **J Tong**, I Velicogna, M A Rawlins, K C McDonald, J S Kimball
- 0800h **B41C-0333 POSTER** Fundamental Dynamics of the Permafrost Carbon Feedback: T Zhang, **K Schaefer**, L Bruhwiler
- 0800h **B41C-0334 POSTER** Vulnerability and Resiliency of Arctic and Sub-Arctic Landscapes (VuRSAL) – A NASA Sponsored Scoping Study on Feedbacks in High Latitude Systems: **E S Kasischke**, M C Mack, J S Kimball, S J Goetz

0800h **B41C-0335 POSTER** Net ecosystem exchange of CO₂ and CH₄ in the high arctic (81°N) during the growing season: **J D Barker**, V L St.Louis, J A Graydon, I Lehnherr

0800h **B41C-0336 POSTER** Incorporating plant migration constraints into the NCAR CLM-DGVM model: Projections of future vegetation distribution in high latitudes: **E Lee**, C A Schlosser, B S Felzer, R G Prinn

0800h **B41C-0337 POSTER** The importance of local and regional variability in developing spatial models of potential refugia in a subarctic landscape: **S Hazlett**, B F Molnia, R Brown

0800h **B41C-0338 POSTER** Permafrost controls on soil C storage and turnover in upland black spruce ecosystems of interior Alaska: **J A O'Donnell**, J W Harden, V E Romanovsky, M Z Kanevskiy, T Jorgenson, X Xu, S A Ewing, D McGuire, Y Shur

B41D Moscone West: 3018 Thursday 0800h
Ecosystem Models, Data Assimilation, and Flux Networks:
Synthesis Efforts From Regional to Global Scales II (joint with A, EP)

Presiding: D D Baldocchi, University of California, Berkeley; **R Vargas**, University of California-Berkeley; **M Goeckede**, Oregon State University

0800h **B41D-01** How Can Uncertainties in Simulating Biospheric Carbon Fluxes Be Attributed to Different Factors? An Illustration using the Vegetation Photosynthesis and Respiration Model (VPRM) in Central Canada: **J C Lin**, M Pejam, E Chan, S C Wofsy, E Gottlieb, H A Margolis, J H McCaughey

0815h **B41D-02** Regional Upscaling of Eddy Flux Measurements in the Upper Midwest, USA: Influence of Land Cover Heterogeneity and Model Parameterization on Regional Carbon Fluxes: **J Xiao**, K J Davis, N M Urban, K Keller

0830h **B41D-03** Potential biogeochemical and biogeophysical consequences of afforestation in North America: **T L O'Halloran**, B E Law, D D Baldocchi, G B Bonan, J T Randerson

0845h **B41D-04** Allometry in global models: an important reality check on the growth and biomass of forests: **A Wolf**, J A Berry

0900h **B41D-05** Derivation and analysis of cross relations of photosynthesis and respiration across at FLUXNET sites for model improvement: **G Lasslop**, M Reichstein, D Papale, A D Richardson

0915h **B41D-06** Driving factors of winter respiration (*Invited*): **P Ciais**, T Wang, S Piao, I Janssens, M Reichstein

0935h **B41D-07** Data Assimilation at FLUXNET to Improve Models towards Ecological Forecasting (*Invited*): **Y Luo**

B41E Moscone West: 3016 Thursday 0800h
Toward Phenological Assessments: Regional, National, Global I
(joint with A, GC, H, PA)

Presiding: G M Henebry, South Dakota State University; **J L Betancourt**, U.S. Geological Survey; **M D Schwartz**, UW-Milwaukee

0800h **B41E-01** Phase I of a National Phenological Assessment: **J L Betancourt**, G M Henebry

0815h **B41E-02** Near-term projections of phenologically-important climate variables in the United States (*Invited*): **N S Diffenbaugh**, M Ashfaq

0845h **B41E-03** Warming and Chilling: Assessing Aspects of Changing Plant Ecology with Continental-scale Phenology: **M D Schwartz**, J M Hanes

0900h **B41E-04** How well do GCMs simulate high impact measures of climate change? An assessment of past trends and future projections of agro-climate indices. (*Invited*): **A J Terando**

0930h **B41E-05** The Genetic Contribution to Phenological Variation: **J M Friedman**, J E Roelle, B S Cade
 0945h **B41E-06** Responses Of Alpine Vegetation To Global Warming: Insights From Comparing Alpine-Restricted And Broad-Ranging Herbs Along Snowmelt Gradients: **R J Butz**, K S Reinhardt, M J Germino, L M Kueppers

Cryosphere

C41A Moscone South: Poster Hall Thursday 0800h
Cryosphere General Contributions Posters (joint with H, GC, A)

Presiding: **S O'Neel**, USGS; **H Marshall**, Boise State University

0800h **C41A-0415 POSTER** Observations of Geophysical and Dielectric Properties and Ground Penetrating Radar Signatures or Discrimination of Snow, sea ice, and Freshwater ice Thickness: **R J Galley**, M Trachtenberg, A Langlois, D G Barber, L Shafai
 0800h **C41A-0416 POSTER** The influence of Southern Hemisphere atmospheric stationary eddies on Antarctic sea ice variability and trends: **W R Hobbs**
 0800h **C41A-0417 POSTER** The Zero Curtain Effect Indicates Probable Permafrost along Trail Ridge Road, Rocky Mountain National Park, Colorado: **J R Janke**, T Dienstfrei
 0800h **C41A-0418 POSTER** Glacial Meltwater Contributions to the Bow River, Alberta, Canada: **E A Bash**, S J Marshall, E C White
 0800h **C41A-0419 POSTER** Enhancement factors for grounded ice and shelf inferred from ice anisotropy: **Y Ma**, O Gagliardini, C Ritz, F Gillet-Chaulet, G Durand, M Montagnat
 0800h **C41A-0420 POSTER** The Antarctic Glaciological Data Center: An Archive for NSF Antarctic Program Glaciological Research: R J Bauer, **K Leitzell**, J A Bohlander, T Scambos
 0800h **C41A-0421 POSTER** Effects Of An Extreme Arctic Sea Ice Minimum On The Northern Hemisphere Atmosphere During Late Autumn and Early Winter: **S T Strey**, W Chapman, J Walsh
 0800h **C41A-0422 POSTER** A Comparison of Methyl Chloride Measurements in Ice Cores from Five Antarctic Sites: **K E Schrote**, K M Aydin, K R Verhulst, E S Saltzman
 0800h **C41A-0423 POSTER** Investigating the role of sea surface temperature and energy exchange under extreme snow conditions in the Northern Hemisphere: **G R Henderson**, D J Leathers, B Hanson
 0800h **C41A-0424 POSTER** Trend and Regime Shift Analysis of Lake Baikal Freeze-up and Break-up Dates, and Ice Cover Duration: **K Noguchi**, Y R Gel, C R Duguay
 0800h **C41A-0425 POSTER** Precipitation Impacts of a Shrinking Arctic Sea Ice Cover: **J C Stroeve**, A Frei, G Gong, D Ghatak, D A Robinson, D Kindig
 0800h **C41A-0426 POSTER** Rates of Periglacial Activity Along an Elevational Gradient, White Mountains, California: **G L Schmid**, F D Wilkerson
 0800h **C41A-0427 POSTER** Global ice-ocean-ecosystem modeling studies for ecosystem response to climate change: **M Jin**, C Deal, S M Elliott, E C Hunke, M E Maltrud, N Jeffery
 0800h **C41A-0428 POSTER** Dust Provenance and Radiometric U-Series Ages as Evidence for an Eemian Ice Sheet in Greenland: **S Aciego**, B Bourdon, J Schwander, T F Stocker
 0800h **C41A-0429 POSTER** Integrated Geophysical Examination of the CRREL Permafrost Tunnel's Fairbanks Silt Units, Fox, Alaska: **C L Dinwiddie**, R N McGinnis, D Stillman, R E Grimm, D M Hooper, K Bjella

0800h **C41A-0430 POSTER** The Synoptic Climatology of Ocean-Sea Ice-Atmosphere Coupling over the Cape Bathurst Flaw Lead: **M G Asplin**, L M Candlish, D G Barber, R Raddatz
 0800h **C41A-0431 POSTER** Post-coring entrapment of modern air in polar ice: Evidence from CFC-12 measurements in Antarctic firn air and shallow ice cores: **K M Aydin**, S A Montzka, M O Battle, M B Williams, W J De Bruyn, J H Butler, K R Verhulst, C Tatum, B K Gun, D A Plotkin, B D Hall, E S Saltzman
 0800h **C41A-0432 POSTER** The minimum melting in Antarctica in 2009: An updated Antarctic melt record and its linkages to high-latitude and tropical climate variability: A J Monaghan, **M Tedesco**
 0800h **C41A-0433 POSTER** Cryogenic structure and ice content of lacustrine sediments in the Yukon River Basin, Alaska: **M Z Kanevskiy**, M T Jorgenson, Y Shur, J O'Donnell, J W Harden, D Fortier
 0800h **C41A-0434 WITHDRAWN**
 0800h **C41A-0435 POSTER** Geomorphological characteristics of Yedoma terrains in the northern part of Seward Peninsula, Alaska: **E Stephani**, M Dillon, D Fortier, T Jorgenson, M Z Kanevskiy, Y Shur
 0800h **C41A-0436 POSTER** DNA analysis of a single Pinus pollen grain in a glacier: **F Nakazawa**, J Uetake, Y Suyama, R Kaneko, N Takeuchi, K Fujita, H Kanda
 0800h **C41A-0437 POSTER** On the existence of water seepage of Lake Nam Co on the Tibetan Plateau: **S Zhou**, S Kang
 0800h **C41A-0438 POSTER** Middle Pleistocene (?) buried glacial ice on Bylot Island, Canadian Arctic Archipelago: **D Fortier**, E Godin, M Z Kanevskiy, M Allard
 0800h **C41A-0439 POSTER** Ice cliff recession on Kilimanjaro: patterns and drivers: **M Winkler**, T Moelg, T Pfeffer, G Kaser
 0800h **C41A-0440 POSTER** Cosmogenic ¹⁰Be Depth Profile in top 560 m of West Antarctic Ice Sheet Divide Ice Core: **K C Welten**, T E Woodruff, M W Caffee, R Edwards, J R McConnell, M M Bisiaux, K Nishiizumi
 0800h **C41A-0441 POSTER** West Antarctic Ice-core Records of Sea-Ice Variability: A Neural Network Perspective: **D B Reusch**
 0800h **C41A-0442 POSTER** A comparison of Methyl Bromide measurements in ice core air from four Antarctic sites: **A Liebowitz**, K M Aydin, K R Verhulst, E S Saltzman
 0800h **C41A-0443 POSTER** Yedoma and thermokarst in the northern part of Seward Peninsula, Alaska: **Y Shur**, M Z Kanevskiy, M T Jorgenson, D Fortier, M Dillon, E Stephani, M Bray
 0800h **C41A-0444 POSTER** CLIMATE INTERACTIONS ON INFRASTRUCTURE STABILITY IN THE DISCONTINUOUS PERMAFROST ZONE: **D Sarrazin**, M Allard, A Leclerc, E L'Hérault
 0800h **C41A-0445 POSTER** Measurement of total dissolved mercury at the picomolar level using ICP-SFMS: **Y Han**, Y Huh, K Lee, S Hur, S Hong
 0800h **C41A-0446 POSTER** Hyperinflation of surfaces in lower Beacon Valley, Dry Valleys, Antarctica: new process and new clues about fluctuations of Taylor Glacier: **R S Sletten**, B Hallet, B Hagedorn, J Stone
 0800h **C41A-0447 POSTER** Fluorescence Measurements of Microbial Life in the WAIS Divide Ice Core: **R A Rohde**, N E Bramall, B Price, R C Bay
 0800h **C41A-0448 POSTER** Operational Products Archived at the National Snow and Ice Data Center: F M Fetterer, L Ballagh, K Gergely, J Kovarik, A Wallace, **A Windnagel**

C41B Moscone South: Poster Hall Thursday 0800h
Physical, Biological, and Biogeochemical Processes Associated
With Young Sea Ice Types Posters (joint with B, OS, A)

Presiding: **D G Barber**, University of Manitoba; **S V Nghiem**, Jet Propulsion Laboratory

0800h **C41B-0449 POSTER** Formation and ridging of flaw leads in the eastern Canadian Beaufort Sea. Special Session C06 on: "Physical, biological and biogeochemical processes associated with young thin ice types": **S J Prinsenberg**

0800h **C41B-0450 WITHDRAWN**

0800h **C41B-0451 POSTER** Application of a Passive Microwave Thin Ice Algorithm to a Circumpolar Distribution of Antarctic Polynyas for 1992-2008, and Their Relation to Large-Scale Atmospheric Modes (*Invited*): **S Martin**, R Kwok, R Drucker

0800h **C41B-0452 POSTER** The interaction of solar radiation with young ice (*Invited*): **D K Perovich**

0800h **C41B-0453 POSTER** Recent studies of halogen activation in the Arctic and the role of sea ice types (*Invited*): **P B Shepson**

0800h **C41B-0454 POSTER** Mercury Dynamics across the Ocean-Young Sea Ice- Atmosphere Interface in the Western Arctic Ocean: **A H Chaulk**, D Armstrong, F Wang, G Stern

0800h **C41B-0455 POSTER** Physico-Chemical Properties and CO₂ fluxes at a frost-flower station in the Bellingshausen Sea, Antarctica (SIMBA): **J Tison**, N Geilfus, F Brabant, S F Ackley, K M Golden, A P Worby, C H Fritsen, B Delille

0800h **C41B-0456 POSTER** Elevated Bacterial Abundance in Laboratory-Grown and Naturally Occurring Frost Flowers Under Late Winter Conditions: **J S Bowman**, J W Deming

C41C Moscone South: Poster Hall Thursday 0800h
Sea Ice Processes and Properties I Posters

Presiding: **P Sammonds**, UCL

0800h **C41C-0457 POSTER** Friction between sea ice floes: B Lishman, **P Sammonds**, D L Feltham, A V Wilchinsky

0800h **C41C-0458 POSTER** Use of a discrete element model to study failure modes of a sea ice cover: M A Hopkins, **A V Wilchinsky**, D L Feltham

0800h **C41C-0459 POSTER** Scaling properties of sea ice deformation during winter and summer: **J K Hutchings**, P Heil, A Roberts

0800h **C41C-0460 POSTER** Modeling The Sea Ice Edge: H Singleton, **D L Feltham**

0800h **C41C-0461 POSTER** Incorporation of a physically-based melt pond scheme into the sea ice component of a climate model: D Flocco, **D L Feltham**, A T Turner

0800h **C41C-0462 POSTER** Frazil Ice Formation in the Polar Oceans: N V Radia, **D L Feltham**

0800h **C41C-0463 POSTER** Consolidation experiments on rafted sea ice: **E Bailey**, P Sammonds, D Feltham

0800h **C41C-0464 POSTER** A consolidation model for rafted sea ice: P Sammonds, **E Bailey**, D L Feltham

0800h **C41C-0465 POSTER** Ice mass balance buoy measurements from the Canadian Arctic Archipelago - Viscount Melville Sound: **B Tremblay**, D B Huard, V Dansereau

0800h **C41C-0466 POSTER** A Modern Concept for Autonomous and Continuous Measurements of Spectral Albedo and Transmissivity of Sea Ice: M Nicolaus, **S R Hudson**, S Gerland, S de la Rosa, A Sirevaag

0800h **C41C-0467 POSTER** Modeling brine and nutrient dynamics in Antarctic sea ice: the case of dissolved silica: **M Vancoppenolle**, H Goosse, A de Montety, T Fichetef, B Tremblay, J Tison

0800h **C41C-0468 POSTER** Gas diffusion through columnar laboratory sea ice: Implications for transport of biogenic gases:

B Loose, P Schlosser, D K Perovich, D Ringelberg, D T Ho, T Takahashi, J Richter-Menge, C M Reynolds, W R McGillis

0800h **C41C-0469 POSTER** Characterization of bottom ice algal and detrital spectral absorption properties in first-year sea ice of an Arctic polynya: **C Mundy**, M Gosselin, C Nozais, M Simard

0800h **C41C-0470 POSTER** Resolution of sea ice microstructure using cross borehole resistivity tomography: **M Ingham**, K Jones, D J Pringle, H Eicken

0800h **C41C-0471 POSTER** Combining Analysis Techniques to Understand Brine Channel Morphology and Chemistry in Sea Ice: **R W Obbard**, G W Troderman, I Baker

0800h **C41C-0472 POSTER** Sea Ice Volume Transport in the Southern Ocean: **E R Bernstein**, C A Geiger, T L Deliberty

0800h **C41C-0473 POSTER** Surface processes on perennial Antarctic sea ice: **T L Maksym**, S E Stammerjohn, B Pasquer, K Jackson, J Wilkinson

0800h **C41C-0474 POSTER** On the Representation of Antarctic Sea Ice in a Global Ocean GCM: **A Stoessel**

0800h **C41C-0475 POSTER** Evaluating the numerical approximation of the atmospheric latent heat flux used by CSIM5 and it's influence on the distribution of sea-ice thickness within the Southern Ocean: **M D Stampone**

0800h **C41C-0476 POSTER** The importance of large scale sea ice drift and ice type distribution on ice extent in the Weddell Sea: **S Schwegmann**, C Haas, R Timmermann, R Gerdes, P Lemke

0800h **C41C-0477 POSTER** Coupling a Thermodynamic Sea Ice Model with WRF: **J R Krieger**, J Zhang

0800h **C41C-0478 POSTER** Controls on Arctic sea ice from first-year and multi-year ice survival rates: **K Armour**, C M Bitz, E C Hunke, L Thompson

0800h **C41C-0479 POSTER** Inter-annual and Seasonal Variability of Sea Ice Thickness North of Alert, Ellesmere Island and in the Lincoln Sea: **B A Lange**, C Haas, S Hendricks, J Beckers

0800h **C41C-0480 POSTER** Estimates of heat exchange and ice production in the Arctic Ocean through the use of satellite laser altimetry data: 2003-2008: **N T Kurtz**, T Markus, D Worthen

0800h **C41C-0481 POSTER** Comparison of modelled and observed sea ice fluxes in the Canadian Arctic Archipelago: **D B Huard**, B Tremblay, J Lemieux

0800h **C41C-0482 POSTER** Quantifying the contribution of sea ice and polynyas to global carbon flux: **L Edwards**, G E Mitchelson-Jacob

0800h **C41C-0483 POSTER** Archival and Analysis of Sea Ice Thickness in the Arctic Ocean Based on On-Ice In Situ Historical Measurements: **B Holt**, K Melocik

C41D Moscone West: 3014 Thursday 0800h
Snow and Ice Surface Roughness and Remote Sensing:
Microstructural and Near-Infrared Snow Measurements II

Presiding: **U C Herzfeld**, Univ Colorado Boulder; **H Mayer**, University of Colorado; **M Tedesco**

0806h **C41D-01** The Evolution of First-Year Pack Ice Roughness From C-band SAR Imagery (*Invited*): **J F Heinrichs**, S T Lane

0821h **C41D-02** Variations in density and accumulation in the dry snow zone of the Greenland Ice Sheet (*Invited*): **E M Morris**, D Wingham

0836h **C41D-03** Sea ice surface elevation distributions from ICESat
(Invited): **R Kwok**

0851h **C41D-04** Simulating Scale-Dependent Surface Roughness of
Sea Ice, Glaciers and Ice Sheets: **U C Herzfeld**, B F Wallin

0904h **C41D-05** Laser Altimetry Sampling Strategies over Sea Ice:
S L Farrell, T Markus, L N Connor, J A Miller

0917h **C41D-06** Sensitivity of altimetric waveform to wind induced
roughness over the Antarctica ice sheet: **S Parouty**, F Remy, F Blarel

0930h **C41D-07** Imaging Snow Stratigraphy Using Near-Infrared
Photography and the Spatial Variability of the Snowpack (Invited):
M Schneebeil

0945h **C41D-08** Comparison of six experimental methods to
measure snow SSA in the field: G Picard, **F Domine**, L Arnaud,
N Champollion, P Cliche, A Dufour, F Flin, J Gallet, A Langlois,
B Lesaffre, A Royer

Education and Human Resources

ED41A Moscone South: Poster Hall Thursday 0800h
Bringing Back the Moon: Using Lunar Education Resources
to Enhance K-12 Science, Technology, Engineering, and
Mathematics (STEM) Education Posters

Presiding: **B C Hsu**, NASA/GSFC/SSAI

0800h **ED41A-0521 POSTER** Dynamic Response of the
Environment at the Moon (DREAM): Providing Opportunities
for Students and Teachers to Learn About the Solar-lunar
Environmental Connection: **L Bleacher**, H M Weir, Y Twu,
W M Farrell, N A Gross

0800h **ED41A-0522 POSTER** Using Lunar Reconnaissance Orbiter
Data to Support STEM Education: **B C Hsu**, L Bleacher, W L Taylor,
D Roberts, G Sullivan

0800h **ED41A-0523 POSTER** Seeing the Moon In a New Light:
Educational Resources Developed in Association with M³:
C J Runyon, C Shupla, S S Shipp, K Hallau, K Boyce, C M Pieters

0800h **ED41A-0524 POSTER** Education Opportunities Using
the CRATER Instrument: A W Case, **N A Gross**, H E Spence,
C Instrument Team

0800h **ED41A-0525 POSTER** The Lunar Student Imaging Project
(LSIP): Bringing the Excitement of Lunar Exploration to Students
Using LRO Mission Data: **W L Taylor**, D Roberts, R Burnham,
M S Robinson

0800h **ED41A-0526 POSTER** NASA Lunar Sample Education Disk
Program – Space Rocks for Classrooms, Museums, Science Centers
and Libraries: **J S Allen**

ED41B Moscone South: Poster Hall Thursday 0800h
Geocognition and Geoscience Education Research: Impacts on
Course Curriculum and Student Learning I Posters

Presiding: **L Arthurs**, University of Colorado at Boulder;
D K Duncan, Univ. of Colorado; **J Libarkin**, Michigan State
University

0800h **ED41B-0527 POSTER** Emerging Geoscience Education
Research at the University of British Columbia: **F M Jones**, S Harris,
C Wieman, B Gilley, E Lane, J Caulkins

0800h **ED41B-0528 POSTER** Community Efforts Bringing
Research on Learning to the Geosciences: **C A Manduca**, D W Mogk,
K A Kastens

0800h **ED41B-0529 WITHDRAWN**

0800h **ED41B-0530 POSTER** Development of the Solar System
Concept Inventory: **S Hornstein**, E Prather

0800h **ED41B-0531 POSTER** A Multi-Faceted Approach to Inquiry-
Based Learning: **M R Brudzinski**, J Sikorski

0800h **ED41B-0532 POSTER** Using the Geoscience Concept
Inventory to Understand how Students Learn about Geologic Time:
R E Teed

0800h **ED41B-0533 POSTER** An Active Vision Approach to
Understanding and Improving Visual Training in the Geosciences:
J Voronov, J A Tarduno, R A Jacobs, J B Pelz, M R Rosen

ED41C Moscone South: Poster Hall Thursday 0800h
Geoscience Alliance: Broadening Participation of Native
Americans in the Geosciences Posters

Presiding: **D M Dalbotten**, University of Minnesota

0800h **ED41C-0534 POSTER** Doing Climate Science in Indigenous
Communities: **R E Pandya**, B Bennett

0800h **ED41C-0535 POSTER** The University of Minnesota Morris
(UMM) STEP Program: an initiative to encourage the participation
of Native Americans in the sciences: **J F Cotter**

0800h **ED41C-0536 POSTER** Geoscience Alliance—A National
Alliance for Broadening Participation of Native Americans in the
Geosciences: **D M Dalbotten**, H Pellerin, L Greensky, A Burger

0800h **ED41C-0537 POSTER** The Role of Effective Evaluation
of Native American Informal Education Programs in Promoting
Participation in the Geosciences: **L Greensky**, H Pellerin

0800h **ED41C-0538 POSTER** The impact of participation in
the GEMScholar Program: the persistence of Native American
undergraduate students in the Geosciences: **S Zurn-Birkhimer**,
S Geier, T R Filley

0800h **ED41C-0539 POSTER** The impact of the European
earthworm invasion on Red Lake Reservation: **J Jourdain**,
A Johnson, M Sumner, M Kingbird, W F Martin, M Sather, C Thayer,
T R Filley, S M Top, S Zurn-Birkhimer, T Kroeger, P Welle

ED41D Moscone South: Poster Hall Thursday 0800h
The Commitment to Diversity in Earth System Science: Using
Scientific Opportunity to Meet Global Needs Posters

Presiding: **A Johnson**, University of South Florida

0800h **ED41D-0540 POSTER** Broadening Participation in
the Geosciences through Participatory Research: **R E Pandya**,
A Hodgson, R Wagner, B Bennett

0800h **ED41D-0541 POSTER** STREAMS - Supporting
Underrepresented Groups in Earth Sciences: **K Carvalho-Knighton**,
A Johnson

0800h **ED41D-0542 POSTER** EPA's STAR & GRO Fellowship
Programs: Identifying the Niche and Targeting the Need: **M B Jones**,
J Zambrana

0800h **ED41D-0543 POSTER** Design, Implementation and Impact
of the MS PHD'S Professional Development Program: **V Williamson**
Whitney

0800h **ED41D-0544 POSTER** The Many Faces of Mentoring to
Enhance Diversity in the Geosciences: **L Ricciardi**, A Johnson,
V Williamson Whitney

0800h **ED41D-0545 POSTER** Integrated Geospatial Education and
Technology Training (iGETT) for Workforce Development: **J E Allen**,
A Johnson, R K Headley

0800h **ED41D-0546 POSTER** Geoscience Workforce Supply and
Demand Trends: **L M Gonzales**, C M Keane, C M Martinez

0800h **ED41D-0547 POSTER** Feeling the Earth Shake... at School: **F Courboux**, J Berenguer, J Leputh, B Zodmi, F Tilquin, M Tartiere, O Ngo, L Mathias, F Moulié, J Virieux, C Larroque, J Douchain, G Nolet, P Bernard, P Arroucau, M Chlieh, A Deschamps, R Pillot, M Regnier

0800h **ED41D-0548 POSTER** Testing the Efficacy of Student Explorations of Earth Science Museum Exhibits: **K Kirkby**, M Phipps, C Tzenis, P J Morin, P Hamilton

0800h **ED41D-0549 POSTER** A New Master of Natural Hazards Program at The Australian National University: **S Pozgay**, D Zoletta-Nantes

0800h **ED41D-0550 POSTER** Introducing inquiry-based hands-on satellite remote sensing technology into the Earth science curricula of Hawaii's classrooms: **L Moxey**, J J Polovina

0800h **ED41D-0551 POSTER** "Underground Safari" and other outreach tools for dissemination of root and soil science research: N Mladenov, **H Riffel**, P D'Odorico

0800h **ED41D-0552 POSTER** Data Basin: Expanding Access to Conservation Data, Tools, and People: **T Comendant**, J Stritholt, P Frost, B C Ward, D M Bachelet, J Osborne-Gowey

0800h **ED41D-0553 POSTER** Involving International Student Teams in GPS and GRS Surveys to Study Cryospheric Change in Greenland and the Colorado Front Range: **U C Herzfeld**, H Mayer

0800h **ED41D-0554 POSTER** Marine Geoscience Leadership Symposium: A New Paradigm for Early Career Development: **C E Meth**, E A Powell, J Schuffert, C O'Riordan

0800h **ED41D-0555 POSTER** Alaska - Kamchatka Connection in Volcano Monitoring, Research, and Education: **P E Izbekov**, E Gordeev, J C Eichelberger, C A Neal

ED41E Moscone West: 3020 Thursday 0800h
Missing Links! Scientists' Communication on Critical Global Environmental Change Issues II (*joint with A, C, GC, NH, PA, H*)

Presiding: **J M Byrne**, University of Lethbridge; **D B Fagre**, U.S. Geological Survey

0800h **ED41E-01** Communicating Climate Change (*Invited*): **M E Mann**

0820h **ED41E-02** Ice sheets and sea level: interdisciplinary opportunities and integrative imperatives (*Invited*): **R B Alley**, S Anandakrishnan

0840h **ED41E-03** Communicating Arctic Change (*Invited*): **M Serreze**

0900h **ED41E-04** On the Increasing Intensity of the Strongest Hurricanes (*Invited*): **J Elsner**, T Jagger

0920h **ED41E-05** Communicating Emerging Issues in Ocean Hypoxia (or Suffocating in Your Own Home): **F A Whitney**, V Tunnicliffe, R J Diaz

0940h **ED41E-06** Moving lips versus moving policy: Can scientists figure out how to do both?: **P H Gleick**

Earth and Planetary Surface Processes

EP41A Moscone South: Poster Hall Thursday 0800h
Dynamics and Processes of Deltas, Fans, and Their Distributary Channels I Posters (*joint with H, GC*)

Presiding: **D J Jerolmack**, University of Pennsylvania; **B A Sheets**, University of Washington; **D C Mohrig**; **D Edmonds**, University of Minnesota

0800h **EP41A-0588 POSTER** Lake-level change and fan delta evolution of glacial lakes in North Patagonia: **T AOKI**, K Hori

0800h **EP41A-0589 POSTER** Seaward protrusion of a graded channel-lobe system: 2D model experiments: **T Muto**, R Furubayashi, W Kim, G Parker

0800h **EP41A-0590 POSTER** A method to translate between short-term fluvial processes on deltas and bulk volumes of channel and overbank deposits in the stratigraphic record: J M Martin, **A D Wickert**, B A Sheets, M Kelberer, W Kim, M Tal, C Paola

0800h **EP41A-0591 POSTER** Modeling dynamics of channel reoccupation on alluvial fans: **M D Reitz**, D J Jerolmack

0800h **EP41A-0592 POSTER** The response of delta distributary networks to changes in discharge: **D A Edmonds**, R L Slingerland, J Best, J S Bridge, D Parsons, N Smith

0800h **EP41A-0593 POSTER** Incised bifurcations and uneven radial distribution of channel incision in the Wax Lake Delta, USA: **J B Shaw**, D C Mohrig

0800h **EP41A-0594 POSTER** The ongoing avulsion of the Taquari River - Geomorphic and Vegetative Change: **H Buehler**, L Scuderi, G S Weissmann, A J Hartley

0800h **EP41A-0595 POSTER** Distributive Fluvial Systems of the Chaco Plain - Satellite Image Assessment of Fluvial Form and Facies Distributions: **G S Weissmann**, A J Hartley, L Scuderi, P Bhattacharyya, H Buehler, S Leleu, A Mather

0800h **EP41A-0596 POSTER** A CAFE Delta Building Model With Channel Networks: **M Liang**, V R Voller, C Paola, D Edmonds

0800h **EP41A-0597 POSTER** Partitioning sand transport between branches of channel bifurcations in deep rivers: Implications for river-diversion structures and land building in southern Louisiana: **S K Whitman**, J B Shaw, D C Mohrig, J A Nitttrouer, M A Allison

0800h **EP41A-0598 POSTER** Characterization of the Sediment Routing System of the Argentine Las Peñas Thrust From ASTER Imagery Interpretation and DEM Terrain Analysis: **I S Abrahamson**, J Schmitt

0800h **EP41A-0599 POSTER** SEDIMENTATION PATTERNS AND DEPOSITION IN THE PROGRADING WAX LAKE DELTA: **C H Bailey**, G O Holm

EP41B Moscone South: Poster Hall Thursday 0800h
Earth and Planetary Surface Processes and Landscapes
General Contributions: Tectonic Geomorphology Posters (*joint with C, GC, H, T*)

Presiding: **L S Sklar**, San Francisco State University

0800h **EP41B-0600 POSTER** (U-Th)/He Age Elevation Profiles from the Adamello Batholith (Southern Alps, Italy): Possible Insights into the Miocene Landscape Development of the European Alps: **R Reverman**

0800h **EP41B-0601 POSTER** Geomorphic Expression of a Miocene Dike Complex, San Joaquin Hills, California, USA: **R J Behl**, L Ta, D Williams, A Werner, M Bernardino, R Peterson, C McCormick, D Escobedo, B Nagy

0800h **EP41B-0602 POSTER** Impacts of Wildfire on Runoff and Sediment Loads at Little Granite Creek near Bondurant, Wyoming: **S E Ryan**, K A Dwire

0800h **EP41B-0603 POSTER** Apparent constant exhumation of the Western European Alps during the last 5 Ma: constraints from detrital apatite thermochronology from foreland deposits: **C Glotzbach**, M Bernet, P van der Beek

0800h **EP41B-0604 POSTER** Geomorphic Response to Crustal Evolution of the Plate Boundary, northern California: **X Shi**, E Kirby, K P Furlong

0800h **EP41B-0605** *POSTER* A Recent Observation on Surface Deformation of Taoyuan-Hsinchu Area, Taiwan Using Persistent Scatterers: **S M Ng**, C Chang, J Angelier

0800h **EP41B-0606** *POSTER* Distinguishing between tectonic and lithologic controls on bedrock channel longitudinal profiles using cosmogenic ¹⁰Be erosion rates and channel steepness index: **A J Cyr**, D E Granger, V Olivetti, P Molin

0800h **EP41B-0607** *POSTER* Tectonic, Lithologic and Climatic Controls on Stream Gradients across the Colorado Plateau and Rocky Mountains: **W B Ouimet**, E Kirby, K E Karlstrom

0800h **EP41B-0608** *POSTER* Sinuosity and meander belt scarring: Tectonics and stream dynamics across the Baton Rouge Fault Zone: **P Dunek**, N Gasparini

0800h **EP41B-0609** *POSTER* Can the role of the tectonic-related processes be excluded on the Caspian Sea level fluctuations?: **A Ozyavas**, S D Khan

0800h **EP41B-0610** *POSTER* Low-temperature thermochronology of a rapid incision event induced by lake overflow, Skagit River Gorge, Northern Cascades Range, Washington: **T Simon-Labric**, G Y Brocard, P W Reiners, D L Shuster, C Teyssier

0800h **EP41B-0611** *POSTER* Topographic signature of Plio-Quaternary contraction in the northeastern Japan forearc: **C Regalla**, E Kirby, D M Fisher

0800h **EP41B-0612** *POSTER* Stream-channel response to tectonic forcing, Wheeler Ridge, CA: **G Lee**, B Bookhagen, D W Burbank, T Dunne

0800h **EP41B-0613** *POSTER* Preservation of Paleoseismic and Paleogeodetic Records of mid to late Holocene Subduction Zone Earthquakes in Different Coastal Settings: **H M Kelsey**, B Horton, C M Rubin, C Grand Pre, A D Hawkes, T Dura, M Daryono, T Ladinsky

0800h **EP41B-0614** *POSTER* Critical thresholds controlling basin morphodynamics; a study of southern Tibetan-Himalayan basins: **R Walcott**, H Sinclair

EP41C Moscone South: Poster Hall Thursday 0800h
The Imprint of Quaternary Climate Change on Landscapes I
Posters (*joint with C, GC, H, PP*)

Presiding: **S Aciego**, ETH-Zurich; **R Amundson**, University of California

0800h **EP41C-0615** *POSTER* Quaternary climate change and hillslope processes: What can we learn from alluvial fans?: **M Kenworthy**, J L Pierce, T M Rittenour, W D Sharp, K L Pierce

0800h **EP41C-0616** *POSTER* Combining cosmogenic radionuclides and amino acid racemization to date late Pliocene glacial deposits exposed on Baffin Island, Nunavut, Canada: **K A Refsnider**, G H Miller

0800h **EP41C-0617** *POSTER* The Bergschrund Hypothesis Revisited: **J W Sanders**, K M Cuffey, K R MacGregor

0800h **EP41C-0618** *POSTER* Glacial-interglacial cycles of erosion and sediment transport along the western North American margin constrained by reconciling geologic and climate model data sets: **S VanLaningham**, N G Pias, R A Duncan, S W Hostetler, K L Wilson

0800h **EP41C-0619** *POSTER* QUANTIFICATION OF GLACIAL EROSION IN THE ALPS USING VERY LOW-TEMPERATURE THERMOCHRONOLOGY (OSL & AHe): **J Champagnac**, F Herman, E J Rhodes, M Fellin, M Jaiswal, J Schwenninger, R L Reverman

0800h **EP41C-0620** *POSTER* Paleolake Expansions in the Southern Basin and Range Province, USA: PaleoclimT and Holocene Epochs: **A L Kowler**

0800h **EP41C-0621** *POSTER* Post-LGM Depositional History using High-Resolution Seismic Stratigraphy and Remote Acoustic Properties: A Case Study from Lake Windermere, UK: **L Pinson**, M E Vardy, J K Dix, T Henstock, J M Bull

0800h **EP41C-0622** *POSTER* Latitudinal trends in morphology of tributaries of the Connecticut River in the Northeastern US: **A Hartmann**, W B Dade

0800h **EP41C-0623** *POSTER* Middle Holocene aridity, eolian-dune accretion, and the formation of Lake Mattamuskeet, eastern North Carolina: **A B Rodriguez**, M N Waters, M F Piehler

0800h **EP41C-0624** *POSTER* Shallow terraces in the Northwestern Hawaiian Islands: Implications for carbonate accretion and sea level variations: **J R Weiss**, M Edwards, C H Fletcher, J J Rooney, D A Clague

0800h **EP41C-0625** *POSTER* Megafloods and landscape change during OIS 3 in the Sinai Mts., Egypt: **J Voelkel**, M Leopold, J Huber, K Huerkamp, A Murrey, J W Grunert

0800h **EP41C-0626** *POSTER* Late Quaternary climate and landscape changes in Southern Africa based on integrative analyses of geoarchives: **K Huerkamp**, J Voelkel, K Heine, O Bens, J Winkelbauer

0800h **EP41C-0627** *POSTER* Tributary Stream fan and axial river interaction in Teesta river valley within Lesser Himalaya in Sikkim and Darjeeling Himalaya, India: Response to link between climatic change and tectonic regime: **I L Meetei**

0800h **EP41C-0628** *POSTER* Evolution and flooding history of the Sacramento River over the late Quaternary illustrated on pristine floodplains near Chico, California: **M Will**, R E Aalto, M B Singer, M Fuchs

0800h **EP41C-0629** *POSTER* Assessing the impact of Quaternary climate change on landscape evolution using luminescence dating: **E J Rhodes**, F Herman, C S Marcén

0800h **EP41C-0630** *POSTER* A new tool for Quaternary geochronology? Direct dating of fine-grained volcanic products using uranium isotopes: **A Dosseto**, P O Suresh, S J Cronin

0800h **EP41C-0631** *POSTER* Sediment residence time and landscape evolution in arid Australia: H K Handley, **A Dosseto**, P O Suresh, T J Cohen, S Turner

0800h **EP41C-0632** *POSTER* Vegetation and climate changes in western Amazonia during a previous Interglacial- Glacial transition: **M L Cardenas**, W D Gosling, S C Sherlock, I Poole, R T Pennington

0800h **EP41C-0633** *POSTER* Climatic controls on denudation in the deglaciated landscape of the Washington Cascades: **S Moon**, C P Chamberlain, K Le, N M Levine, D H Rood, G E Hilley

0800h **EP41C-0634** *POSTER* Imprint of Late Quaternary Climate Change on the Mid-Atlantic Landscape: **M Pavich**, H Markewich, W L Newell, R Litwin, J Smoot, G Brook

EP41D Moscone West: 2008 Thursday 0800h
Landscape Evolution: Quantifying Interactions Between Biological, Physical, and Anthropogenic Forcings I (*joint with PA, GC*)

Presiding: **G S Okin**, UCLA Geography; **A J Elmore**

0800h **EP41D-01** THE IMPACT OF HUMANS ON CONTINENTAL EROSION AND SEDIMENTATION (*Invited*): **B Wilkinson**, B McElroy

0815h **EP41D-02** Accelerated fluxes of water and elements in the Mississippi River Basin (*Invited*): **P A Raymond**

0830h **EP41D-03** Dust in the western U.S.: how biological, physical and human activities at the local scale interact to affect hydrologic function at the landscape scale (*Invited*): **J Belnap**, M C Reheis, S M Munson

0845h **EP41D-04** Linking chronosequences with the rest of the world - predicting soil phosphorus content in eroding landscapes. (*Invited*): **S Porder**, G E Hilley

0900h **EP41D-05** Soil production in forested landscapes (*Invited*): **J J Roering**, A M Booth

0915h **EP41D-06** The Legacy of Initial Conditions in Evolving Landscapes (*Invited*): **J Perron**, S Fagherazzi

0930h **EP41D-07** Effect Of Per-Capita Land Use Changes On Holocene Forest Clearance And CO2 Emissions: **W F Ruddiman**, E C Ellis

0945h **EP41D-08** Assessing land-use change using the trace element chemistry of human bones (*Invited*): **R E Hannigan**, T H Darrah, J Prutsman-Pfeiffer

Geodesy

G41A Moscone South: Poster Hall Thursday 0800h
Volcano Geodesy: Monitoring and Modeling I Posters (*joint with S, V, NH, IN*)

Presiding: **M Battaglia**, Sapienza - University of Rome; **M Lisowski**, USGS; **A Newman**, Georgia Tech; **T Masterlark**, University of Alabama

0800h **G41A-0692** POSTER Ground Deformation of Krakatau Volcano, Indonesia, Detected by InSAR: June 2007 to February 2009: **A Agustan**, F Kimata, Y E Pamitro, H Z Abidin

0800h **G41A-0693** POSTER Investigation of the influence of mechanical stiffness on caldera deformation: results from generic case analyses and implications for the 1971-1984 uplift at Rabaul (Papua New Guinea): **J Gottsmann**, A Geyer

0800h **G41A-0694** POSTER Constraints on time-dependent volcanic dynamics at Long Valley Caldera from InSAR and geodetic measurements: **Z Liu**, P Lundgren, D Dong

0800h **G41A-0695** POSTER Finite Element Models for the deformation of the Askja volcanic complex and rift segment, Iceland: **H Dickinson**, T Masterlark, K Feigl, R Pedersen, F Sigmundsson

0800h **G41A-0696** POSTER 3D Space-Time Deformation of the Kilauea "Father's Day" Event as Observed by ALOS Interferometry: **C Wortham**, P S Agram, H A Zebker

0800h **G41A-0697** POSTER Rhyolite domes in the Krafla area, North Iceland. Densities and deformation fields: **T Agustsdottir**, P Einarsson, M T Gudmundsson

0800h **G41A-0698** POSTER Finite Element Models of Crustal Deformation and Stress Changes for Long Valley caldera and Mammoth Mountain volcano (California): **V Magni**, M Battaglia, A Manconi, P Tizzani

0800h **G41A-0699** POSTER Enhanced three-dimensional stochastic adjustment for combined volcano geodetic networks: **R del Potro**, C Muller

0800h **G41A-0700** POSTER Spatio-temporal evolution of the June 2007 intrusion and concurrent slow-slip event at Kilauea Volcano, Hawai'i: **E D Montgomery-Brown**, D K Sinnett, K M Larson, M P Poland, P Segall, A Miklius

0800h **G41A-0701** POSTER Flank instability at Mount Etna: testing the sensitivity of forward models to the internal structure: **S Cianetti**, C Giunchi

0800h **G41A-0702** POSTER Surface deformation time series and source modeling for a volcanic complex system based on satellite wide swath and image mode interferometry: The Lazufre system, central Andes: **J Anderssohn**, M Motagh, T R Walter, M Rosenau, H Kaufmann, O Oncken

0800h **G41A-0703** POSTER Monitoring the Sumatra volcanic arc with InSAR: **E Chaussard**, S Hong, F Amelung

0800h **G41A-0704** POSTER Detection surface deformation of the Volcán de Colima (Mexico) and surrounding areas using InSAR techniques: **C Brunori**, G Norini, S Stramondo, L Capra, F Zucca, G Groppelli, C Bignami, M Chini, L Mahar, M Manea, V Manea

0800h **G41A-0705** POSTER Measuring deformation associated with magmatic processes at Cerro Azul Volcano, Galapagos Islands, Ecuador with InSAR: **S Baker**, F Amelung

0800h **G41A-0706** POSTER Shallow Magma Accumulation at Halema'uma'u Crater, Kilauea Volcano, Revealed by Microgravity Measurements (1975-2008): **M Battaglia**, A Eggers, M Bagnardi, M P Poland, A Miklius

0800h **G41A-0707** POSTER Modeling the Evolution of Effusive Silicic Eruptions: **K R Anderson**, P Segall

0800h **G41A-0708** POSTER A Principal Component Analysis of Hawaiian Volcanoes Deformation: **D K Sinnett**, P Segall

0800h **G41A-0709** POSTER Geodetic Measurements and Numerical Models of Rifting in Northern Iceland for 1993-1999: **T Ali**, K Feigl, T Masterlark, B B Carr, F Sigmundsson, C H Thurber

0800h **G41A-0710** POSTER Initiation of Magma Fragmentation Leading to Vulcanian Explosions: **S I Sacks**, D Hidayat, A T Linde, B Voight

0800h **G41A-0711** POSTER Rheologic and structural controls on the deformation of Okmok Volcano, Alaska: FEMs, InSAR, and ambient noise tomography: **T Masterlark**, M M Haney, H Dickinson, T Fournier, C K Searcy

G41B Moscone West: 3022 Thursday 0800h
Geodesy to Investigate the Climate System I (*joint with A, C, GC, NH, OS, H*)

Presiding: **M J Van Camp**, Royal Observatory of Belgium; **J O Dickey**

0800h **G41B-01** Observing and modeling the dynamics of continental hydrology with the help of GRACE gravity data (*Invited*): **A Güntner**

0815h **G41B-02** Continental water storage variations in Africa: **J Boy**, C C Carabajal, S B Luthcke, D D Rowlands, F G Lemoine, T J Sabaka

0830h **G41B-03** The rapidly thinning margins of the Greenland and Antarctic ice sheets (*Invited*): **H D Pritchard**, R J Arthern, D G Vaughan, L Edwards

0845h **G41B-04** Greenland ice mass balance and climate change: **J Chen**, C R Wilson, B D Tapley

0900h **G41B-05** GPS Climatology: Long-term PWV Records from a Dense GPS Array (*Invited*): **K Heki**, K Yoshida

0915h **G41B-06** Estimation of precipitable water vapor at GPS sites in Morocco: **A Koulali Idrissi**, D Ouazar, O Bock, A Fadil

0930h **G41B-07** The Response of Sea Level to Changes in Climate: Has There Been a Fundamental Shift in the Rate of Sea Level Rise?: **R Nerem**

0945h **G41B-08** Regional Variations in Sea-Level Rise from a Spatially Realistic Model for Present-Day Melting: **E M Hill**, J L Davis, M E Tamisiea, N T Vinogradova

Global Environmental Change

GC41A Moscone South: Poster Hall Thursday 0800h
Methodologies of Climate Model Confirmation and Interpretation II Posters (*joint with A, C, H*)

Presiding: **L Mearns**, NCAR

0800h **GC41A-0753** WITHDRAWN

0800h **GC41A-0754** POSTER Evaluating Climate Models: Should We Use Weather or Climate Observations?: **R J Oglesby**, C M Rowe, K A Maasch, D J Erickson, C Hays

0800h **GC41A-0755** POSTER Developing a conceptual approach for regional climate model evaluation: initial results: **A Di Luca**, R de Elía, R Laprise

0800h **GC41A-0756** POSTER Effect of vertical ocean mixing on the transient climate sensitivity of AOGCMs: **K K Tung**, M Liang, L Lin, K Li, Y L Yung

0800h **GC41A-0757** POSTER Interpolation and Meta-Analysis of IPCC AR4 General Circulation Model Scenarios applied to North America: D T Price, **L A Joyce**, D W McKenney

0800h **GC41A-0758** POSTER On the Effective Number of Climate Models: **C Pennell**, T Reichler

0800h **GC41A-0759** POSTER On the software quality of climate models: **J Pipitone**, S Easterbrook

0800h **GC41A-0760** POSTER Probabilistic Climate Forecasting: Methodological issues arising from analysis in climateprediction.net: **D J Rowlands**, D J Frame, N Meinshausen, T Aina, S Jewson, M R Allen

GC41B Moscone South: Poster Hall Thursday 0800h
Uncertainty Quantification and Its Application to Climate Change I Posters (*joint with A, NH, OS*)

Presiding: **M Boslough**, Sandia National Laboratories; **C Covey**, PCMDI

0800h **GC41B-0761** POSTER A Defence of the AR4's Bayesian Approach to Quantifying Uncertainty: **M A Vezzer**

0800h **GC41B-0762** WITHDRAWN

0800h **GC41B-0763** POSTER Putting the Economics first: revisiting the interpretation of climate models for adaptation decision-making: **N A Ranger**, L A Smith, D Stainforth, A Millner, F Niehoerster

0800h **GC41B-0764** POSTER Intensification of Droughts in a Warming Environment: Trends, Uncertainties and Possible Impacts: **S Kao**, A R Ganguly

0800h **GC41B-0765** POSTER Risk Formulations versus Comprehensive Uncertainty Characterizations for Climate Extremes and their Impacts: **E S Parish**, A R Ganguly

0800h **GC41B-0766** POSTER Uncertainties in Climate Change, Following the Causal Chain from Human Activities: **M J Prather**, . MATCH Group

0800h **GC41B-0767** POSTER Anthropogenic trends vs. long-term correlations in temperature records: Solving the detection problem: **S Lennartz**, A Bunde

0800h **GC41B-0768** POSTER Development and Use of the Stochastic Climate Change Scenario Generator: **M Dubrovsky**, M Trnka, P Hlavinka, M Hayes, M D Svoboda, Z Zalud

0800h **GC41B-0769** POSTER Assessment of climate model performance from three generations IPCC assessment reports, on the sub-regional scale: **L Das**, J D Annan, J C Hargreaves, S Emori

0800h **GC41B-0770** POSTER Developing a yearly warning index to assess the climatic impact on the water resources of Taiwan, a complex-terrain island: **C Liu**, S Lin

0800h **GC41B-0771** WITHDRAWN

0800h **GC41B-0772** POSTER Uncertainties in Hydrologic and Climate Change Impact Analysis in Major Watersheds in British Columbia, Canada: **K E Bennett**, M Schnorbus, A T Werner, B Music, D Caya, D R Rodenhuis

0800h **GC41B-0773** POSTER Understanding Global Climate Change Effects on Annual Average Fine Particulate Matter (PM_{2.5}) Concentrations in California Using 7-year Average Meteorology:

A A Mahmud, M Hixson, Z Zhao, S Chen, M J Kleeman

0800h **GC41B-0774** POSTER Using Glacial Sea Surface Temperatures to Optimise the Tuning of a General Circulation Model: **L J Gregoire**, P J Valdes, A J Payne

0800h **GC41B-0775** POSTER Uncertainty Analysis of CROPGRO-Cotton Model: **T B Pathak**, J W Jones, C Fraisse, D Wright, G Hoogenboom, J Judge

0800h **GC41B-0776** POSTER Detection of CO₂ Leaked Associated with its Geological Sequestration using Uniformly and Randomly Located Monitoring Wells: **J P Nogues**, B Court, M Dobossy, J M Nordbotten, M A Celia

GC41C Moscone West: 300I Thursday 0800h
From Deglaciation to Global Warming: High-Latitude and High-Altitude Landscape Responses to Climate Change (*joint with C, H, PP*)

Presiding: **J Knight**, University of Exeter

0800h **GC41C-01** The European Alps – A dynamic landscape system under changing conditions and their implication to society (*Invited*): **M Keiler**

0815h **GC41C-02** Arctic temperature amplification (*Invited*): **R Graversen**, M Wang

0830h **GC41C-03** Landslides And Climate Changes: Evidence From Past Activity Records In The Dolomites (Italy): **L Borgatti**, M Soldati

0845h **GC41C-04** Influence of windblown dust on snowmelt timing in the Rocky Mountains, USA: **D W Clow**, G Ingersoll, M W Williams

GC41D Moscone West: 300I Thursday 0905h
Greenland: An Island of Change in the Biological, Physical, and Social Systems (*joint with B, C, H, PP, PA*)

Presiding: **J M Welker**, Environment and Natural Resources Institute; **E Post**, Penn State University

0905h **GC41D-01** Greenland Ice Sheet's response to global warming (*Invited*): **K Steffen**

0920h **GC41D-02** Future sea-level rise associated with melting of the Greenland ice sheet: **R Graversen**, S Drijfhout, W Hazeleger

0935h **GC41D-03** Phenological Advances and Trophic Consequences in Low- and High-Arctic Greenland: T T Høye, N M Schmidt, M C Forchhammer, P S Bøving, **E Post**

0950h **GC41D-04** Climate change consequences for terrestrial ecosystem processes in NW Greenland: Results from the High Arctic Biocomplexity project: **J M Welker**, P Sullivan, M Rogers, E D Sharp, R Sletten, J L Burnham, B Hallet, B Hagedorn, C Cziczik

Geomagnetism and Paleomagnetism

GP41A Moscone South: Poster Hall Thursday 0800h
Geomagnetic Paleointensity: Fifty Years of the Thellier-Thellier Method II Posters (*joint with DI*)

Presiding: **M J Hill**, University of Liverpool; **A V Smirnov**, Michigan Technological University

0800h **GP41A-0803** POSTER From 1937 to 1959 : Elaboration of the Thellier and Thellier's paleointensity method: **Y Gallet**, M Le Goff

0800h **GP41A-0804** POSTER The statistics of paleointensity distributions: **G A Paterson**, A R Muxworthy, D Heslop

0800h **GP41A-0805 POSTER** When do particle interactions lead to breakdown of the Thellier laws?: **A J Newell**

0800h **GP41A-0806 POSTER** Revisiting a domain state independent method of paleointensity determination: **A R Muxworthy**

0800h **GP41A-0807 POSTER** Palaeointensity Results from 1951 and 1995 Lava Flows, Fogo, Cape Verde: A Comparison between Thellier and LTD-DHT Shaw Methods: **M C Brown**, J Cropsey, J A Bowles, J M Feinberg

0800h **GP41A-0808 POSTER** Cooling Rate Correction for Paleointensities Based on Little Chuckwalla Mountain Dikes: **W Steinhart**, T D Raub

0800h **GP41A-0809 POSTER** Magnetite Formation in Submarine Basaltic Glass: Insights From Synthetic Analogues: **J A Bowles**, J S Gee, K Burgess, R F Cooper

0800h **GP41A-0810 POSTER** Archeomagnetism in Brazil: New archeointensity data from the Bahia region over the past five centuries: **G A Hartmann**, A Genevey, R I Trindade, Y Gallet, C Etchevarne, M Afonso

0800h **GP41A-0811 POSTER** AN UPDATE OF ITALIAN ARCHEOINTENSITY DATA AND GEOMAGNETIC FIELD STRENGTH VARIATION DURING THE LAST THREE MILLENNIA: **E Tema**, A Goguitchaichrili

0800h **GP41A-0812 POSTER** Paleomagnetic intensity of Aso pyroclastic flows: Additional results with LTD-DHT Shaw method, Thellier method with pTRM-tail check: **T Maruuchi**, H Shibuya

0800h **GP41A-0813 POSTER** Paleointensities and $^{40}\text{Ar}/^{39}\text{Ar}$ ages of the Matuyama-Brunhes transition recorded in the lava sequence in the Punaruu valley, Tahiti: **N Mochizuki**, H Oda, O Ishizuka, T Yamazaki, K Uto, H Tsunakawa

0800h **GP41A-0814 POSTER** New paleointensity and Ar-Ar geochronologic results from the Columbia River Basalts: **X Zhao**, Z Zheng, M Perrin, C Lo

0800h **GP41A-0815 POSTER** Preliminary Study on the Variation of Geomagnetic Field during 33n-32r-32n Transition: **B Chang**, Y Yu, S Doh, W Kim

0800h **GP41A-0816 POSTER** Rock Magnetic and Paleointensity Study of Eastern California's ~83 Ma Golden Bear and Coso Dikes: **M Feldman**, T D Raub

0800h **GP41A-0817 POSTER** Paleomagnetism of Early Cretaceous Arapey Formation (Northern Uruguay): Geomagnetic and Geodynamic Implications: **M Cervantes Solano**, A Gogichaishvili

0800h **GP41A-0818 POSTER** Geomagnetic field intensity at the Archean-Proterozoic boundary: Preliminary Results from the Widgiemooltha and Black Range Dike Swarms (Western Australia): **D C Moore**, A V Smirnov, D A Evans, I R Rose, T M Kilian

0800h **GP41A-0819 POSTER** Rock Magnetic Studies and Absolute Paleointensity Determination of the Dacite of the Duffer Formation of the Pilbara Craton, Australia: **E Herrero-Bervera**, S J Mojzsis

GP41B Moscone South: Poster Hall Thursday 0800h
Planetary Paleomagnetism and Rock Magnetism II Posters
(joint with P)

Presiding: **J Gattacceca**, CEREGE (CNRS); **B P Weiss**, Massachusetts Institute of Technology

0800h **GP41B-0820 POSTER** Magnetism of Mantle Xenoliths: Potential Clues on Tectonic Setting and Extraction Processes:

S A Friedman, E C Ferre, F Martin Hernandez, A Tommasi, F Belley

0800h **GP41B-0821 POSTER** Petrology and rock magnetism of the gabbro of Troodos ophiolite: Y Ebert, H Ron, **A Agnon**, R Kessel

0800h **GP41B-0822 POSTER** High remanence intensity of breccia samples: Taiwan Chelungpu-fault Drilling Project (TCDP): **S Tachibana**, N Nakamura, T Mishima, T Hirono, W Soh, S Song

0800h **GP41B-0823 POSTER** Rock Magnetic and Remanence Properties of Synthetic Martian Basaltic Intrusions: Implications for Mars crustal anomalies: **D M Cuomo**, L Petrochilos, S A Brachfeld, J A Bowles, J E Hammer

0800h **GP41B-0824 POSTER** Pressure demagnetization of ordinary chondrites up to 1.8 GPa: new experimental data: **N S Bezaeva**, J Gattacceca, P Rochette, R A Sadykov

0800h **GP41B-0825 POSTER** First-Order Reversal Curve (FORC) analysis of chondrule magnetism: S Emmerton, **A R Muxworthy**

0800h **GP41B-0826 POSTER** Magnetic properties of the Esquel Pallasite: **A M Erickson**, J A Tarduno, R D Cottrell

0800h **GP41B-0827 POSTER** Magnetic properties of the Imilac Pallasite: **J Hopkins**, J A Tarduno, R D Cottrell

0800h **GP41B-0828 POSTER** Magnetic properties of lunar materials: Meteorites, Luna and Apollo return samples: P Rochette, **J Gattacceca**, A Ivanov, M Nazarov, N S Bezaeva

0800h **GP41B-0829 POSTER** How strong are lunar crustal magnetic fields at the surface? Considerations from a reexamination of the electron reflectometry technique: **J S Halekas**, R J Lillis, R P Lin, M Manga, M E Purucker, R Carley

0800h **GP41B-0830 POSTER** Lunar Paleomagnetism Revisited: **M Fuller**, B P Weiss

0800h **GP41B-0831 POSTER** Ancient Planetary Magnetic Field Intensity from the LL6 St. Severin: **Y Yu**, S Doh, K K Min

GP41C Moscone West: 2002 Thursday 0800h
Linking Mechanisms Between Rock-Magnetic Parameters and Paleoclimate I (joint with GC, MR, PP)

Presiding: **J Nie**, UT Austin; **C E Geiss**, Trinity College; **R Egli**, Ludwig-Maximilians University

0800h **GP41C-01** Tracing Abiotic Redox Reaction Pathways From Changes in Loess Magnetism: **F Lagroix**, Y J Guyodo

0815h **GP41C-02** Reduction of Iron Oxides: A Comparison Between Biotic and Abiotic Pathways: **Y J Guyodo**, G ONA-NGUEMA, P Bonville, F Lagroix

0830h **GP41C-03** Using Low-Field Magnetic Susceptibility (MS) in Caves and Deep Rock Shelters with Examples from North America, Europe, Africa, and Asia: Methods and Results (*Invited*): **B B Ellwood**, T Luu, K M Petruso, F Harrold, A El Hassani

0845h **GP41C-04** Hallmarks of Maghemitization in Low-Temperature Remanence Cycling of Partially Oxidized Magnetite Nanoparticles: **O Ozdemir**

0900h **GP41C-05** Influence of redox fluctuations and rainfall on pedogenic iron alteration and soil magnetic properties (*Invited*): **A Thompson**, D Rancourt, O Chadwick, J D Chorover

0915h **GP41C-06** Linking Rock Magnetic Parameters and Tropical Paleoclimate in Postglacial Carbonates of the Tahitian Coral Reef: **E S Platzman**, S Lund, G Camoin, N Thouveny

0930h **GP41C-07** Rates of Magnetic Enhancement in Loessic Soils Estimated From Profiles of Rapidly Eroding Soils (*Invited*): **C E Geiss**, L D Urbano, C Munroe

0945h **GP41C-08** Magnetomineralogical approach to distal IRD layers detection and characterization. The case study of the Galician Iberian Continental Margin: **D Rey**, R L Coimbra, K J Mohamed-Falcon, T Frederichs, F Vilas

Hydrology

H41A Moscone South: Poster Hall Thursday 0800h **Computational Paradigms and Emerging Issues in Hydrologic Modeling and Hydrosystems Management I Posters**

Presiding: **RS Teegavarapu**, Florida Atlantic University; **B Tolson**, University of Waterloo; **LS Matott**, University of Waterloo

0800h **H41A-0864 POSTER** Evaluation of Riverbank Filtration Efficiency with Radial Collector Well Systems near the Nakdong River, Korea: **E Lee**, Y Hyun, K Lee, D Choi, G Kim

0800h **H41A-0865 POSTER** Spatial-Regularization to Improve Calibration of Distributed Watershed Models: **P Pokhrel**, H V Gupta

0800h **H41A-0866 POSTER** Modeling Gaussian Random Fields by Anchored Inversion and Monte Carlo Sampling: **Z Zhang**

0800h **H41A-0867 POSTER** Hydrologic Terrain Processing Using Parallel Computing: **D G Tarboton**, D W Watson, R M Wallace, K Schreuders, T K Tesfa

0800h **H41A-0868 POSTER** Quantification Algorithm of Topography based on Bi-Cubic B-Spline Surface: **S NONOGAKI**, D Kawabata

0800h **H41A-0869 POSTER** A Comparative Study of Multi-Objective Optimization Algorithms for Automatic Calibration: M Asadzadeh, **B Tolson**, A MacLean

0800h **H41A-0870 POSTER** Interfacing MATLAB and Python Optimizers to Black-Box Environmental Simulation Models: **LS Matott**, K Leung, B Tolson

0800h **H41A-0871 POSTER** Enhancing multi-objective evolutionary algorithm performance with Markov Chain Monte Carlo: **M Shafii**, J A Vrugt, B Tolson, L S Matott

0800h **H41A-0872 POSTER** A simple non-invasive efficiency improvement for hydrologic model calibration: **B Tolson**, S Razavi, L S Matott, M Asadzadeh, F Seglenieks

0800h **H41A-0873 POSTER** Prediction of water surface elevation of Great Salt Lake using Support Vector Machine: **N K Shrestha**, G Urroz

0800h **H41A-0874 POSTER** Development of an Optimization model for Conjunctive use of Surface Water and Groundwater: **Y CHEN**, S Huang, C Tung

0800h **H41A-0875 POSTER** A Validation Study of SWAT in an Urbanizing Multiuse Watershed in the Central U.S.: **D P Scollan**, J A Hubbart

0800h **H41A-0876 POSTER** Sensitivity Analysis and Validation of SWAT Model for Prediction of Stream Flow and Sediment Yield in the Rio De La Plata Basin, Puerto Rico: **A M Melesse**, S G Setegn, M E McClain, X Wang

0800h **H41A-0877 POSTER** Real-Time Forecasting Of Streamflow And Water Loss/Gain In A River System By Using A Robust Multivariate Bayesian Regression Model: **A M Ticlavilca**, M McKee, W Walker

0800h **H41A-0878 POSTER** Model Simulations for Evaluating Water Use Efficiency at the Field Scale: **J Singer**, J C Seaman

H41B Moscone South: Poster Hall Thursday 0800h **Meandering Rivers:Advances in Research I Posters** (joint with EP, H)

Presiding: **G Zolezzi**, University of Trento; **I Guneralp**, Texas A&M University

0800h **H41B-0879 POSTER** Evaluation of fine sediment settling velocity in an ephemeral stream on Jeju Island, South Korea: **C Chon**, K Kim, Y Kim, Y Kim

0800h **H41B-0880 WITHDRAWN**

0800h **H41B-0881 POSTER** Quantifying Suspended Sediment of a Missouri Ozark Border Stream Using Laser In-Situ Scattering and Transmissometry: **G W Freeman**, J A Hubbart

0800h **H41B-0882 POSTER** Development of A Stochastic Bedload Transport Model: **C W Tsai**, Z Kuai

0800h **H41B-0883 POSTER** Flow Structure and Channel Change in an Evolving Compound Meander Loop: **F L Engel**, B L Rhoads

0800h **H41B-0884 POSTER** Time-series model of channel migration: **C P Konrad**

0800h **H41B-0885 POSTER** Applying a Model of Curvature-Driven Bend Migration Developed for Alluvial Rivers to a Gravel-Bedded River With Reaches of Exposed Bedrock: **P Narinesingh**, J E Pizzuto

0800h **H41B-0886 POSTER** Experimental observations on the retreat of non-cohesive river banks: **L Solari**, L Nardi, M Rinaldi

0800h **H41B-0887 POSTER** Flow Structure and Channel Morphology at a Confluent-Meander Bend: **J D Riley**, B L Rhoads

0800h **H41B-0888 POSTER** Morphodynamics of Bar Formation in Meandering Rivers: **J Hooke**

0800h **H41B-0889 POSTER** Ruling out the uncertainty of the box-counting method for estimating the fractal dimension of river networks: **F Tian**, B Wang, H Hu

0800h **H41B-0890 POSTER** A simplified 2D model for long-term meander migration with physically-based bank evolution: **D Motta**

0800h **H41B-0891 POSTER** Planform dynamics of meandering channels based on Wavelet analysis: **J D Abad**

0800h **H41B-0892 POSTER** Modeling the impact of secondary flow and transverse bed slope on the evolution of sine-generated meandering channels: **D Chen**

0800h **H41B-0893 POSTER** Empirical analysis of the spatial structure of meander evolution: Insights into the development of compound loops: **I Guneralp**, B L Rhoads

0800h **H41B-0894 POSTER** Quantifying Lateral Migrations Rates Using Fallout Radionuclides: **C E Renshaw**, E E Black, W B Dade, F J Magilligan, J D Landis

0800h **H41B-0895 POSTER** Interactions between spatial width and curvature variations in meanders: **G Zolezzi**, R Luchi, M Tubino

0800h **H41B-0896 POSTER** Toward Design Guidelines for Stream Restoration Structures: Measuring and Modeling Unsteady Turbulent Flows in Natural Streams with Complex Hydraulic Structures: **A Lightbody**, F Sotiropoulos, S Kang, P Diplas

0800h **H41B-0897 WITHDRAWN**

H41C Moscone South: Poster Hall Thursday 0800h **Multimodeling: Consideration of Alternative Conceptual Models of Groundwater and Surface Water Systems I Posters**

Presiding: **M C Hill**, US Geological Survey; **Y A Pachepsky**, USDA-ARS; **F Pan**, USDA-ARS

0800h **H41C-0898 POSTER** Uncertainty in Multimodel Water Flow Simulation Associated with Pedotransfer Functions and Weighting Methods: **A Guber**, Y A Pachepsky, M Van Genuchten, R Rowland, T J Nicholson, R Cady

0800h **H41C-0899 POSTER** What is the philosophy of modelling soil moisture movement?: **J Chen**, Y WU

0800h **H41C-0900 POSTER** Complexity and Uncertainty in Soil Nitrogen Modeling: **N K Ajami**, C Gu

0800h **H41C-0901 POSTER** A Translation of Metrics from Single Transient Storage Zone to Multiple-Transient Storage Zone Models of Solute Transport in Streams: **P C Kerr**, M N Gooseff

0800h **H41C-0902 POSTER** A coupled modeling approach to incorporate vadose-zone flow and solute transport in ground water models: **N C Twarakavi**, S Seo, J Simunek

0800h **H41C-0903 POSTER** Quantify the Impact of Groundwater Depth on Evapotranspiration in a Semi Arid Grassland Region: **M E Soyly**, T Wang, E Istanbuluoglu, J D Lenters

0800h **H41C-0904 POSTER** A Solver of the 2D Boussinesq Equation with Sub-Grid parameterization of terrain and soil characteristics: **E Cordano**, R Rigon

0800h **H41C-0905 POSTER** A computational algorithm to characterize the geomorphology of hillslopes: **P Noel**, A Rousseau, C Paniconi

0800h **H41C-0906 POSTER** Interactions among Climate Forcing, Soil Water, and Groundwater for Enhanced Water Management Practices in Nebraska: **J You**, K G Hubbard, X Chen

0800h **H41C-0907 POSTER** Tectonic Controls on the development of Continental Playa-Lakes of the Guadalquivir River Basin (Betics, Spain): **M Rodriguez-Rodriguez**, F Moral, J Balanyá, M Diaz, I Exposito

0800h **H41C-0908 POSTER** Generation of a Realistic Soil Moisture Initialization System and its Potential Impact on Short-to-Seasonal Forecasting of Near Surface Variables: **M Boisserie**, S Cocke, J J O'Brien

0800h **H41C-0909 POSTER** Modeling of the Natural River-Aquifer Interactions – A Simulation Extended to the Reclamation in Nantong City of China: **P Ji**, X Chen, J You, C Cheng, S Liu

0800h **H41C-0910 POSTER** Using Multimodel to Assess Model Structure Uncertainty in Groundwater Management: **F T Tsai**

H41D Moscone South: Poster Hall Thursday 0800h
Reactive Transport and Mixing in Complex Environments:
Recent Advances in Theory and Experiments IV Posters (*joint with NG, OS*)

Presiding: **J Cushman**, Purdue University; **M Dentz**, Insitute of Environmental Assessment and Water Research (IDAEA-CSIC); **A Englert**, Ruhr University Bochum; **X B Hu**, Florida State University

0800h **H41D-0911 POSTER** Suppression of mixing in miscible viscous fingering in a Hele-Shaw cell: **M Szulczewski**, C W MacMinn, L Cueto-Felgueroso, R Juanes

0800h **H41D-0912 POSTER** Flow and transport simulation with embedded discontinuity in fractured porous media: **H M. Nick**, S K Matthai

0800h **H41D-0913 POSTER** SUBDIFFUSION IN REGIONAL-SCALE ALLUVIAL AQUIFERS - LINK MEDIUM HETEROGENEITY AND PREASYMPTOTIC TRANSPORT: **Y Zhang**

0800h **H41D-0914 POSTER** Probability density functions for advective-reactive transport in divergent flow: **S V Broyda**, M Dentz, D M Tartakovsky

0800h **H41D-0915 POSTER** A Comparison of Analytical and Numerical Methods for Modeling Dissolution and Other Reactions in Transport Limited Systems: **D L Hochstetler**, P K Kitanidis

0800h **H41D-0916 POSTER** Simulating Metabolic Reductive Dechlorination with Multiple Cultures during Bioenhanced PCE-NAPL Dissolution: **M Chen**, L Abriola, J Christ, B K Amos, E J Suchomel, K D Pennell, F Loeffler

0800h **H41D-0917 POSTER** Effective Transport in Fracture Networks: Concentration Mean and Variance: **P K Kang**, M Dentz, R Juanes

0800h **H41D-0918 POSTER** Characterization from borehole wall and X-ray scan images of heterogeneities in carbonate reservoirs: **V Hébert**, P A Pezard, C Garing, P Gouze, G Camoin, P Lapointe

0800h **H41D-0919 POSTER** Examining the Influence of Heterogeneous Porosity Fields on Conservative Solute Transport: **W Barrash**, X B Hu, M M Meerschaert, D W Hyndman, C He, X Li, L Guo

0800h **H41D-0920 POSTER** A Standard Mathematical Treatment of Retardation in Mobile/Immobile Zone Models Violates the Principle of Conservation of Mass: **S K Hansen**

0800h **H41D-0921 POSTER** A random walk particle tracking methodology for modeling effective non-Fickian reactive transport behavior in heterogeneous porous media: **A D Castro**, M Dentz, D Bolster, X Sanchez-Vila, D M Tartakovsky

0800h **H41D-0922 POSTER** Enhanced Micromixing in Porous Media, Lattice-Boltzmann Modeling and Microfluidic Experimental Results: **R E Beckham**, S Tarimala, P M Roberts, A Abdel-Fattah

0800h **H41D-0923 POSTER** Non-Fourier heat transport in fractured porous media: S Geiger, **S Emmanuel**

0800h **H41D-0924 POSTER** Transverse vertical dispersion coefficients in the capillary fringe determined by a high resolution non-invasive method: **C M Haberer**, P Grathwohl

0800h **H41D-0925 POSTER** Injection and Extraction Schemes to Enhance Mixing in Groundwater: **R M Neupauer**, D C Mays

0800h **H41D-0926 POSTER** Pore-scale investigation of microbial growth and reactive transport: **G D Tartakovsky**, A M Tartakovsky, T D Scheibe, Y Fang, R Mahadevan, D R Lovley

0800h **H41D-0927 POSTER** Effective dispersion in seawater intrusion with application to a pumping well in a heterogeneous coastal aquifer: **M Pool Ramirez**, J Carrera Ramirez, D Bolster, M Dentz

0800h **H41D-0928 POSTER** Quantifying Linkages between Biogeochemical Processes in a Contaminated Aquifer-Wetland System Using Multivariate Statistics and HP1: **B Arora**, B P Mohanty, J T McGuire

0800h **H41D-0929 POSTER** Numerical and experimental investigation of mixing-induced calcite precipitation and permeability changes in micromodel experiments: K Dehoff, **H Yoon**, C Zhang, A J Valocchi, C J Werth

0800h **H41D-0930 POSTER** Quantitative Pore Scale Modelling for Reactive Fluid with Solute Precipitation and Dissolution: **Z Xu**, H Huang, P Meakin

0800h **H41D-0931 POSTER** Modeling Degradation Product Partitioning in Chlorinated-DNAPL Source Zones: **A Boroumand**, A Ramsburg, J Christ, L Abriola

0800h **H41D-0932 POSTER** Arsenic transport and partitioning within manganese- and iron-oxide rich aggregated sediments: **S C Ying**, Y Masue-Slowey, S E Fendorf

0800h **H41D-0933 POSTER** Modeling of Ureolytic Calcite Precipitation for the Remediation of Sr-90 Using a Variable Velocity Streamtube Ensemble: **T S Weathers**, T R Ginn, N Spycher, T H Barkouki, Y Fujita, R W Smith

H41E Moscone South: Poster Hall Thursday 0800h
Tracers, Isotopes, and Other Biogeochemical Techniques in
Ecohydrology II Posters (*joint with A, B, GC*)

Presiding: **D A Riveros-Iregui**, University of Colorado; **M S Johnson**, University of British Columbia; **H R Barnard**, University of Colorado; **M Weiler**, Institute of Hydrology

0800h **H41E-0934 POSTER** Multivariate Analysis of Multi-tracer and Climatological Data in an Urbanizing, Drought-impacted Watershed: **L T Creech**, R J Donahoe

0800h **H41E-0935 POSTER** Hydrologic controls on nutrient processing in a sub-arctic stream: **J C Koch**, D M McKnight, R G Striegl, R L Runkel

0800h **H41E-0936 POSTER** A Mechanistic Understanding of the Role Drought-Induced Stress Play in Regulating Photosynthetic and Respiration Activities of the Sagebrush after a Precipitation Pulse Event: **B Mitra**, D S Mackay, E Pendall, B E Ewers

0800h **H41E-0937 POSTER** Identifying sources and processes influencing nitrogen export to a small stream using dual isotopes of nitrate: **K A Lohse**, J Sanderman, R Amundson

0800h **H41E-0938 POSTER** High-Frequency Field Deployable Isotope Analyzer for Hydrological Applications: **E Berman**, M Gupta, C Gabrielli, T Garland, J J McDonnell

0800h **H41E-0939 POSTER** Relating Nutrient Uptake And Respiration With Metabolically Active Transient Storage: **A Argerich**, R Haggerty, C Christensen

0800h **H41E-0940 POSTER** Hot Moments in Cold Spots – Using Heat Tracers and Distributed Sensor Networks to Investigate Reactive Transport Patterns at Aquifer-River Interfaces: **S Krause**, L Angermann, E Naden, N J Cassidy

0800h **H41E-0941 POSTER** Labile Dissolved Organic Carbon Availability Controls Hyporheic Denitrification: a ¹⁵N Tracer Study: **J P Zarnetske**, R Haggerty, S M Wondzell, M A Baker

0800h **H41E-0942 POSTER** Demonstration of High-Throughput Water Isotopologue Measurements Using Cavity Ring-Down Spectroscopy: **A D Van Pelt**, P Gupta, I Green

0800h **H41E-0943 POSTER** Experimental study on isotopic fractionation factor and evaporation rate: T Wang, W Bao, H Hu, **S Qu**, Z Yu

0800h **H41E-0944 POSTER** Application of stable isotope measurements and microbiological analysis for detecting methanogenic activity in a temperate forest wetland: **M Itoh**, C Katsuyama, N Kondo, N Ohte, K Kato

0800h **H41E-0945 POSTER** Landscape-scale observations of plant water use using continuous stable isotope monitoring: **L Wang**, K K Caylor, S P Good, J C Villegas, D D Breshears

0800h **H41E-0946 POSTER** Using radionuclide tracers to derive suspended sediment provenance: **K D Denn**, T Papanicolaou, C G Wilson

0800h **H41E-0947 POSTER** Development and Validation of a New Isotopic Water Analyzer for Both High Frequency Measurements in Vapor and Continuous Measurements in Liquid Samples: D S Baer, **F Dong**, T G Owano, J Liem

0800h **H41E-0948 POSTER** Isotopic Estimation of Water Balance and Groundwater-Surface Water Interactions of Tropical Wetland Lakes in the Pantanal, Brazil: **J Schwerdtfeger**, M S Johnson, M Weiler, E G Couto

H41F Moscone South: Poster Hall Thursday 0800h
Uncertainty Analysis Approaches in Hydrologic Modeling I Posters

Presiding: **C S Pathak**, South Florida Water Management; **S U Senarath**, SFWMD; **R S Teegavarapu**, Florida Atlantic University

0800h **H41F-0950 POSTER** A sampling-based Bayesian model for calibration of a distributed flood forecasting model with input uncertainty: **M Li**, D Yang, J Chen, S S Hubbard

0800h **H41F-0951 POSTER** Development of an uncertainty technique using Bayesian methods to study the impact of climate change and land use change on solutions obtained by the BMP selection and placement optimization tool: **C Maringanti**, I Chaubey

0800h **H41F-0952 POSTER** Reliability Analysis on the Efficient Method of Discharge Measurement: Y Chen, **R Chen**, S Kao, K Kuo

0800h **H41F-0953 POSTER** SWAT model application to quantify water resources availability in Caribbean islands and its prediction uncertainty analysis: A case study in the Rio Grande De Manati River Basin, Puerto Rico: **S G Setegn**, A M Melesse, M E McClain, X Wang

0800h **H41F-0954 POSTER** Dynamics of Deformation and Water Flow in Heterogeneous Porous Media and its Impact on Soil Properties: **K Hsu**, S Wang

0800h **H41F-0955 POSTER** Future River Flow Estimations of Gerede-Ulusu River, Ankara, Turkey: **E Kentel**

0800h **H41F-0956 POSTER** Impact of spatio-temporal scale of adjustment on variational assimilation of hydrologic and hydrometeorological data in operational distributed hydrologic models: **H LEE**, D Seo, P Mckee, R Corby

0800h **H41F-0957 POSTER** Effects of rain gage density on correcting radar precipitation and its influence on hydrologic model simulation: **K Kang**, V Merwade

0800h **H41F-0958 POSTER** Global Sensitivity Analysis of a Distributed Hydrologic Model Using Latin Hypercube Sampling: **T Dessalegne**, S U Senarath, R J Novoa

0800h **H41F-0959 POSTER** Conditioning of a mesoscale hydrologic model with proxy soil moisture fields: **LE Samaniego-Eguiguren**, A Bardossy, R Kumar

0800h **H41F-0960 POSTER** Estimated hydrogeological parameters by artificial neurons network: **H Lin**, C Chen, Y Tan, K Ke

0800h **H41F-0961 POSTER** Reducing uncertainties in model initial conditions via variational assimilation of hydrologic and hydrometeorological data into distributed hydrologic models: V Koren, **H LEE**, D Seo

0800h **H41F-0962 POSTER** Strategy for applying scaling technique to water retention curves of forest soils: **Y Hayashi**, K Kosugi, T Mizuyama

0800h **H41F-0963 POSTER** Evaluation of Variants of Monte Carlo Simulation for Hydrologic Model Uncertainty Assessment: **R S Teegavarapu**, S U Senarath, C S Pathak

0800h **H41F-0964 POSTER** Uncertainty in tile drain locations: Implications for hydrologic modeling of agricultural watersheds: F L Ogden, **N Pradhan**, C W Downer

0800h **H41F-0965 POSTER** Effect of subsurface storm drainage network on flood frequency in urbanized catchments: **N Pradhan**, C W Downer, F L Ogden, A Byrd

0800h **H41F-0966 POSTER** Determination of conceptualization strategy for fracture networks based on ensemble variability of equivalent permeability: **S Ji**, Y Park, K Lee

0800h **H41F-0967 POSTER** Identifying major sources of uncertainty in watershed water quality modeling: an application of the Deterministic Equivalent Modeling Method (DEMM): **Y Zheng**, W Wang

0800h **H41F-0968 POSTER** Quantification of Parameter Uncertainty of the Common Land Model (CoLM): **Q Duan**, A Ye, Y Dai

0800h **H41F-0969 POSTER** Statistical Examination of the Resolution of a Block-Scale Urban Drainage Model: **A Goldstein**, F A Montalto, K A DiGiovanni

0800h **H41F-0970 POSTER** Tree-Ring Based Climate Scenarios to Inform Decision Making in Water Resource Management: A Case Study From the Inland Empire, CA: D Groves, **A Tingstad**
 0800h **H41F-0971 POSTER** Derivation of the Probability Plot Correlation Coefficient Test Statistics for the General Extreme Value Distribution: **J Heo**, S Kim, Y Jung, H Shin, T Kim

H41G Moscone South: Poster Hall Thursday 0800h Understanding Land-Atmosphere Interactions With Models and Observations I Posters

Presiding: **S Basu**, Texas Tech University; **P H Gowda**, USDA-ARS-CPRL

0800h **H41G-0972 POSTER** New approach in estimating parameters of water and energy balance equation using conditional sampling of surface states: **L Farhadi**, D Entekhabi, G Salvucci

0800h **H41G-0973 POSTER** Investigating groundwater discharge from a Great Basin playa: **J M Huntington**, C Garcia

0800h **H41G-0974 POSTER** CHARACTERISTICS OF HEAT, WATER VAPOR AND CO₂ FLUXES ABOVE A MOUNTAINOUS CRYPTOMERIA FOREST: **S Cheng**, C Hsieh, Y Wang, H Hsiao, T Wey

0800h **H41G-0975 POSTER** Applications of the Atmosphere-Land Exchange Inverse (ALEXI) Model and Highlights of Current Projects: C Hain, J R Mecikalski, **L A Schultz**

0800h **H41G-0976 POSTER** Investigation into the Horizontal Spatial Variability of Dew at Field-Scale: **T L Rowlandson**, B K Hornbuckle, J Patton, E Russell, K Seier, K Spoth

0800h **H41G-0977 POSTER** Evaporative partitioning in a unified land model: **B Livneh**, D P Lettenmaier, P J Restrepo

0800h **H41G-0978 POSTER** Understanding the influence of land state initialization on seasonal forecast skill in the NCEP global model: **L Luo**, E F Wood

0800h **H41G-0979 POSTER** Experimental use of Land Surface Models in the La Plata Basin: **L Goncalves**, J Z de Mattos, L F Sapucci, D L Herdies, E H Berbery

0800h **H41G-0980 POSTER** An Integrated Multi-Scale Approach to the Study of Evapotranspiration on the Alaskan North Slope: Preliminary Characterization of Fluxes and Turbulence in the Imnavait Creek Basin: C Wyatt, J Mumm, E Trochim, **G J Fochesatto**, A Prakash, M C Anderson, D L Kane

0800h **H41G-0981 POSTER** Effect of Streamline Coordinate Rotation on Turbulent Fluxes Measured Over Complex Terrain: Case Study of Mica Creek Watershed: **A B Arogundade**, R J Qualls, W Zhao

0800h **H41G-0982 POSTER** Preliminary Results of the Hydro-meteorological Observations and the Derived Surface Characteristics during SoWMEX in Taiwan: **C Tu**, C Hsu, J Tsai, P Kuo, B Tsuang

0800h **H41G-0983 POSTER** Simulation of rice plant temperatures using the UC Davis Advanced Canopy-Atmosphere-Soil Algorithm (ACASA): **A Maruyama**, D Pyles, K Paw U

0800h **H41G-0984 POSTER** Analytical Retrieval of Global Land Surface Emissivity Maps at AMSR-E passive microwave frequencies: **H Norouzi**, M Temimi, R Khanbilvardi

0800h **H41G-0985 POSTER** A Modeling and Observational Framework for Diagnosing Local Land-Atmosphere Coupling on Diurnal Time Scales: **J A Santanello**, C D Peters-Lidard, S Kumar

0800h **H41G-0986 POSTER** Vegetation Fraction Mapping with Artificial Neural Network and High Resolution Multispectral Aerial Imagery Acquired During BEAREX07: **K L Kersh**, P H Gowda, S Basu, T A Howell, S O'Shaughnessy, N Rajan, O Z Akasheh

0800h **H41G-0987 WITHDRAWN**

0800h **H41G-0988 POSTER** A new perspective on continental moisture recycling: R J van der Ent, **H Savenije**, B Schaeffli, S C Steele-Dunne

0800h **H41G-0989 POSTER** Detection and Attribution of Anthropogenic Forcing to Diurnal Temperature Range Changes from 1950 to 1999: Comparing Multi-Model Simulations with Observations: **L Zhou**, R E Dickinson, A Dai, P Dirmeyer

0800h **H41G-0990 POSTER** Observational and Modeling Studies of Evening Transitional Boundary Layers: **A Ruiz-Columbie**, S Basu, P S Skinner, P H Gowda, S HARSHAN

0800h **H41G-0991 POSTER** Implementation of DSSAT CERES-maize model in CWRf and off-line preliminary results: **M Xu**, X Liang, W Gao

0800h **H41G-0992 POSTER** Impact of Irrigation on Local Climate over Northwestern China: **L Wen**, J Jin

H41H Moscone West: 3007 Thursday 0800h Characterization of Soil Moisture Dynamics and Plant/Soil Water Interactions II (joint with B, NS)

Presiding: **R Heinse**, University of Idaho; **T Ochsner**, Oklahoma State University; **N P Crook**, Stanford University

0805h **H41H-01** Seasonal transitions in water sources and moisture patterns in a mountain meadow, Southern Sierra Nevada (*Invited*): **M H Conklin**, N P Crook, P B Kirchner, R G Lucas

0825h **H41H-02** Pattern-Based Application of ERT to Soil Water for Plant Use (*Invited*): **J R Nimmo**

0845h **H41H-03** Spatial Variability of Near-surface Soil Moisture for Bioenergy Crops at the Great Lakes Bioenergy Research Center: **R L Van Dam**, K Diker, A K Bhardwaj, S K Hamilton

0900h **H41H-04** Monitoring of root zone water content in the lab by 2D geoelectrical tomography: **U Werban**, S A al Hagrey, W Rabbal

0915h **H41H-05** Can hydraulic parameters of a physically based model be identified by time series soil moisture data?: **J A Pollacco**, B P Mohanty

0930h **H41H-06** SoilDTS: Using data assimilation to determine in-situ surface and root zone soil moisture from Distributed Temperature Sensing: E Owusu-Ansah, **S C Steele-Dunne**, M Rutten, N Van De Giesen

0945h **H41H-07** Measurement and modeling of mass-infiltration events into macropores: **T E Franz**, J T Nolan, K K Caylor, L D Slater

H41I Moscone West: 3009 Thursday 0800h Fate of Nanoparticles and Colloids in the Environment I (joint with B)

Presiding: **G V Lowry**, Carnegie Mellon University; **A A Keller**, UCSB; **D M O'Carroll**, University of Western Ontario; **Y Li**, University of Nebraska - Lincoln

0800h **H41I-01** Mechanisms of colloid retention, mobilization, and transport in unsaturated porous media (*Invited*): **Y Jin**, Y Zevi, V Lazouskaya, E Rodriguez, M Prodanovic, S L Bryant

0815h **H41I-02** The Fate of Colloidal Swarms in Fractures: **L J Pyrak-Nolte**, M K Olander

0830h **H41I-03** Mechanistic Insights to the Influence of Adsorbed Organic Macromolecules on Nanoparticle Attachment Efficiency in Porous Media: **T Phenrat**, J Song, C M Cisneros, D P Schoenfelder, T H Illangasekare, R D Tilton, G V Lowry

0845h **H41I-04** Effect of Tube Length on Transport of Multi-Wall Nanotubes (MWNTs) in a Water-Saturated Quartz Sand: **Y Wang**, J Baek, J Kim, K D Pennell

0900h **H41I-05** Field-scale evaluation of the co-transport impacts of *Bacillus subtilis* endospores on other pathogen surrogates: **J R Stimson**, A H Chik, M M Mesquita, N L McLellan, M Emelko
 0915h **H41I-06** Engineering considerations related to the application of nZVI for subsurface remediation: **D M O'Carroll**, C M Kocur, B E Sleep
 0930h **H41I-07** Modeling Tools to Design In Situ Nanoscale Zerovalent Iron (NZVI) Emplacement Strategies: **A Cihan**, T Phenrat, S P Cihan, G V Lowry, T H Illangasekare
 0945h **H41I-08** Environmental benefits and risks of zero-valent iron nanoparticles (nZVI): risk mitigation or trade-off?: **K Grieger**, A Fjordbøge, N Hartmann, E Eriksson, A Baun

H41J Moscone West: 3005 Thursday 0800h
Nutrient Dynamics and Global Change (*joint with B*)

Presiding: **H K Pant**, Lehman College of the City University of New York; **C Kendall**, USGS; **E M Elliott**, University of Pittsburgh

0800h **H41J-01** Nitrogen Flux in Watersheds: The Role of Soil Distributions and Climate in Nitrogen Flux to the Coastal Ecosystems: **W J Showers**, M M Reyes, B J Genna
 0815h **H41J-02** Stream nitrate responses to hydrological forcing and climate change in northern forests of the USA (*Invited*): **S D Sebestyen**, J L Campbell, J B Shanley, A Pourmokhtarian, C T Driscoll, E W Boyer
 0830h **H41J-03** Limnological consequences of climate change in Wisconsin lakes: the North Temperate Lakes Long Term Ecological Research Program (*Invited*): **E H Stanley**, L Beversdorf, S R Carpenter, P C Hanson, Y F Hsieh, R J Hunt, E Kara, A M Kamarainen, C J Kucharik, R C Lathrop, K D McMahon, T Miller, J F Walker, C H Wu
 0845h **H41J-04** The Geochemical Record of Cultural Eutrophication and Remediation Efforts in Three Connecticut Lakes: **T Ku**, H L Bourne, S Tirtajana, M Nahar, T Kading
 0900h **H41J-05** Phosphorus Dynamic and Water Quality Paradigm. (*Invited*): **H K Pant**
 0915h **H41J-06** Labile Organic Carbon in Recharge and its Impact on Groundwater Arsenic Concentrations in Bangladesh: **R B Neumann**, K N Ashfaq, A M Badruzzaman, M Ali, J K Shoemaker, C F Harvey
 0930h **H41J-07** What is the prognosis of nitrogen losses from UK soils?: T P Burt, **F Worrall**, M Whelan, N J Howden
 0945h **H41J-08** Nutrient Uptake and Transient Storage over a Gradient of Geomorphic Complexity: **D W Baker**, J Mueller Price, B Bledsoe

H41K Moscone West: 3011 Thursday 0800h
Observing and Predicting Hydroclimatic Processes in the North American Monsoon Region I

Presiding: **D S Gutzler**, University of New Mexico; **D J Gochis**, NCAR; **E R Vivoni**, Arizona State University
 0800h **H41K-01** Diurnal Cycle of Convection During the 2004 North American Monsoon Experiment (*Invited*): **R H Johnson**, P E Ciesielski, T S L'Ecuier, A J Newman
 0815h **H41K-02** North American Monsoon Variability from Instrumental and Tree-Ring Data: A Progress Report (*Invited*): **C A Woodhouse**, D M Meko, R Touchan, S W Leavitt, D Griffin, C L Castro, B Ciancarelli
 0830h **H41K-03** Signatures of Seasonal Vegetation Dynamics on Catchment Hydrology in the North American Monsoon Region: **E R Vivoni**

0845h **H41K-04** Impact of High Resolution Land Surface Initialization on Convection within the North American Monsoon: **W J Kaufeld**, C D Peters-Lidard, S W Nesbitt
 0900h **H41K-05** Mechanisms Linking Easterly Waves and the North American Monsoon System: S Seastrand, **Y L Serra**
 0915h **H41K-06** Convective variability in the North American Monsoon using cloud-to-ground lightning data and high-resolution satellite precipitation data: **S W Nesbitt**
 0930h **H41K-07** Tracking Progress in North American Monsoon Seasonal Forecasts: The NAME Forecast Forum (*Invited*): **D J Gochis**
 0945h **H41K-08** Applied Climate Studies Centered on the Intra-Americas Sea (*Invited*): **D B Enfield**

Earth and Space Science Informatics

IN41A Moscone South: Poster Hall Thursday 0800h
Earth and Space Science Informatics General Contributions I Posters (*joint with A, B, C, ED, H, GC, GP, G, MR, NH, EP, V, T, DI, SM, SH, SA, S, PA, PP, OS, NG, NS*)

Presiding: **K Moe**, NASA; **P A Fox**, Rensselaer Polytechnic Inst.

0800h **IN41A-1099 POSTER** A Prototype User Interface for Space and Solar Data – What will be relevant in 2015?: **D C Wilkinson**
 0800h **IN41A-1100 POSTER** Increased Energy Return from Solar Panel with MPPT Charge Controller: **W P O'Brien**, C Hanrahan
 0800h **IN41A-1101 POSTER** Informatics in Land Cover Classification using IKONOS and AIRSAR Fully Polarimetric Imagery: J J Legarsky, S Jagarlapudi, **J Garner**
 0800h **IN41A-1102 POSTER** Visual Analysis of Time-dependent change of 3D Magnetic Field Topology in the Earth's Magnetosphere: **D Matsuoka**, K T Murata, S Fujita, T Tanaka, K Yamamoto
 0800h **IN41A-1103 POSTER** Services for the Analysis of the Greenland Environment (SAGE): **S Lewis**, D W Gallaher, S S Khalsa, R E Duerr
 0800h **IN41A-1104 POSTER** On Spherical Multiresolution Analysis and Synthesis: **R Blais**, M Elhabiby
 0800h **IN41A-1105 POSTER** Cryospheric Data Management in the NASA Earth Science Decadal Mission Era: M Kaminski, **R L Weaver**
 0800h **IN41A-1106 POSTER** A Web-based Multi-user Interactive Visualization System For Large-Scale Computing Using Google Web Toolkit Technology: **R M Weiss**, J C McLane, D A Yuen, S Wang
 0800h **IN41A-1107 POSTER** ECHO - Search and Order Metadata Registry Post EDG to WIST Transition: **C Bories**, D Pilone
 0800h **IN41A-1108 POSTER** Can Sea-Ice extent from the 1960s, be determined from reprocessed Nimbus and other historic space based data?: **D W Gallaher**, D R Wingo, W Meier, A Epps
 0800h **IN41A-1109 POSTER** Web Tools and Services For Subsetting and Visualizing Swath Data: **C K Thompson**, M Henderson, J Piolle, S Gerard, D A Joy
 0800h **IN41A-1110 WITHDRAWN**
 0800h **IN41A-1111 POSTER** VolksWRF - A Weather Modeling Portal for the General Public: **D Morton**, M Jacobi, G B Newby
 0800h **IN41A-1112 POSTER** Capturing User Needs to Improve Processes at EOSDIS Data Centers: **E J Sofinowski**, C L Boquist
 0800h **IN41A-1113 POSTER** The Waveform Server: A Web-based Interactive Seismic Waveform Interface: **R L Newman**, A Clemesha, K G Lindquist, J Reyes, J H Steidl, F L Vernon
 0800h **IN41A-1114 POSTER** The Earthscope USArray Array Network Facility (ANF): Evolution of Data Acquisition, Processing, and Storage Systems: **G A Davis**, B Battistuz, S Foley, F L Vernon, J A Eakins

0800h **IN41A-1115 POSTER** Identification of mineral composition and weathering product of tuff using reflectance spectroscopy: **C Hyun**, H Park

0800h **IN41A-1116 POSTER** Parallel I/O with NetCDF-4 using the parallel-netcdf Library: **E Hartnett**

0800h **IN41A-1117 POSTER** Accelerating a Cloud Resolving Method with GPUs: **E F Bollig**, R Kelly, B Mayer, J H Garcia, G Erlebacher

0800h **IN41A-1118 POSTER** A mission planning tool for the Characterization of Sea Ice (CASIE) mission to Svalbard, Norway, in July 2009: **J M Kerr**, F Enomoto, S Johan, R I Crocker, M M Fladeland, D Long, J A Maslanik, D Sullivan, K Wegrzyn

0800h **IN41A-1119 POSTER** Building A Community Focused Data and Modeling Collaborative platform with Hardware Virtualization Technology: **A Michaelis**, W Wang, F S Melton, P Votava, C Milesi, H Hashimoto, R R Nemani, S H Hiatt

0800h **IN41A-1120 POSTER** Toward Near Real-Time MOPITT CO Processing and Dissemination: **D S Masters**, D Mao, D Packman

0800h **IN41A-1121 POSTER** AcquiTools: A new Software Toolkit for the Efficient Preparation of DMC-Ready Waveform Data: **S Golden**

0800h **IN41A-1122 POSTER** LISIRD 2: Applying Standards and Open Source Software in Exploring and Serving Scientific Data: **A Wilson**, D M Lindholm, A Ware DeWolfe, C Lindholm, C K Pankratz, M Snow, T N Woods

0800h **IN41A-1123 POSTER** The Time Series Data Server (TSDS) for Standards-Compliant, Convenient, and Efficient Access to Time Series Data: **D M Lindholm**, R S Weigel, A Wilson, A Ware DeWolfe

0800h **IN41A-1124 POSTER** Applications of Digital Image Processing in Automatic Mineral Identification and Percentage Determination: **S Chi**

0800h **IN41A-1125 POSTER** North-South asymmetry of the Earth and planets' figure: **I I Rokityansky**

0800h **IN41A-1126 POSTER** User Registration in EOSDIS: **K J Murphy**, A E Mitchell

0800h **IN41A-1127 POSTER** QuakeSim: Increasing Utility of Spacebourne and Ground-based Earthquake Fault Data: **J W Parker**, M T Glasscoe, A Donnellan, R A Granat, J B Rundle, D McLeod, R Al-Ganmi, L Grant Ludwig, G Fox, M Pierce, W Brooks

0800h **IN41A-1128 POSTER** Practical Experiences with Operational SOA infrastructure for Earth Observation: ECHO and Security: **M Burnett**

0800h **IN41A-1129 POSTER** Progress on Data Integration at NOAA: **K R McDonald**, L McCulloch, M Yapur

IN41B Moscone South: I02 Thursday 0800h
Making Earth Science Data Records I (*joint with A, B, C, G, V, OS, H*)

Presiding: **L Tsaoussi**, NASA; **M E Maiden**, NASA HQ

0800h **IN41B-01** Optimized Global Digital Elevation Data Records (*Invited*): **M Kobrick**, T Farr, R E Crippen

0820h **IN41B-02** Development of Northern Hemisphere Snow Extent Earth System Data Records (*Invited*): **D A Robinson**, M R Anderson, D K Hall, T L Mote, C Fowler, J A Maslanik, S Drobot

0840h **IN41B-03** World Ocean Database (*Invited*): **S Levitus**

0900h **IN41B-04** THE MEASURES PAR PROJECT: **R J Frouin**, B Franz

0915h **IN41B-05** Quality, Community, and the Sea Ice Record: **R E Duerr**, W Meier, J C Stroeve

0930h **IN41B-06** The cross-calibrated, multi-platform (CCMP) ocean surface wind product: Current status and plans: **R M Atlas**, J V Ardizzone, R N Hoffman, J C Jusem

0945h **IN41B-07** Trends in Oceanic Evaporation retrieved from the Goddard Satellite-based Surface Turbulent Fluxes based on SSM/I v6 (GSSTF2b) Dataset: **S Gao**, R Chokngamwong, L Chiu, C Shie, P P Xie, R F Adler, E J Nelkin

Nonlinear Geophysics

NG41A Moscone South: Poster Hall Thursday 0800h
Complex Networks in Geosciences II Posters (*joint with A, H, S, NH*)

Presiding: **I Zaliapin**, University of Nevada; **J Davidsen**, University of Calgary; **M Paczuski**; **J Kurths**, Potsdam Institute for Climate Impact Research

0800h **NG41A-1177 POSTER** River network self-organization driven by landslides: **C P Stark**

0800h **NG41A-1178 POSTER** TOKUNAGA TREES: WHY DO THEY EMERGE EVERYWHERE?: **E Webb**, **I Zaliapin**

0800h **NG41A-1179 POSTER** Network of recurrent events: an application to aftershock sequences and the ETAS model of seismicity: **J Davidsen**, K Doblhoff, T de Paula Peixoto

0800h **NG41A-1180 POSTER** Using Networks to Find Signatures of Causality in Seismicity: **M Paczuski**, J Davidsen, P Grassberger

0800h **NG41A-1181 POSTER** On the interconnection between Natural Time and Network Theory as a tool for predicting extreme events in seismology: **N V Sarlis**, E S Skordas, P Varotsos

0800h **NG41A-1182 POSTER** Complex networks as a tool of choice for improving the science of climate extremes and reducing uncertainty in their projections: K Steinhäuser, **A R Ganguly**, N V Chawla

0800h **NG41A-1183 POSTER** Complex networks approach to geophysical time series analysis: Detecting paleoclimate transitions via recurrence networks: **R V Donner**, Y Zou, J F Donges, N Marwan, J Kurths

0800h **NG41A-1184 POSTER** Revealing structure in large MIMO-LTI systems using a network approach: **R Hut**, N Van De Giesen

0800h **NG41A-1185 POSTER** The Backbone of the Climate Networks: **Y Zou**, J F Donges, N Marwan, J Kurths

0800h **NG41A-1186 POSTER** SmallWorld Behavior of the Worldwide Active Volcanoes Network: Preliminary Results: A Spata, **A Bonforte**, G Nunnari, G Puglisi

0800h **NG41A-1187 POSTER** A non-Markovian model of rill erosion: C Winter, **M Damron**

NG41B Moscone South: Poster Hall Thursday 0800h
Nonlinear Geophysics General Contributions Posters

Presiding: **U S Bhatt**, University of Alaska Fairbanks

0800h **NG41B-1188 POSTER** Vertical Scan (V-SCAN) for 3-D Grid Adaptive Mesh Refinement for an atmospheric Model Dynamical Core: **N G Andronova**, D VandenBerg, R Oehmke, Q F Stout, J E Penner

0800h **NG41B-1189 POSTER** The booming dune instability: **B Andreotti**, L Bonneau

0800h **NG41B-1190 POSTER** Chaos and Localization in Dieterich-Ruina Friction: **B A Erickson**, B Birnir, D Lavallee

0800h **NG41B-1191 POSTER** Prediction of Tropical Climate on Intraseasonal Timescale using Phase Space Reconstruction: A S Sharma, **V Krishnamurthy**

0800h **NG41B-1192 POSTER** Characterization of climate indices in models and observations using Hurst Exponent and Reyni Entropy Techniques: D Newman, **U S Bhatt**, R Wackerbauer, R Sanchez, I Polyakov

NG41C Moscone South: Poster Hall Thursday 0800h
Serendipitous Correlations and Synchronized Chaos in Nonlinear Geophysics I Posters (*joint with A, S, GC, H, OS, SH, SM*)

Presiding: **JJ Tribbia**, NCAR

0800h **NG41C-1193 POSTER** A damage-mechanics model for earthquake rupture initiation and propagation: G Yakovlev, **D L Turcotte**, J B Rundle

0800h **NG41C-1194 POSTER** Small-Group Consensus Among Climate Models Via Chaos Synchronization: **G S Duane**, B P Kirtman, L Kocarev

0800h **NG41C-1195 POSTER** Nonlinear problems in data-assimilation : Can synchronization help?: **JJ Tribbia**, G S Duane

0800h **NG41C-1196 POSTER** Jet Alignment in a 2 Layer Quasi-Geostrophic Channel Using One-Dimensional Grid Warping: **B E Beechler**, J B Weiss, G S Duane

Natural Hazards

NH41A Moscone South: Poster Hall Thursday 0800h
Drought, Climate Change, and Ecosystems: Monitoring and Assessing Regional Impacts for Adaptation Posters (*joint with A, H, PA*)

Presiding: **T Owen**, NOAA/NCDC

0800h **NH41A-1229 POSTER** Climate-change impacts and the role of ecosystem services in mitigation and adaptation in urban areas: a case study from an aridland city (*Invited*): **N B Grimm**

0800h **NH41A-1230 POSTER** Climate variability and the collapse of a Chinook salmon stock (*Invited*): **S Lindley**, M Mohr, W T Peterson, C Grimes, J Stein, J Anderson, L W Botsford, D Bottom, C Busack, T Collier, J Ferguson, C Garza, A Grover, D Hankin, R Kope, P Lawson, A Low, B MacFarlane, K Moore, M Palmer-Zwahlen, F B Schwing, J Smith, C Tracy, R S Webb, B Wells, T Williams

0800h **NH41A-1231 POSTER** An Agricultural Reference Index for Drought: **P Woli**, J W Jones, K T Ingram

0800h **NH41A-1232 WITHDRAWN**

0800h **NH41A-1233 POSTER** Global Seasonal Forecasting of Thermal Stress Conducive to Mass Coral Bleaching Events: G Liu, C Eakin, L Matrosova, M C Penland, **R S Webb**, R S Pulwarty, S Lynds, T Christensen, S F Heron, J Morgan, B A Parker, W J Skirving, A E Strong

0800h **NH41A-1234 POSTER** North American Land Data Assimilation (NLDAS) Data: 30 Years of Hourly Gridded Precipitation, Surface Meteorology and Fluxes, Soil Moisture, Runoff, and Snow Cover Available at the NASA Goddard GES DISC: **D M Mocko**, B Cosgrove, Y Xia, M B Ek, K Mitchell, H Fang, B Vollmer, W L Teng, G Lei, E F Wood, L Luo, J Sheffield, D P Lettenmaier, B Livneh, C J Alonge, C J Meng, H Wei, V Koren, J C Schaake, K C Mo, A Robock

0800h **NH41A-1235 POSTER** Linking regional initiatives to improve predictions of drought impacts on living marine resources in the U.S. Southeast: Apalachicola Bay oyster fishery as a potential test case: **L Petes**, C McNutt, V Burkett, S Jones

0800h **NH41A-1236 POSTER** Occurrences and Effects of Drought across Africa: **M N Mwangi**

0800h **NH41A-1237 POSTER** Using the New Floating Month Drought Index to Monitor Extreme Moisture Spells and Assess Century-Scale Climate Change: **RR Heim**

0800h **NH41A-1238 POSTER** Soil Climate over US High Plains and Central Europe During 21st Century – Trends and Consequences: **Z Zalud**, M Trnka, P Hlavinka, M D Svoboda, M Hayes, M Dubrovsky, D Semerádova, E Hunt, J Eitzinger

0800h **NH41A-1239 POSTER** Identifying Decision-Makers' Science Needs for Adaptation to Climate-Related Impacts on Forest Ecosystem Services: **E Gordon**, J Lukas

NH41B Moscone South: Poster Hall Thursday 0800h
Forecasting and Monitoring Dust Storms and Sandstorms Posters

Presiding: **H Ghedira**, American University in Dubai

0800h **NH41B-1240 POSTER** Robust Satellite Techniques (RST) for Saharan Dust detection and monitoring (*Invited*): **V Tramutoli**, I Coviello, C Filizzola, F Marchese, R Paciello, N Pergola

0800h **NH41B-1241 POSTER** Detecting and Monitoring Dust and Sand Storms over the Arabian Peninsula Using SEVIRI-MSG Data (*Invited*): **H Ghedira**, A Al-Rais, A Al-Suwaidi

NH41C Moscone South: Poster Hall Thursday 0800h
Landslide Prediction and Assessment: Mechanisms and Controls on Size Distribution I Posters (*joint with G, NG, T*)

Presiding: **B Dugan**, Rice University; **Y Hong**, University of Oklahoma

0800h **NH41C-1242 POSTER** Statistical prediction of shallow landslides induced by extreme rainfall events in Switzerland: **J von Rütte**, A Papritz, P Lehmann, C Rickli, D Or

0800h **NH41C-1243 POSTER** Monsoon Rainfall and Landslides in Nepal: **R K Dahal**, S Hasegawa, N P Bhandary, R Yatabe

0800h **NH41C-1244 POSTER** Local rainfall thresholds for the possible initiation of landslides in Italy. The Abruzzo test case: **F Guzzetti**, M Brunetti, S Peruccacci, M Rossi, D Valigi, S Luciani

0800h **NH41C-1245 POSTER** Mechanism of shallow landslide due to heavy rainfall using large-scale model test of unsaturated soil: **N SAKAI**, M Uetake, T Fukuzono

0800h **NH41C-1246 POSTER** La Conchita Landslide Risk Assessment: **A Kropp**, L Johnson, W Magnusen, C S Hitchcock

0800h **NH41C-1247 POSTER** Rainfall Induced Landslides in Brazil: Geomorphological Controls and Land-use Effects: **N F Fernandes**, R F Guimarães, R A Gomes, O A Carvalho Jr., B C Vieira, C P Amaral, E A Vargas Jr., T M Campos

0800h **NH41C-1248 POSTER** Detection of heavy rainstorm which induced debris flows by TRMM-based satellites and networked rain gauges: **H Fukuoka**, Y Hong, P Cui, H Yamamoto

0800h **NH41C-1249 POSTER** Improving Spatial Prediction of Shallow Rainfall-induced Landslides: **R L Baum**, J W Godt, J A Coe

0800h **NH41C-1250 POSTER** SLOPE FAILURE MECHANISMS IN COHESIVE SOILS: INSIGHTS FROM THEORETICAL AND NUMERICAL ANALYSES OF FIELD AND LABORATORY-TRIGGERED EVENTS: **J Malet**, A Spickermann, T van Asch

0800h **NH41C-1251 POSTER** Fully-coupled hydrologic/geomechanical simulations of slope failure in a prototypical steep mountain catchment: **J A White**, R I Borja, B A Ebel, K Loague

0800h **NH41C-1252 POSTER** High Resolution Temperature Observation For Monitoring Hydrological Features In Unstable Slopes: D Krzeminska, **T Bogaard**, S C Steele-Dunne, P Sailhac, Y Geraud

0800h **NH41C-1253 POSTER** Determination the location of sliding zone and stratum by NMR technology: **G Zhang**, L Wang, Y Gu

0800h **NH41C-1254 POSTER** The role of hillslope topography on shallow landslides activation and basin saturation propensity: **C Lanni**, I Pretto, R Rigon

0800h **NH41C-1255 POSTER** Distribution characteristics of earthquake-induced landslide with the earthquake source fault-the cases of recent strong earthquakes in eastern Japan: **B Hasi**, Y Ishii, K Maruyama, H Terada

0800h **NH41C-1256 POSTER** Coseismic landslides: factors influencing volume: **A Bazgard**, F Buech, T R Davies

0800h **NH41C-1257 POSTER** Lateral root reinforcement influence size and shape of shallow landslides: **M Schwarz**, D O Cohen, D Or

0800h **NH41C-1258 POSTER** Lake Shewa Rock-Slope Failures and Water Impoundment, Badakshan Province, Afghanistan: **J F Shroder**, B J Weihs

0800h **NH41C-1259 POSTER** Evidence of Multiple Flank Collapse at Volcan Baru, Panama: **J A Herrick**, W I Rose

0800h **NH41C-1260 POSTER** Controls on size and occurrence of the largest sub-aerial landslide on Earth: Seymareh (Saidmarreh) landslide, Zagros fold-thrust belt, Iran: **N J Roberts**, S G Evans

0800h **NH41C-1261 POSTER** Mass wasting in the Western Galapagos Islands: **H Hall**, W W Sager

0800h **NH41C-1262 POSTER** Recurrent Pleistocene sub-marine slide events on the south Vøring Plateau, mid-Norwegian continental margin: **B Hjelstuen**, M Skaug, H Haflidason

0800h **NH41C-1263 POSTER** Semi-automatic methodologies for landslide features extraction: new opportunities but also challenges from high resolution topography: P Tarolli, G Sofia, G Dalla Fontana

0800h **NH41C-1264 POSTER** Inverse Power Law distribution and failure initiation of subaerial landslides: **U S Ten Brink**, R Barkan, B D Andrews, J D Chaytor

0800h **NH41C-1265 POSTER** Laboratory experiments of Landslides using a wet granular matter: **F Shibuya**, I Sumita

0800h **NH41C-1266 POSTER** A laboratory landslide simulator to study triggering mechanisms: failure morphology and acoustic emissions: **D O Cohen**, K Huber, M Schwarz, G K Michlmayr, D Or

0800h **NH41C-1267 POSTER** Mechanics of the 1963 Vaiont landslide (Northern Italy) from low- and high-velocity friction experiments: **F Ferri**, G Di Toro, T Hirose, R Han, T Shimamoto, H Noda, G Pennacchioni

0800h **NH41C-1268 POSTER** Influence of fluid overpressure on sliding with or without frontal buttress. Insights from analytical and experimental modeling: **A Lacoste**, B Vendeville, R Mourgues, L Loncke

0800h **NH41C-1269 POSTER** An Experimental Study of Pore Pressure in Fine Grained Retrogressive Subaqueous Landslides: **D E Sawyer**, P B Flemings

0800h **NH41C-1270 POSTER** Development of slope failures in front of a thrust in physical models: **Y Yamada**, Y Yamashita, Y Yamamoto

0800h **NH41C-1271 POSTER** The mobility of landslide: how the flowing volume controls the mobility?: **H Sato**, K Kurita, D Baratoux

0800h **NH41C-1272 POSTER** Growing a surface-parallel shear crack by a gradual pore pressure increase: At what point is it unstable?: **R C Viesca-Falguières**, J R Rice

0800h **NH41C-1273 POSTER** Modeling Hydrologic Triggering of Shallow Landslides using Self-Organized-Criticality Concepts: P Lehmann, **D Or**

0800h **NH41C-1274 POSTER** Feedback Between Fissure Flow And Differential Displacement In Slow-Moving Landslides: **T Bogaard**, L P Van Beek, D Krzeminska, T van Asch

0800h **NH41C-1275 POSTER** Mass Wasting Along the Convergent Margin of the Middle America Trench: R K Harders, **W Weinrebe**

0800h **NH41C-1276 POSTER** Stress analysis of slope failure using the Discrete Element Method: Mechanical controls on landslide sizes: **O Katz**, J K Morgan, B Dugan

NH41D Moscone West: 2006 Thursday 0800h
Remote Sensing of Natural Hazards I (*joint with NH, A, C, GC, T, OS, H, V, PA, S*)

Presiding: R P Singh; W M Moon

0800h **NH41D-01** Remote sensing techniques for monitoring drought hazards: an intercomparison (*Invited*): **J F Brown**, M C Anderson, B D Wardlow, M D Svoboda

0815h **NH41D-02** Remote Sensing of Mineral Dust Sources (*Invited*): **W A Sprigg**, S A Morain

0830h **NH41D-03** Towards societal applications of satellite measurements of fire strength (*Invited*): **C M Ichoku**

0845h **NH41D-04** A comparative evaluation of MODIS/ASTER airborne simulator (MASTER) data and burn indices for mapping southern California fires: **S L Harris**, S J Hook

0900h **NH41D-05** Characterizing Lava Flows With LiDAR: **N I Deligne**, K V Cashman, N Deardorff, H R Dietterich, P K House, S Soule

0915h **NH41D-06** Locations and types of ruptures involved in the 2008 Wenchuan earthquake revealed by SAR image matching: **T Kobayashi**, Y Takada, M Furuya, M Murakami

0930h **NH41D-07** Mapping of surface ruptures and crustal deformations by field investigations and PALSAR/InSAR for the 2008 Wenchuan Earthquake, China: **K Hao**, H Si, H Fujiwara, T Ozawa

0945h **NH41D-08** Monitoring Levees and Subsidence in the Sacramento-San Joaquin Delta: **C E Jones**, G W Bawden, S J Deverel, J Dudas, J Galef, S Hensley

Near Surface Geophysics

NS41A Moscone West: 2016 Thursday 0800h
Advanced Inverse Strategies for Improved Characterization and Assessment of Groundwater, Mineral, and Petroleum Resources II (*joint with H, GP, S*)

Presiding: M J Friedel, US Geological Survey; **B Jafarpour**, Texas A&M University

0800h **NS41A-01** A geologically-consistent multiscale method for solving large-scale inverse modeling (*Invited*): **J Fu**, J Caers, H Tchelepi

0815h **NS41A-02** What is Particle Swarm optimization? Application to hydrogeophysics (*Invited*): **J Fernández Martínez**, E García Gonzalo, T Mukerji

0830h **NS41A-03** Application of particle swarm optimization for enhanced reservoir characterization and inversion of production and seismic data. (*Invited*): J Fernández Martínez, **T Mukerji**, D Echeverría Ciaurri, E García Gonzalo

0845h **NS41A-04** Integration of Dynamic Flow Measurements into Pattern-Based Facies Simulation: **B Jafarpour**, M Khodabakhshi

0900h **NS41A-05** The Levenberg-Marquardt level-set method for facies identification in petroleum reservoirs: **M Iglesias**, D McLaughlin

0915h **NS41A-06** A stochastic collocation based Kalman Filter for history matching: **L Zeng**, D Zhang

0930h **NS41A-07** A stochastic approach for model reduction and memory function design in hydrogeophysical inversion: **Z Hou**, A Kellogg, N Terry

0945h **NS41A-08** Electrical geophysical characterization of the Hanford 300 Area Integrated Field Research Challenge using high performance DC resistivity inversion geostatistically constrained by borehole conductivity logs: **T C Johnson**, R J Versteeg, A L Ward, C E Strickland, J Greenwood

Ocean Sciences

OS41A Moscone West: 3003 Thursday 0800h
Geological Setting of Gas Hydrate Reservoirs and Seeps: A Source for Clean Energy and/or Storage for CO₂ II

Presiding: **R B Coffin**, Naval Research Laboratory; **J Mienert**, University of Tromsø

0800h **OS41A-01** New Insights into the Gas Hydrate System on the Southern Hikurangi Margin, New Zealand (*Invited*): **I A Pecher**, S A Henrys, S J Toulmin, P Barnes, G Lamarche, S M Ellis, G Crutchley, K Schwalenberg, R B Coffin, A R Gorman, J Greinert, J Bialas

0815h **OS41A-02** Fracture Genesis and Fracture Filling In Hydrate Systems: **H Daigle**, B Dugan

0830h **OS41A-03** Factors controlling the accumulation of marine gas hydrate: lessons from the Black Sea: **I Klaucke**, J Bialas, G Bohrmann, M K Ivanov

0845h **OS41A-04** Geologic structures associated with the carbonate/hydrate mound in Mississippi Canyon Block 118, Gulf of Mexico: **T M McGee**

0900h **OS41A-05** Gas Hydrates on the Norway - Barents Sea - Svalbard margin (GANS); an overview and preliminary results: **H Hafliðason**, J Mienert, B Kvamme, B Hjelstuen, S Bunz, T Barth, E N Vaular, Y Chen, S Chand, N Waldmann, C Zuhlsdorff, T J Kvalstad, T Reichel

0915h **OS41A-06** Warm-water flow above deep water methane hydrates at an Arctic continental margin - A view on climate impacts: **J Mienert**, S Bünz, J Greinert

0930h **OS41A-07** Hydrate pingoes at Nyegga - natural small-scale carbon capture laboratories?: **M T Hovland**, H Rueslaatten

0945h **OS41A-08** Hydrate Formation in Gas-Rich Marine Sediments: A Grain-Scale Model: **R Holtzman**, R Juanes

Planetary Sciences

P41D Moscone South: 104 Thursday 0900h
Focus on Enceladus I (joint with C, SM)

Presiding: **C Porco**, CICLOPS/SSI; **C P McKay**

0905h **P41D-01** Ice/vapor ratio in the Enceladus plumes and the mass of Saturn's E ring: **A P Ingersoll**, S P Ewald

0919h **P41D-02** Old Faithful Model for Radiolytic Gas-Driven Cryovolcanism at Enceladus: **P D Cooper**, J F Cooper, E C Sittler, S J Sturmer, A Rymer

0933h **P41D-03** Is Enceladus a Comet? A Second Opinion: **D C Boice**, R Goldstein

0947h **P41D-04** Enceladus's Plumes: A Rocket Analogy: **R L McNutt**, M E Perry, J H Waite, G Fletcher, T E Cravens

P41A Moscone South: 307 Thursday 0800h
Modeling Planetary Dynamics II (joint with G, DI, T, EP)

Presiding: **D Bercovici**, Yale University; **D A Yuen**, University of Minnesota

0800h **P41A-01** How well do we understand the volcanism and tectonics of Venus? (*Invited*): **D L Turcotte**

0812h **P41A-02** Towards self-consistent modelling of the Martian dichotomy: Coupled models of simultaneous core and crust formation: **T Keller**, G J Golabek, T Gerya, J Connolly

0824h **P41A-03** A Regime Diagram for Subduction: **D R Stegman**, R Farrington, F A Capitanio, W P Schellart

0836h **P41A-04** Non linear Quasi-Geostrophic thermal convection and dynamo in a rapidly rotating sphere: **P CARDIN**, **C Guervilly**

0848h **P41A-05** Temperature and heat flux scalings for isoviscous thermal convection in spherical geometry: **F Deschamps**, P J Tackley, T Nakagawa

0900h **P41A-06** Utilizing cooling in Cartesian geometry systems to obtain the mean temperatures and convective planforms found in isoviscous spherical shell convection: **K A O'Farrell**, J P Lowman

0912h **P41A-07** Stagnant-lid Convection with Lateral Variations in Lithospheric Thickness: Application to Mars: **O Sramek**, S Zhong

0924h **P41A-08** Thermal evolution of Mercury: implication for despinning and contraction: **G Robuchon**, G Tobie, G Choblet, O Cadek, A Mocquet

0936h **P41A-09** East-west faulting and buckling from the contraction of a lithosphere thinner at the equator, with applications to Mercury and Iapetus: **M Beuthe**

0948h **P41A-10** A Buckling Model for the Flattening and Equatorial Ridge of Iapetus: **D T Sandwell**, G Schubert

P41B Moscone South: 309 Thursday 0800h
Potential Biomarkers on Mars: Detection, Characterization, and Earth Analogue Systems I (joint with B)

Presiding: **M J Mumma**, Center for Astrobiology; **S Vance**, Jet Propulsion Laboratory / Caltech

0800h **P41B-01** METHANE AND WATER ON MARS: MAPS OF ACTIVE REGIONS AND THEIR SEASONAL VARIABILITY: **G L Villanueva**, M J Mumma, R E Novak

0815h **P41B-02** Absolute Measurements of Methane on Mars: **M J Mumma**, G L Villanueva, R E Novak

0830h **P41B-03** Fenton Oxidation of H₂O₂ under Low Temperature Hydrothermal Conditions: Implications for Organics on Mars: **N Grozeva**, D Foustoukos

0845h **P41B-04** Pervasive sedimentary diapirism in Acidalia Planitia, Mars: Implications and astrobiological perspective: **C Allen**, D Oehler

0900h **P41B-05** Potential for Biomarkers in Phyllosilicate-bearing Rocks at Mawrth Vallis, Mars: **J L Bishop**, N K McKeown, M Parente, H D Makarewicz, R L Mancinelli, D J Des Marais, S L Murchie, J F Mustard

0915h **P41B-06** Evaporites in Martian Paleolakes: Observations and Implications: **J J Wray**, R Milliken, G A Swayze, B L Ehlmann, C M Dundas, A M Baldridge, J C Andrews-Hanna, S L Murchie

0930h **P41B-07** Laser Absorption Biosignatures On Mars And Earth: **S Vance**, L E Christensen, O J Johnson, M J Russell, C R Webster

0945h **P41B-08** 2009 Arctic Mars Analogue Svalbard Expedition (AMASE) Evolved Gas Studies: **P R Mahaffy**, A McAdam, J Eigenbrode, A Steele

P41C Moscone South: I04 Thursday 0800h
Shoemaker Lecture

Presiding: **B M Jakosky**, University of Colorado; **W B Banerdt**, Jet Propulsion Laboratory

0800h **P41C-01** Enceladus: Oasis or Ice Ball? (*Invited*): **S W Kieffer**

Paleoceanography and Paleoclimatology

PP41A Moscone South: Poster Hall Thursday 0800h
Cenozoic Greenhouse Climates and Carbon Cycle Dynamics I Posters (*joint with B, GC, OS*)

Presiding: **A Sluijs**, Utrecht University; **R E Zeebe**, University of Hawaii

0800h **PP41A-1476 POSTER** Li isotopes in foraminifera: a new proxy for past ocean dissolved inorganic carbon: **N Vigier**, C Rollion-Bard, J Erez

0800h **PP41A-1477 POSTER** Evidence for a 35 million years CO₂ cyclicity and its connection to Earth's temperature evolution over the last 420 million years: **A Prokoph**

0800h **PP41A-1478 POSTER** Carbon-Isotope Stratigraphy Of A Paleogene Pacific Ocean Guyot And The Response Of The Shallow-Water Carbonate Factory To The PETM: **S A Robinson**

0800h **PP41A-1479 POSTER** The biogeography of export productivity across the Cretaceous-Paleogene boundary as inferred from sediment mixing and biogenic barium: **P M Hull**, R D Norris, P J Franks

0800h **PP41A-1480 POSTER** Stable isotopes and Mg/Ca and Sr/Ca ratios from benthic foraminifera across the Danian-Selandian boundary (early-middle Paleocene) in the North Sea Basin: **E Thomsen**, A Clemmensen, J Groeneveld

0800h **PP41A-1481 POSTER** Monsoons across Epochs: Diagnosing Monsoonal Circulations across Warm, Greenhouse Climates as Simulated by the Community Climate System Model (CCSM3): **C A Shields**, J T Kiehl, G R Upchurch, C Scotese

0800h **PP41A-1482 POSTER** On the Sensitivity of Ocean Circulation to Arctic Freshwater Input during the Paleocene/Eocene Thermal Maximum: **J T Cope**, A M Winguth

0800h **PP41A-1483 POSTER** iTEMP: intercomparison of TEMperature Proxies for the PETM carbon injection event: **A Sluijs**, S Schouten, L J Lourens, L D Anderson, J C Zachos

0800h **PP41A-1484 POSTER** Foraminiferal stable isotope records from the North Atlantic Ocean for the late Paleocene to middle Eocene interval (DSDP Site 401): **A Bornemann**, S D'haenens, R P Speijer

0800h **PP41A-1485 POSTER** Raman spectroscopy of carbonaceous material in PETM sediments from the Bighorn Basin, Wyoming: **A A Baczynski**, F A McInerney, S D Jacobsen, N E Blair, S Thomas, M J Kraus

0800h **PP41A-1486** WITHDRAWN

0800h **PP41A-1487 POSTER** Background- versus event-level biotic variability: Hyperthermals of the late Paleocene and early Eocene: **S Gibbs**, B H Murphy, H Pälike

0800h **PP41A-1488 POSTER** The impact of orbitally-driven changes in solar insolation on "greenhouse" climates: S C Woodard, **J D Herridge**, D J Thomas, F Marcantonio

0800h **PP41A-1489 POSTER** Productivity response to the PETM in the North Atlantic and South Indian Ocean: **T Sime**, K Kanamaru-Shinn, H M Stoll, N Shimizu

0800h **PP41A-1490 POSTER** Effect of pH decline on foraminiferal stable isotopes during the Paleocene-Eocene Thermal Maximum?: **J Uchikawa**, R E Zeebe

0800h **PP41A-1491 POSTER** Statistical interpretation of the rate of carbon isotope changes at the onset of the Paleocene-Eocene Thermal Maximum: **N M Urban**, T J Bralower, K Keller, L R Kump

0800h **PP41A-1492 POSTER** Marine and terrestrial biotic response to climate variability across the Paleocene-Eocene boundary in the Mid-Atlantic region, USA: **D A Willard**, W Aleman, L E Edwards, J R Farmer, J Self-Trail

0800h **PP41A-1493 POSTER** Reconstructing Middle Eocene Climate and Atmospheric Carbon Dioxide Concentration: Application of a mechanistic theoretical approach to fossil plants from the Messel Pit (Germany): **M Grein**, A Roth-Nebelsick, V Wilde, W Konrad, T Utescher

0800h **PP41A-1494 POSTER** Biogeochemical impacts of methane hydrate destabilization during the PETM: **C O Chun**, A Ridgwell, R Marsh

0800h **PP41A-1495 POSTER** Marine biological productivity and carbon cycling during the Oligocene to Miocene climate transition: **K Billups**, L Diester-Haass, K Emeis

0800h **PP41A-1496 POSTER** Seeking Hidden Glaciations in the Greenhouse World: A New Approach Using Nd Isotopes: **H D Scher**, S M Bohaty

0800h **PP41A-1497 POSTER** Ocean carbonate compensation depth variability in the Oligocene and its impact on palaeoceanographic proxies: **K M Edgar**, H Pälike, P Wilson

0800h **PP41A-1498 POSTER** The Middle Miocene paleoceanographic events as seen by the chemistry of calcareous nannofossils in SW Pacific Ocean: **M Hermoso**, R E Rickaby, F Minoletti, L Diester-Haass

0800h **PP41A-1499 POSTER** West Pacific climate evolution (12-7 Ma): Linkages to tectonic events, cryosphere evolution and orbital forcing: **A E Holbourn**, W Kuhnt, S C Clemens, W L Prell

0800h **PP41A-1500 POSTER** Sea surface temperatures of the subtropical North Pacific since the late Miocene: Cooling trends and mid-Pliocene warmth: **J Lariviere**, C Ravelo, P B Talmage, M W Lyle, A Olivarez-Lyle

PP41B Moscone South: Poster Hall Thursday 0800h
Decadal- to Century-Scale Climate Variability Over the Past Millennium: Evidence From Non-Tree-Ring Archives I Posters

Presiding: **D E Black**, Stony Brook University; **P B DeMenocal**, Lamont-Doherty Earth Obs; **J M Schaefer**

0800h **PP41B-1501 POSTER** Spectral analysis of variations in laminae thickness in a 3000-year varved record from the glacial lake Hvítárvatn, central Iceland: **K B Olafsdottir**, A Geirsdottir, G H Miller, D Larsen

0800h **PP41B-1502 POSTER** Decadal to Millennial Scale Climate Variability in the Gulf of Maine: **E A Steponaitis**, L D Keigwin

0800h **PP41B-1503 POSTER** A new calibration for the Sr/Ca-temperature relationship in sclerosponges reveals synchronous changes in Caribbean specimens indicative of warming and multi-decadal climate variability: **A J Waite**, P K Swart, B E Rosenheim

0800h **PP41B-1504 POSTER** Sclerosponges: a key to understanding the influence of global warming on ocean thermocline and mixed layer variability..an example from the Caribbean: **A Winter**, C Sherman, R Appeldoorn, P K Swart, Y Hamann, A Eisenhauer

0800h **PP41B-1505 POSTER** Planktonic foraminiferal proxy evidence for Santa Barbara Basin sea surface temperature changes during the Medieval Climate Anomaly and Little Ice Age: **D K Pak**, J Kennett, D W Lea, I L Hendy

0800h **PP41B-1506 POSTER** Upwelling Record of the Last 3500 years in Santa Barbara Basin, California: **T R Taylor**, D K Pak, J Kennett, I L Hendy

0800h **PP41B-1507 POSTER** High Resolution Paleooceanographic and Paleoclimatic Study of La Paz Basin, Gulf of California – Medieval Warm Period and Little Ice Age Records in the Eastern Equatorial Pacific: **L L Perez-Cruz**, L Gomez Lizarra

0800h **PP41B-1508 POSTER** Spatiotemporal climatic, hydrological, and environmental variations based on records of annually laminated lake sediments from northern Poland: W Tylmann, L Blanke, M Kinder, T Loewe, C Mayr, C Ohlendorf, **B Zolitschka**

0800h **PP41B-1509 POSTER** Climate change and stained glass: how are they connected?: **C T Simmons**, L A Mysak

0800h **PP41B-1510 POSTER** Reconstruction of climate change at sub-decadal resolution from marine sediment cores from the Gulf of Taranto, Mediterranean Sea: **A Grauel**, I Mueller, S M Bernasconi, K A Zonneveld, G J De Lange

0800h **PP41B-1511 POSTER** Development of the Wintertime Sr/Ca-SST Record from Red Sea Corals as a Proxy for the North Atlantic Oscillation: **W N Bernstein**, K A Huguen

0800h **PP41B-1512 POSTER** Varved Records From Deserts: Good Complements For Tree Ring Based Reconstructions?: **P Francus**

0800h **PP41B-1513 POSTER** Speleothem Paleoclimatology and Modern Proxies: Calcite Farming In a Continuously Monitored Cave: **D M Tremaine**, P N Froelich, A Kowalczyk, B Kilgore

0800h **PP41B-1514 POSTER** Solar Variability Controls on Rainfall in the Last Millennia: Evidence from a Highly Resolved Stalagmite Record from DeSoto Caverns (USA): **P Aharon**, W Lambert, J Hellstrom

0800h **PP41B-1515 POSTER** A speleothem record of climate variability over the last millennium in the northern Wasatch Mountains, southeast Idaho: **Z Lundeen**, A Brunelle, S J Burns, Y Asmerom, V Polyak

0800h **PP41B-1516 POSTER** Numerical model simulations of small closed basin lake sediment core $\delta^{18}\text{O}$ records from the upper Columbia River basin over the last millennium and implications for a mid-Holocene ‘megadrought’: B A Steinman, M F Rosenmeier, M Abbott

0800h **PP41B-1517 POSTER** Tundra fire regimes in the Alaskan Arctic: Vegetation-fire linkages during the late Holocene: **M L Chipman**, P E Higuera, J Allen, M A Urban, S Rupp, F Hu

0800h **PP41B-1518 POSTER** Climate and human impacts on vegetation changes in central Guizhou, China: Carbon and oxygen isotopic records in a stalagmite from Yelang Cave: **T Lee**, Z Liu, H Li, C Shen

0800h **PP41B-1519 POSTER** Does the Amount Effect exert primary control on changes in $\delta^{18}\text{O}$ of speleothems from low-latitude caves?: C L Gentry, J H Curtis, M Brenner

0800h **PP41B-1520 POSTER** Cooling trend and enhancement of productivity in the upwelling off Peru since the late 19th century: **I Bouloubassi**, D Gutierrez, A Sifeddine, S Purca, R Salvatelli, D Field, L Mejanelle, F Velasco, L Ortlieb

0800h **PP41B-1521 POSTER** A quantitative high-resolution summer temperature reconstruction back to AD 850 based on sedimentary pigments from Laguna Aculeo, Central Chile: **L von Gunten**, M Grosjean, B Rein, R Urrutia, P Appleby

0800h **PP41B-1522 POSTER** Climatically driven variations in glacier extent as documented by the laminated proglacial sediment record from Lago del Desierto (Southern Patagonia, Argentina): D Enters, **S Kastner**, C Ohlendorf, T Haberzettl, G Kuhn, A Lücke, C Mayr, J Reyss, S Wastegard

0800h **PP41B-1523 POSTER** South American climate teleconnections during the last millennium: **A Sifeddine**, D Gutierrez, L Ortlieb, F da Cruz, D Field, F Velasco, R Salvatelli, M H Gurgel, M Boussafir, A Albuquerque, D Villela, D Deziderio, B Turcq, J Valdes, G Vargas

0800h **PP41B-1524 POSTER** New high-precision, high-resolution records of atmospheric methane from Greenland and Antarctic ice cores: 0-1800 A.D: **L E Mitchell**, E Brook

0800h **PP41B-1525 POSTER** Millennial simulation of global water isotope distribution with the ECHAM4 AGCM: **G Hoffmann**, F J Gonzalez-Rouco

0800h **PP41B-1526 POSTER** A Pseudoproxy-Ensemble Study of Late-Holocene Climate Field Reconstructions Using CCA: **D E Amrhein**, J E Smerdon

PP41C Moscone South: Poster Hall Thursday 0800h
Take It From the Top: Climate Variability in the Arctic and Subarctic During the Holocene I Posters (joint with GC)

Presiding: **W J D’Andrea**, University of Massachusetts Amherst;
Y Axford, University of Colorado

0800h **PP41C-1527 POSTER** High northern latitude temperature extremes, 1400-1999: **M P Tingley**, P Huybers, K A Huguen

0800h **PP41C-1528 POSTER** Polar climatic sequence over the first Dansgaard-Oeschger event (DO 25) of the last glacial period: **E Capron**, J Chappellaz, A Landais, A Schilt, D Buiron, D Dahl-Jensen, H Fischer, S J Johnsen, M Leuenberger, V Masson-Delmotte, H Oerter, T F Stocker

0800h **PP41C-1529 POSTER** Late Quaternary Ostracodes and Paleooceanography from HOTRAX core HLY0503-18, Lomonosov Ridge, Central Arctic Ocean: **L Gemery**, T M Cronin, D A Darby, M Jakobsson, L V Polyak

0800h **PP41C-1530 POSTER** Last Glacial to recent sea ice coverage in the northern North Atlantic (Fram Strait and East Greenland Continental Margin): **J Mueller**, G G Masse, R H Stein, S Belt

0800h **PP41C-1531 POSTER** Haptophyte alga from Greenland lakes offers unprecedented opportunity to decipher alkenone biosynthetic pathways and functionality: **S Theroux**, L Amaral-Zettler, Y Huang

0800h **PP41C-1532 POSTER** A 5,000 year alkenone-based temperature reconstruction from the High Arctic (Lower Murray Lake, Nunavut Canada): **W J D’Andrea**, R S Bradley

0800h **PP41C-1533 POSTER** Alkenone-based decadal scale temperature reconstruction of the late Holocene from Kongressvatnet, Svalbard: **D Vaillencourt**, W J D’Andrea, S Petsch, A Werner, S Roof, M Retelle

0800h **PP41C-1534 WITHDRAWN**

0800h **PP41C-1535 POSTER** Aeolian sediment source response to climate change and ice-retreat: evidence from aeolian silt deposition in a high altitude lake, West Greenland: **J E Bullard**, N J Anderson, D Scott

0800h **PP41C-1536 POSTER** QUANTITATIVE PALEOCLIMATE RECONSTRUCTIONS FROM THE MELVILLE PENINSULA, NUNAVUT, CANADA: **J K Adams**, S A Finkelstein

0800h **PP41C-1537 POSTER** The Holocene lipid biomarker record of climate and hydrological change at Lake El’gygytyn, NE Russia: **K M Wilkie**, S Petsch, S J Burns, J Brigham-Grette, M Melles

0800h **PP41C-1538 POSTER** Holocene climate variability in the NE Pacific: Insight from connections between the Gulf of Alaska and the California Current System: **B P Finney**, J A Addison

0800h **PP41C-1539 POSTER** Comparison of 8.2ka flood simulations: A model sensitivity experiment: **A J Wagner**, C Morrill, B L Otto-Bliesner, N A Rosenbloom

0800h **PP41C-1540 POSTER** Siple Dome Ice Cores: Implications for West Antarctic Climate and ENSO Events: **T Jones**, J W White

0800h **PP41C-1541 POSTER** Thresholds for Greenland Ice Sheet Variability on Orbital and Longer Timescales: **S J Koenig**, R DeConto, D Pollard

PP41D Moscone West: 2004 Thursday 0800h
Cenozoic Antarctic Evolution I (*joint with C, GC, T*)

Presiding: **F Florindo**; **D M Harwood**, Univ. Nebraska-Lincoln

0800h **PP41D-01** Driving the Cenozoic Antarctic Glaciation: role of atmospheric CO₂ and uninterrupted circumpolar current: **L Cristini**, K Grosfeld, M Butzin, G Lohmann, P Huybrechts

0815h **PP41D-02** Magnitude and timing of orbitally paced Antarctic ice sheet variations through the Pliocene and Pleistocene: **R DeConto**, D Pollard, D E Kowalewski, R P Scherer, T Naish, A Seth

0830h **PP41D-03** Ice Volume at the Eocene-Oligocene Transition Predicted from Restoration of West Antarctic Topography: **D S Wilson**, D Pollard, B P Luyendyk, R DeConto

0845h **PP41D-04** Geodynamic Constraints on the Tectonic Evolution of the West Antarctic Rift System: **D L Harry**, J L Anoka

0900h **PP41D-05** Miocene depositional history, sequences and chronostratigraphy of the ANDRILL AND-2A drillcore, Victoria Land Basin, Antarctica: **D M Harwood**, F Florindo, R H Levy, F M Talarico, G Acton, G Browne, B Field, C R Fielding, L A Krissek, K S Panter, S Passchier, S F Pekar

0915h **PP41D-06** Miocene Antarctic Terrestrial Realm: **A C Ashworth**, A Lewis, D R Marchant

0930h **PP41D-07** Integrated provenance-detrital thermochronology studies in ANDRILL AND-2A drill core: first evidence of an Oligocene exhumation episode (McMurdo Sound, Antarctica): **M Zattin**, F M Talarico, S Sandroni

0945h **PP41D-08** New age control on a mid-shelf grounding event in Eastern Basin, Ross Sea: **A N Cone**, P J Bart

SPA - Aeronomy

SA41A Moscone South: Poster Hall Thursday 0800h
Ice Layers in the Mesopause Region and Their Relationship to the Environment in Which They Form II Posters

Presiding: **S M Bailey**, Virginia Tech; **J M Russell**, Hampton University

0800h **SA41A-1583 POSTER** Aerosol Charge Model Consistent with Flight Data from the ECOMA/MASS Rocket Campaign: **S Knappmiller**, S H Robertson, M Rapp, J Gumbel, M Horanyi, Z Sternovsky, M Friedrich, G Baumgarten, R Latteck

0800h **SA41A-1584 POSTER** Inter-hemispheric coupling in PMC observations and in models: **B Karlsson**, H Körnich, C E Randall, S Benze, M J Mills, L Harvey, D R Marsh, A W Merkel, S Bailey, J M Russell, E Becker, S Lossow, D E Siskind

0800h **SA41A-1585 POSTER** Tidally Induced Variations of PMC Ice Water Content Using a Data Assimilation System: **M H Stevens**, D E Siskind, S D Eckermann, L Coy, J P McCormack, C R Englert, K Hoppel, A J Kochenash, M E Hervig, C E Randall, K Nielsen, J D Lumpe, S M Bailey

0800h **SA41A-1586 POSTER** Correlation between the Summer Mesopause and Polar Mesospheric Cloud Heights: **P Rong**, J M Russell, S M Bailey, M E Hervig, M H Stevens, S V Petelina

0800h **SA41A-1587 POSTER** Retrieval of PMC Properties From CIPS: Algorithm Description, Error Analysis and Cloud Detection Sensitivity: **J D Lumpe**, S M Bailey, J N Carstens, K Nielsen, G E Thomas, J Gumbel, C E Randall, B Templeman, D Cilke, J M Russell, D W Rusch

0800h **SA41A-1588 POSTER** An Analysis of the PMC Particle Size Information Content of a CIPS Scattering Profile: **J N Carstens**, S M Bailey, J D Lumpe, C E Randall

0800h **SA41A-1589 POSTER** Nadir and Limb Viewing Observations of Polar Mesospheric Clouds from the Aeronomy of Ice in the Mesosphere (AIM) Explorer: **S M Bailey**, C E Randall, J D Lumpe, M E Hervig, J N Carstens, L L Gordley, J M Russell

0800h **SA41A-1590 POSTER** Polar Mesospheric Cloud properties derived from the Cloud Imaging and Particle Size Experiment on the Aeronomy of Ice in the Mesosphere Mission: **D W Rusch**, G E Thomas, W E McClintock, A W Merkel, J D Lumpe, S Benze, S Bailey, C E Randall, J M Russell

0800h **SA41A-1591 POSTER** Gravity wave effects on polar mesospheric clouds: A comparison of numerical simulations from CARMA 2D model with AIM observations: **A Chandran**, D W Rusch, A W Merkel, S E Palo, G E Thomas, E J Jensen

0800h **SA41A-1592 POSTER** Investigating monochromatic wave events in the summer polar mesosphere: **Y Zhao**, M J Taylor, P Pautet, C E Randall, S M Bailey, J M Russell

0800h **SA41A-1593 POSTER** AIM CIPS Observations of the Last Five PMC Seasons using an SBUV-type analysis: **S Benze**, G E Thomas, M T DeLand, S M Bailey, J M Russell

0800h **SA41A-1594 POSTER** Simulation of particle size distributions in Polar Mesospheric Clouds from Microphysical Models: **G E Thomas**, A Merkel, C Bardeen, D W Rusch, J D Lumpe

0800h **SA41A-1595 POSTER** Results from the SOFIE instrument on AIM: **L L Gordley**, M E Hervig, J M Russell, S Bailey, B T Marshall, J C Burton, M J McHugh, L E Deaver, G Paxton, R E Thompson

0800h **SA41A-1596 POSTER** Noctilucent cloud observations at mid-latitudes by lidar: mean state, variability and relation to MSE and temperature: **M Gerding**, J Hoeffner, M Kopp, M Zecha, F Luebken

0800h **SA41A-1597 POSTER** Observations of Noctilucent Clouds by Odin/OSIRIS and AIM/CIPS: **J Gumbel**, S M Bailey, G Baumgarten, S Benze, B Karlsson, J D Lumpe, A W Merkel, C E Randall, D W Rusch, M H Stevens, G E Thomas

0800h **SA41A-1598 POSTER** Polar Mesospheric Cloud Observations from OMI Compared with Coincident MLS Temperature and Water Vapor Measurements: **E P Shettle**, G E Nedoluha, M T DeLand, G E Thomas, J J Olivero, P Levelt

0800h **SA41A-1599 POSTER** On the relationship of polar mesospheric cloud ice water content, particle radius and mesospheric temperature and its use as a parameterization in global climate models: A W Merkel, **D R Marsh**, E J Jensen, A Gettelman

0800h **SA41A-1600 POSTER** Microphysical Studies Of Mesospheric Sulfate Aerosol As PMC Nuclei In WACCM3: **M J Mills**, O B Toon, C E Randall, C Bardeen, B Karlsson, M E Hervig, D R Marsh

0800h **SA41A-1601 POSTER** Polar Mesospheric Summer Echoes Observed at Poker Flat: **R H Varney**, M C Kelley, M J Nicolls, C J Heinselman, R L Collins

SA41B Moscone South: 303 Thursday 0800h
Variation of the Low- and Middle-Latitude Ionosphere During Solar Cycle 23 I

Presiding: **H Kil**, Johns Hopkins University Applied Physics Laboratory; **S England**, UC Berkeley

0800h **SA41B-01** Validating and Tuning Physical Models With Multiple Data Sources (*Invited*): **T J Fuller-Rowell**, M Fedrizzi, M Codrescu, P G Richards

0815h **SA41B-02** The characteristics of the ionospheric asymmetries during the solar cycle 23 (*Invited*): **W Lee**, H Kil, Q Wu, Y Kwak, J Chung, S Cho, J Park

0830h **SA41B-03** LONGITUDINAL VARIATION OF THE ANNUAL AND HEMISPHERIC ASYMMETRIES OF THE LOW-MIDDLE LATITUDE IONOSPHERE: **Y Kwak**, H Kil, S Oh, W Lee, J M Forbes, K Cho

0845h **SA41B-04** Tidal signatures in thermospheric and ionospheric quantities (*Invited*): **H Luhr**, M Rother, B G Fejer, K Haeusler, P Alken

0900h **SA41B-05** More on the O⁺/H⁺ Transition Height at Solar Minimum (*Invited*): **R A Heelis**, W R Coley, A G Burrell

0915h **SA41B-06** Seasonal Differences in the Dusk Equatorial Topside Ionosphere Measured by C/NOFS and DMSP: **M R Hairston**, W R Coley, R A Heelis

0930h **SA41B-07** Morphological study of Equatorial Spread F (ESF) irregularities over Indian region using multi-instrument observations in the descending phase of solar cycle-23 (*Invited*): **S Sripathi**, B Kakad, A K Patra, A Bhattacharyya

0945h **SA41B-08** Coordinated Ground- and Space-based 3-D Electron Density Reconstruction and Plasma Bubble Imaging: **J Comberiate**, E S Miller, L J Paxton, J J Makela, M C Kelley

SPA - Solar and Heliospheric Physics

SH41A Moscone South: Poster Hall Thursday 0800h
Beyond Coronagraphs: Imaging of ICMEs Ushers in New Era in Our Understanding of CME Heliospheric Properties I Posters

Presiding: **A Gonzalez-Esparza**, Universidad Nacional Autonoma de Mexico (UNAM); **D F Webb**, Boston College

0800h **SH41A-1624 POSTER** Interplanetary evolution of fast CMEs and shocks: injection, uncoupling and decay: **P Corona-Romero**, A Gonzalez-Esparza

0800h **SH41A-1625 POSTER** INTERPLANETARY SCINTILLATION RADIO SOURCES DETECTED WITH THE MEXICAN ARRAY RADIO TELESCOPE (MEXART): **J C Mejia Ambriz**, P Villanueva-Hernandez, A Gonzalez-Esparza, E Aguilar-Rodriguez, E Andrade-Mascote, A Carrillo-Vargas

0800h **SH41A-1626 POSTER** PROPAGATION AND EVOLUTION OF THE JUNE 1st 2008 CME IN THE INTERPLANETARY MEDIUM: **T Nieves-Chinchilla**, D A Lamb, J M Davila, A F Vinas, C Moestl, M A Hidalgo, C J Farrugia, O Malandraki, N Dresing, R Gómez-Herrero

0800h **SH41A-1627 POSTER** Kinematics of ICMEs Deduced From Remote Radio Observations: **M J Reiner**, R J MacDowall

0800h **SH41A-1628 POSTER** Interplanetary Evolution of Coronal Mass Ejections and Type II bursts: **A Lara**, A Borgazzi

0800h **SH41A-1629 POSTER** Linking remote imagery of two coronal mass ejections to their in situ signatures at 1 AU: **C Moestl**, **C J Farrugia**, M Temmer, C Miklenic, A Veronig, A B Galvin, M Leitner, H K Biernat

0800h **SH41A-1630 POSTER** Geoeffective CME-driven Shocks: Comparison Between Imaging Data and in-situ Observations: **V Ontiveros**, A Gonzalez-Esparza, A Vourlidas

0800h **SH41A-1631 POSTER** Characteristics of CME Propagation in STEREO HI View: **D E O'Kane**, Y Li, B J Lynch, J G Luhmann

0800h **SH41A-1632 POSTER** Dependence of CME Propagation on Parameters of the Ejecta and Ambient Solar Wind: **Y Li**, B J Lynch, J G Luhmann, D Krauss-Varban, A Thernisien, A Vourlidas, P J MacNeice

0800h **SH41A-1633 POSTER** An MHD 3-D solution to the evolution of a CME observed by the STEREO mission on May 2007: **D B Berdichevsky**, G A Stenborg

0800h **SH43A-06 POSTER** Evolution of CMEs in the Heliosphere at Solar Minimum: **S P Plunkett**, B E Wood, D Odstrcil, P Riley, B J Thompson, A Szabo

0800h **SH41A-1635 POSTER** Sun to 1 AU Propagation of a Slow Streamer-Blowout Coronal Mass Ejection: **B J Lynch**, Y Li, A F Thernisien, E Robbrecht, J G Luhmann, A Vourlidas

0800h **SH41A-1636 POSTER** Determining CME azimuthal properties from stereoscopic heliospheric observations: **N Lugaz**, J N Hernandez, I I Roussev, A Vourlidas

0800h **SH41A-1637 POSTER** The Evolving Flux Rope of the 2008 June 1 CME: **B E Wood**, R A Howard, D G Socker

0800h **SH41A-1638 POSTER** STEREO Heliospheric Imager observations of CME distortion by a structured solar wind: **N P Savani**, M J Owens, A P Rouillard, R J Forsyth, J Davies

0800h **SH41A-1639 POSTER** On the Deflection of CMEs in the Corona: **J Pomoell**, R O Vainio, E Kilpua

0800h **SH41A-1640 POSTER** The 26 April 2008 CME; a Case Study Tracking a CME into the Heliosphere: **D F Webb**, A B Galvin, N Gopalswamy, T A Howard, A A Reinard, B Jackson, C Davis

0800h **SH41A-1641 POSTER** Evidence of unusually cold material inside Coronal Mass Ejections: **S T Lepri**, T Zurbuchen

0800h **SH41A-1642 POSTER** MHD Shocks Driven by Jets/CMEs without Magnetic Flux-Rope Topology and Origin of 3He-Rich SEP Events: **T Zhang**, S Wu, A Tan, A Broaden, M Jadhav

0800h **SH41A-1643 POSTER** Energetic Electron Probes of Magnetic Cloud Topology: **S W Kahler**, S Krucker, A Szabo

0800h **SH41A-1644 POSTER** 4D Modeling of CME Expansion and EUV Dimming Observed with STEREO/EUVI: **M J Aschwanden**

SH41B Moscone South: Poster Hall Thursday 0800h
Coronal Structure, Heating, and Dynamics I Posters

Presiding: **I H Cairns**, University of Sydney; **K L Baldwin**, Naval Research Laboratory

0800h **SH41B-1645 POSTER** Relationship between solar radio type-I and micro-type-III bursts: **K Iwai**, H Misawa, F Tsuchiya, A Morioka

0800h **SH41B-1646 POSTER** OBSERVATIONS OF TYPE III RADIO BURSTS BY THE STEREO/WAVES INSTRUMENTS: **V Krupar**, B Cecconi, O Santolik, M Maksimovic

0800h **SH41B-1647 POSTER** Effects of Spatial Variations in Electron and Ion Temperatures on Coronal Type III Bursts: **B Li**, **I H Cairns**, P A Robinson

0800h **SH41B-1648 POSTER** Effects of Refraction and Scattering on the Solar and Interplanetary Type II and Type III Radio Bursts with Finite Source Sizes: **T Golla**, R J MacDowall

0800h **SH41B-1649 POSTER** Turbulence and Intermittency in the Solar Chromosphere: F Lepreti, K P Reardon, **V Carbone**, A Vecchio

0800h **SH41B-1650 POSTER** Kinematical characterization of intensity fluctuations observed in STEREO EUVI images: 1. On-disk case: **K L Baldwin**, G Stenborg, A Vourlidas, R A Howard

0800h **SH41B-1651 POSTER** Kinematical characterization of intensity fluctuations observed in STEREO EUVI images: II. Off-disk case: **G A Stenborg**, K Baldwin, A Vourlidas, R A Howard

0800h **SH41B-1652 POSTER** Modeling Nonthermal Particles in Simulated Coronal Loops: **C Curme**, H D Winter

0800h **SH41B-1653 POSTER** Role of the Resistive and Thermal Instabilities in Dynamics of Quiescent Prominences: **Z Frank**, M Ryutova, T E Berger, A M Title, T D Tarbell

0800h **SH41B-1654 POSTER** Non-force-free Extrapolation of Coronal Magnetic Field with Applications to Vector Magnetograms: **Q Hu**, A Wang, B Dasgupta, G A Gary, S Wu

0800h **SH41B-1655 POSTER** Coronal Rotation Between 1.5 and 3.5 Solar Radii at Solar Minimum: **S I Jones**, J M Davila

0800h **SH41B-1656 POSTER** 3D simulation of flux emergence from convective zone to corona with BATSRUS: **F Fang**, W B Manchester, W P Abbett, B van der Holst

0800h **SH41B-1657 POSTER** Dynamics of Coronal Streamers: 2.5D MHD simulations with semi-empirical heating and momentum terms: **V Airapetian**, L Ofman, E C Sittler, M Kramar

0800h **SH41B-1658 POSTER** Global simulation of an EIT wave: **J M Schmidt**, L Ofman

0800h **SH41B-1659 POSTER** Observational Constraints of Coronal Non-Thermal Velocities from Statistical Analysis of SERTS 1991-1997 Linewidth Observations: **A J Coyner**, J M Davila

0800h **SH41B-1660 POSTER** 3D Differential Emission Measure of the 2008 Solar Minimum Corona with Dual-Spacecraft EUVI/STEREO Tomography: A M Vasquez, **R A Frazin**

0800h **SH41B-1661 POSTER** Helical relaxed MHD states and astrophysical applications*: **C D Cothran**, W E Amatucci, V S Lukin

0800h **SH41B-1662 POSTER** On the reconstructing the coronal magnetic field from Fe XIII 10747 Å emission line observations: **M Kramar**, H Lin, B Inhester

0800h **SH41B-1663 POSTER** An Assimilative 3-D Model of Coronal Density from Multi-Spacecraft Observations: **F Kamalabadi**, R Hewett, M Butala, R A Frazin

0800h **SH41B-1664 POSTER** Magnetic energy build-up and coronal brightness evolution: **J Lee**, G Barnes, K D Leka, K K Reeves, K E Korreck, L Golub

0800h **SH41B-1665 POSTER** Investigating the Topology of the “Disconnection” of Coronal Holes: **V S Titov**, Z Mikic, J A Linker, S K Antiochos, R Lionello

0800h **SH41B-1666 POSTER** Developing a Thermodynamic MHD Model of the Global Solar Corona with the SWMF: **C Downs**, I I Roussev, N Lugaz, I Sokolov

0800h **SH41B-1667 POSTER** Plasma Heating Rates for a Coronal Mass Ejection on 28 June 2000: **N A Murphy**, J C Raymond, K E Korreck, A A Van Ballegoijen

0800h **SH41B-1668 POSTER** Streamer belt - CME interactions: A case study for 2008: **D A Lamb**, M Kramar, J M Davila

0800h **SH41B-1669 POSTER** Relation between Magnetic Helicity and CME Speed in Source Active Regions: **H Jung**, N Gopalswamy, S Akiyama, S Yashiro

0800h **SH41B-1670 POSTER** Modeling of the Influence that Overlying Magnetic Fields have on the Initiation of Coronal Mass Ejections: **O A Olmedo**, J Zhang

0800h **SH41B-1671 POSTER** Three-dimensional Simulation Study of the Solar Eruption on 2006 December 13: **K Kusano**, D Shiota, S Inoue, T T Yamamoto

0800h **SH41B-1672 POSTER** The Evolution of Prominence Mass and its Relation to CMEs: **H R Gilbert**, H Xie, C St. Cyr, D Alexander

0800h **SH41B-1673 POSTER** The effect of heat conduction on the coronal mass ejection propagation: **B van der Holst**

0800h **SH41B-1674 POSTER** Flux Emergence: Simulating Conditions That Produce Coronal Mass Ejections: **W B Manchester**, B van der Holst, F Fang

0800h **SH41B-1675 POSTER** Fluxon modeling of breakout CMEs: **L A Rachmeler**, C E DeForest, C R DeVore, S K Antiochos

0800h **SH41B-1676 POSTER** Electromagnetic radiation by linear mode conversion of Langmuir waves at oblique density inhomogeneities: **P A Robinson**, E Kim, I H Cairns

SH41C Moscone South: 301 Thursday 0800h
Half a Century of Collisionless Shock Physics: Open Questions and Recent Progress II (*joint with SM*)

Presiding: **R von Steiger**, Intl Space Science Inst; **L Ofman**, Catholic University of America

0800h **SH41C-01** The Multi-Scale Nature of Collisionless Shocks in Plasmas (*Invited*): **R Sagdeev**

0830h **SH41C-02** Low Mach Number Collisionless Shocks in the Interplanetary Plasma Laboratory (*Invited*): **C T Russell**, L Jian, X Blanco-Cano, J G Luhmann

0900h **SH41C-03** Energy Redistribution at Shocks: Known and Unknown (*Invited*): **M Balikhin**, M Gedalin

0930h **SH41C-04** Accelerated particles and hydromagnetic waves at co-rotating shocks: **E J Smith**, X Zhou

0945h **SH41C-05** Observational Signatures of Thermal and Suprathermal Ion Acceleration at CME-Driven Interplanetary Shocks: **M I Desai**, C W Smith, M A Lee, M A Dayeh, G M Mason

SPA - Magnetospheric Physics

SM41A Moscone South: Poster Hall Thursday 0800h
Relationship Between Auroral Phenomenology and Magnetospheric Processes I Posters (*joint with SA*)

Presiding: **E F Donovan**

0800h **SM41A-1677 POSTER** Comparison of Medium Frequency Burst Generation Theories: **N L Bunch**, J W Labelle, A T Weatherwax, P H Yoon

0800h **SM41A-1678 POSTER** Space Technology 5 Multipoint Observations of Transpolar Arc Related Field-aligned Currents: **J A Cumnock**, G Le, S M Imber, J A Slavin

0800h **SM41A-1679 POSTER** New Observational Constraints on Theories of Auroral Arc Generation: N McGuffin, **E Donovan**, E Spanswick, D J Knudsen, R Rankin, G Baker, V M Uritsky, B J Jackel, K Barnetson

0800h **SM41A-1680 POSTER** Using Optical and Riometer Observations to Study the Relationship Between the Spatio-temporal Evolution of Magnetic Field Topology and Dispersionless Electron Injection: **E Donovan**, E Spanswick, J Liang, B J Jackel, W Liu, K Kabin, R Rankin

0800h **SM41A-1681 POSTER** Vertical Plasma Flow in Auroral Boundary Coordinates for 1997: **R J Redmon**, W K Peterson, L Andersson, E A Kihn, W F Denig

0800h **SM41A-1682** POSTER Mapping energy flux of precipitating particles and comparing to ground observations: **C E Gabrielse**, V Angelopoulos, M Kubyshkina, E L Spanswick, E Donovan, H U Frey, J P McFadden, D E Larson, K Glassmeier, S B Mende, C T Russell

0800h **SM41A-1683** POSTER Pi 2 Pulsations observed at the FM-CW Radar and MAGDAS station: **A Ikeda**, K Yumoto, T Uozumi, M Shinohara, K Nozaki, A Yoshikawa, V Bychkov, B Shevtsov

0800h **SM41A-1684** POSTER Analysis of auroras caused by precipitation of high energy electrons: **C Lee**, J Lee, K Min, G K Parks, M O Fillingim, K Cho, K Kim, W Han, J Edelstein

0800h **SM41A-1685** POSTER Multi-point observations of large-amplitude electric fields during substorms obtained by THEMIS: **K Ogasawara**, Y Kasaba, Y Nishimura, T Hori, T Takada, Y Miyashita, V Angelopoulos, J W Bonnell, J P McFadden

0800h **SM41A-1686** POSTER THEMIS ground-space observations during the development of auroral spirals: **A Keiling**, V Angelopoulos, S B Mende, J P McFadden, D E Larson, J M Weygand, O Amm, E Spanswick, E F Donovan, K Glassmeier, U Auster

0800h **SM41A-1687** POSTER Ground-based and satellite observations of substorm onset features: **T Chang**, C Z Cheng, C CHIANG, S W Tam, A B Chen, R Hsu, H Su

0800h **SM41A-1688** POSTER A Statistical Study of Pulsating Aurora using THEMIS All-sky Ground Imagers: **K M Rychert**, S Jones, M Lessard, E F Donovan, E L Spanswick

0800h **SM41A-1689** POSTER Auroral Feature Detection by combined Image Segmentation and Clustering Analysis: **P Guio**, N A Achilleos, R Prange

0800h **SM41A-1690** POSTER LANDAU DAMPING AND GROWTH OF PROTON-CYCLOTRON TURBULENCE BY THE ELECTRON DISTRIBUTION FUNCTION IN DOWNWARD AURORAL-CURRENT REGIONS: **J R Jasperse**, B Basu, E J Lund, N Grossbard

0800h **SM41A-1691** POSTER Evaluation of Revised Segmenter Performance in Aurora Image (UVI) On-Line Search Tool via Analysis of 26-27 August 1998 Storm: **T Newman**, M L Joshi, G A Germany, B A Wood

0800h **SM41A-1692** POSTER SKR variable periods: investigation of north/south fluctuations from short to long-term time scales: L Lamy, P M Zarka, **B Cecconi**

0800h **SM41A-1693** POSTER A Direct Encounter with a VLF Saucer Source Region?: **R Kabirzadeh**, D J Knudsen, S R Bounds, J H Clemmons, R F Pfaff, D D Wallis

0800h **SM41A-1694** POSTER Flickering aurora studies using high speed cameras: **M G McHarg**, H C Stenbaek-Nielsen, M Samara, R Michell, D L Hampton, R K Haaland

0800h **SM41A-1695** POSTER Plasma Sheet Thickness During A Bursty Bulk Flow Reversal: **E Panov**, R Nakamura, W Baumjohann, V A Sergeev, A A Petrukovich, V Angelopoulos, M Volwerk, A Retino, T Takada, K Glassmeier, J P McFadden, D E Larson

0800h **SM41A-1696** POSTER Polar and FAST spacecraft measured evolution of time varying, field aligned Poynting flux and FAST electron kinetic energy flux during major geomagnetic storms in the inner magnetosphere: **S A Thaller**, J R Wygant, J P Dombeck, Y Nishimura, L Dai, A Hamre, C A Cattell, F Mozer, C T Russell

0800h **SM41A-1697** POSTER Propagation of Kinetic Alfvén Waves at the Plasma Sheet Boundary Layer: **R L Lysak**, Y Song, C L Waters, M D Sciffer

0800h **SM41A-1698** WITHDRAWN

0800h **SM41A-1699** POSTER Establishing Connections between Magnetospheric Features and Ionospheric Observations through CCMC simulations: **L Rastaetter**, M M Kuznetsova, M Hesse

0800h **SM41A-1700** POSTER Hilbert-Huang transform and S-transform of geomagnetic pulsations at auroral expansion onset: **R Kataoka**, Y Miyoshi, A Morioka

0800h **SM41A-1701** POSTER Magnetosphere-Ionosphere Coupling in the Harang Region as Observed by FAST: **O Marghitu**, R Karlsson, C Bunesco, B Klecker

0800h **SM41A-1702** POSTER Properties of energy conversion regions observed by Cluster in the plasma sheet: M Hamrin, P Norqvist, **O Marghitu**, S C Buchert, A Vaivads, B Klecker, L M Kistler, I S Dandouras

0800h **SM41A-1703** POSTER A Preliminary Comparison Between SuperDARN Flow Vectors and Equivalent Ionospheric Currents From the GIMA, Greenland, MACCS, THEMIS, CARISMA, and CANMOS Ground Magnetometer Arrays: **M G Kivelson**, O Amm, J M Weygand, W A Bristow, V Angelopoulos, B Beheshti, E S Steinmetz, M J Engebretson, D Murr, A Viljanen, A Pulkkinen, H Gleisner, I Mann, C Russell

SM41B Moscone South: Poster Hall Thursday 0800h
Relationship Between Auroral Phenomenology and Magnetospheric Processes II Posters (joint with SA)

Presiding: **P C Anderson**, University of Texas at Dallas; **M Echim**, Institute for Space Sciences

0800h **SM41B-1704** POSTER CASCADES-II sounding rocket study of auroral poleward boundary intensifications: **M R Mella**, K A Lynch, P M Kintner, E T Lundberg, M Lessard, J W Bonnell, H C Stenbaek-Nielsen, D L Hampton, N V Ivchenko, H Dahlgren, M J Nicolls

0800h **SM41B-1705** POSTER Cascades2: Quantifying Shears in the Auroral Electric Field: B O'Hanlon, **E T Lundberg**, P M Kintner, K A Lynch, M R Mella, M Lessard

0800h **SM41B-1706** POSTER Ground based observations of the Cascades2 sounding rocket ionosphere - characterization and interpretation: **D L Hampton**, H C Stenbaek-Nielsen, H Dahlgren, N V Ivchenko, M J Nicolls, K A Lynch, M R Mella, P M Kintner, E T Lundberg, M Lessard, S Jones

0800h **SM41B-1707** POSTER Sub-keV Electron Signatures Within Pulsating Aurora: **S Jones**, M Lessard, K A Lynch, D Lummerzheim, P M Kintner, E T Lundberg, H C Stenbaek-Nielsen

0800h **SM41B-1708** POSTER Substorm Triggering by New Plasma Intrusion 1: THEMIS All-Sky Imager Observations: **Y Nishimura**, L R Lyons, S Zou, V Angelopoulos, S B Mende

0800h **SM41B-1709** POSTER Substorm Triggering by New Plasma Intrusion 2: Incoherent-Scatter Radar Observations: **L R Lyons**, Y Nishimura, Y Shi, S Zou, H Kim, C J Heinselman, M J Nicolls, V Angelopoulos, K Fornacon

0800h **SM41B-1710** POSTER Substorm Onset by new Plasma Intrusion 3: THEMIS Spacecraft Observations: **X Xing**, L R Lyons, Y Nishimura, V Angelopoulos, D E Larson, C W Carlson, J W Bonnell, U Auster

0800h **SM41B-1711** POSTER Substorm Onset by New Plasma Intrusion 4: SuperDARN-THEMIS ASI-POES Observations: **S Zou**, Y Nishimura, L R Lyons, S B Mende, G J Sofko, N Nishitani, T Hori, K Hosokawa

0800h **SM41B-1712** POSTER Magnetic field fluctuations of THEMIS substorm events: **C Z Cheng**, T Chang

0800h **SM41B-1713** POSTER Pulsating auroras observed by a 30-Hz all-sky imager during the THEMIS-ground campaign on January 2008: **A Nakajima**, K Shiokawa, K Sakaguchi, V Angelopoulos, E F Donovan, J P McFadden, K Fornacon

0800h **SM41B-1714** WITHDRAWN

0800h **SM41B-1715 POSTER** Imaging studies of Jupiter's H3+ infrared aurora: **M B Lystrup**, P Guio, T Satoh, N A Achilleos, J E Connerney

0800h **SM41B-1716 POSTER** Pi1B pulsations observed on the ground and in space by GOES and THEMIS satellites: **M Lessard**, Y Ge, C Mouikis, M J Engebretson, H J Singer

0800h **SM41B-1717 POSTER** Statistical Study of Ducted Propagation Characteristics of ULF Pi1B Pulsations: **M A Young**, M Lessard, M J Engebretson

0800h **SM41B-1718 POSTER** Effects of Ionospheric Thickness on the Ionospheric Feedback Instability, and the Problem of Radar Detection: **R B Cosgrove**, R Doe

0800h **SM41B-1719 WITHDRAWN**

0800h **SM41B-1720 POSTER** Insights into Nightside Auroral Electron Precipitation from FAST Observations Including Evidence of Alfvénic and Inverted-V Acceleration at Low-Latitudes During Large Storms: **J P Dombeck**, C A Cattell, J R Wygant, J P McFadden

0800h **SM41B-1721 POSTER** Radiation of Electrostatic Waves from Shear Alfvén waves: **N Singh**, M Yeladandi, I G Khazanov

0800h **SM41B-1722 POSTER** Locations of Night-side Particle Precipitation Boundaries Relative to R2 and R1 Currents: **S Ohtani**, S Wing, P T Newell, G Ueno, T Higuchi

0800h **SM41B-1723 POSTER** Development of a Two-Dimensional Hybrid-Kinetic Code for Simulations of Low-Altitude Auroral Flux-Tubes: D Sydorenko, **R Rankin**, K Kabin

0800h **SM41B-1724 POSTER** Polar Spacecraft Evidence at 2 Re Geocentric Distance for Alfvénic Poynting Flux as an Energy Source for the Quasi-static Parallel Electric Field Acceleration of Auroral Electrons and Up-flowing Ion Beams in the Auroral Acceleration Region: **J R Wygant**, S A Thaller, C A Cattell, L Dai, R L Lysak, Y Song, F Mozer, G K Parks, M O Fillingim, J D Scudder, C T Russell, J B Sigwarth, A Hamre, G A Germany

0800h **SM41B-1725 POSTER** Temporary and Spatial Variations of Ionospheric Flow Signatures Associated with PBIs and Substorms: **Y Shi**, E Zesta, L R Lyons, S B Mende, H U Frey

0800h **SM41B-1726 POSTER** Observation and Study of Proton Aurora by using Scanning Photometer: **T Mochizuki**, T Ono, A Kadokura, N Sato

0800h **SM41B-1727 POSTER** Temporal development of field-aligned current systems near and within the plasma sheet boundary layer observed by Cluster: **A J Hull**, M Wilber, C C Chaston, J W Bonnell, F Mozer, J P McFadden, M L Goldstein, M O Fillingim

0800h **SM41B-1728 POSTER** Continuous Characterization of Growth Phase Using Ground Optical and Magnetic Data: **M G Connors**, R Lerner, M O Fillingim, B A Hubert, E Donovan

0800h **SM41B-1729 POSTER** Critical Test Of The Directly Driven Current System Concept: **J W Gjerloev**, S Ohtani, R Hoffman

0800h **SM41B-1730 POSTER** Relatively Low-Latitude Wave Aurora and Substorm Cycle Association: **A R Lee**, P T Newell, J W Gjerloev, K Liou

0800h **SM41B-1731 POSTER** Substorm onsets at Churchill, Manitoba, inferred from radiowave emission data: **J W Labelle**, H Dansu, N L Bunch, A T Weatherwax, E L Spanswick, E F Donovan

SM41C Moscone South: 305 Thursday 0800h
Universality in MHD Turbulence: Tools, Theory, and Observations I (*joint with SH, NG*)

Presiding: **W H Matthaeus**, University of Delaware; **P Mininni**, Departamento de Fisica

0800h **SM41C-01** Weak Magnetohydrodynamic Turbulence and Coronal Heating and Acceleration (*Invited*): **M M Velli**, A F Rappazzo

0818h **SM41C-02** When the rubber hits the road: turbulence and intermittencies in Earth's magnetosphere (*Invited*): **W Liu**, V M Uritsky, P Charbonneau, M Valliere-Nollet, L F Morales

0836h **SM41C-03** Universal nature of the outer scales in evolving solar wind magnetohydrodynamic inertial range turbulence as seen by ULYSSES: **S C Chapman**, R M Nicol, E Leonardis

0850h **SM41C-04** Scale-invariance and Anisotropy of small-scale magnetic fluctuations in solar wind turbulence as seen by CLUSTER: B Hnat, **K H Kiyani**, S C Chapman, Y V Khotyaintsev, M W Dunlop, F Sahraoui

0904h **SM41C-05** On the lack of universality in decaying magnetohydrodynamic turbulence: **A Pouquet**, E Lee, P Mininni, M Brachet, D L Rosenberg

0918h **SM41C-06** A comparison of spectral element and finite difference methods for MHD: **D L Rosenberg**, C Ng, A Bhattacharjee, A Pouquet

0932h **SM41C-07** MHD Turbulence in the Magnetotail Plasma Sheet: **M El-Alaoui**, M Ashour-Abdalla, M L Goldstein, R J Walker, R L Richard

0946h **SM41C-08** Scale-Dependent Alignment of Velocity and Magnetic Fluctuations in Anisotropic MHD Turbulence: **C Ng**, A Bhattacharjee, B Bigot, Y Ponty

Study of Earth's Deep Interior (DI)

DI41A Moscone South: Poster Hall Thursday 0800h
Linking Earth's Deep Interior to the Surface Environment III Posters (*joint with MR, PP, S, EP, V, T*)

Presiding: **L Husson**, CNRS

0800h **DI41A-1771 POSTER** Tracing organic and inorganic sources to deep-seated marine interstitial fluids: evidence from iodine and ¹²⁹I/I systematics: **F Scholz**, C Hensen, Z Lu, U Fehn

0800h **DI41A-1772 POSTER** CO₂ lithosphere-asthenosphere degassing beneath the Western Mediterranean: an integrated model arising from petrological and geophysical data: **M Frezzotti**, A Peccerillo, G F Panza

0800h **DI41A-1773 POSTER** Nitrogen isotope geochemistry as a volatile tracer of the deep mantle: insights from Iceland: **K C Prade**, T P Fischer, Z D Sharp, D R Hilton, K Gronvold, E Fueri, S Halldorsson, P H Barry

0800h **DI41A-1774 POSTER** Seismological images of plumes: **H E Smith**, E E Styles, P E Van Keken, S D Goes, J E Ritsema

0800h **DI41A-1775 POSTER** Lower crustal flow and subaqueous Archean continents: **N Flament**, P F Rey, N Coltice, G DROMART, N Olivier

0800h **DI41A-1776 POSTER** Very low term (250 Myr) quantification of the eustasy during Mesozoic - Cenozoic time based on coastal onlap measurement at the tethys and world-scale: **C Robin**, F Guillocheau, B Vrielynck

0800h **DI41A-1777 POSTER** Mantle dynamics of continent-wide tilting of Australia: **L DiCaprio**, M Gurnis, R D Muller

0800h **DI41A-1778 POSTER** Contribution of mantle convection to shifting South American coastlines during the Tertiary: G E Shephard, D Müller, **A J Hale**, S Spasojevic, L Liu, M Gurnis

0800h **DI41A-1779 POSTER** Reconciling Eastern Gondwanaland's Cretaceous subduction history with mantle tomography and borehole data: K J Matthews, **A J Hale**, M Gurnis, D Müller, L DiCaprio

0800h **DI41A-1780 POSTER** Modeling the mechanisms for the 100 Ma plate reorganisation: R L McKeon, **G Morra**, D Müller, M Seton

0800h **DI41A-1781 POSTER** A framework for computing global plate velocities and exploring the parameter space of driving forces: **K C Lewis**, B A Buffett, T W Becker

0800h **DI41A-1782 POSTER** Influence of plate geometry, slabs, and viscosity structure on local and global surface motions: **M G  rault**, T W Becker, B J Kaus, C Faccenna

0800h **DI41A-1783 POSTER** Investigating the influence of plate boundary motion on mantle thermal evolution using 3D convection models: **J P Lowman**, C Stein, S D King, S Trim

0800h **DI41A-1784 POSTER** Influence of lateral viscosity variations on the geoid and other surface observables: T W Becker, **A Ghosh**, S Zhong

0800h **DI41A-1785 POSTER** State of stress and age offsets at oceanic fracture zones and implications for subduction initiation: **M D Johnston**, M D Long, P G Silver

0800h **DI41A-1786 POSTER** A new subduction model in three-dimensional spherical geometry: **M Morishige**, S Honda, P J Tackley

0800h **DI41A-1787 POSTER** Onset of Thermal Convection of a Fluid with Strongly Temperature-dependent Viscosity in a Spherical Shell: **M Kameyama**, H Ichikawa

0800h **DI41A-1788 POSTER** The boundaries of convection: **P E Van Keken**, A B Davaille, J Vatteville, F Touitou

0800h **DI41A-1789 POSTER** On the instability of classic steady-state solutions for mantle convection at low Rayleigh number: **N Flyer**, G B Wright

0800h **DI41A-1790 POSTER** Project MANTIS: A MANTle Induction Simulator for coupling geodynamic and electromagnetic modeling: **C J Weiss**

0800h **DI41A-1791 POSTER** The lithospheric architecture of a Neoproterozoic collision zone in Southern Africa inferred from deep probing magnetotelluric data: **D T Khoza**, A G Jones, M R Muller, R L Evans, M P Miensoopust, M Hamilton, X A Garcia, P Cole, T Ngwisanyi, D Hutchins, S Fourie, H Jelsma, W Pettit, T Aravanis, S J Webb, J Wasborg

0800h **DI41A-1792 POSTER** The PICASSO project: MT Investigation in Southern Spain and Morocco - Results of phase I and outlook on phase II: D Kiyan, **J Schmoldt**, A G Jones, C Hogg, O Rosell

0800h **DI41A-1793 POSTER** Three-dimensional electrical structure Research In Qiangtang Terrane,northern Tibetan Plateau: **X Hu**, D Yang, G Wu, Y Li

DI41B Moscone South: Poster Hall Thursday 0800h
Seismic Anisotropy and Geodynamics I Posters (*joint with MR, S*)

Presiding: **G Hirth**, Brown University; **E Kaminski**, IPG Paris;
K M Fischer, Brown University

0800h **DI41B-1794 POSTER** Lattice and shape preferred orientation of olivine deformed by dislocation-accommodated grain-boundary sliding: **L N Hansen**, M E Zimmerman, D L Kohlstedt

0800h **DI41B-1795 POSTER** Mantle Flow Beneath French Polynesia Deduced from SKS Splitting and P-Polarization at Island and Ocean Bottom Seismic Stations: G Barruol, F Fontaine, D Suetsugu, H Shiobara, H Sugioka, S Tanaka, **G Bokelmann**, D Reymond

0800h **DI41B-1796 POSTER** Upper Mantle Anisotropy: Correlation Between SKS Measurements and Surface Wave Tomography: A W  stefeld, **G Bokelmann**, G Barruol, J Montagner

0800h **DI41B-1797 POSTER** Plastic deformation of polycrystalline MgO up to 1250 K and 65 GPa: **S Merkel**, H Liermann, L M Miyagi, H Wenk

0800h **DI41B-1798 POSTER** Is Upper Mantle Flow Beneath the MELT Region of the East Pacific Rise Truly Asymmetric?: A Joint Study of Short-Period Surface Wave Data and Geodynamic Models: **G Ito**, R Dunn, D W Forsyth

0800h **DI41B-1799 POSTER** Seismic anisotropy and mantle flow beneath northeast China inferred from regional seismic networks: **J Li**, F Niu, B Wang

0800h **DI41B-1800 POSTER** Forward modeling the origin of seismic anisotropy at the base of the mantle: **S Cottaar**, P Cupillard, A K McNamara, B A Romanowicz, H Wenk

0800h **DI41B-1801 POSTER** Whole-mantle P-wave velocity structure and azimuthal anisotropy: **Y Yamamoto**, D Zhao

0800h **DI41B-1802 POSTER** SEISMIC ANISOTROPY ANALYSIS IN THE VICTORIA LAND REGION (ANTARCTICA): **S Salimbeni**, S Pondrelli, S Danesi, A Morelli

0800h **DI41B-1803 POSTER** Distinguishing wedge, slab, and sub-slab anisotropy in the Izu-Bonin-Mariana subduction zone: **J E Hanna**, M D Long, M R Brudzinski

0800h **DI41B-1804 POSTER** Computational Modeling of Rock Fabrics: Implications for Seismic Anisotropy in the Crust: **F M Naus-Thijssen**, A J Goupee, S E Johnson, S S Vel

0800h **DI41B-1805 POSTER** Seismic Velocity Structure in the Earth's Core Below Africa: V Ovtchinnikov, P Kaazik, **D Krasnoshchekov**

0800h **DI41B-1806 POSTER** Deep-source anisotropy revealed by shear-wave splitting results from Ireland: **G Polat**, P W Readman, B M O'Reilly, F Hauser, V Do

0800h **DI41B-1807 POSTER** Mapping the Western Boundary of the North American Continent: Y J Gu, K Kocon, **A Okeler**

0800h **DI41B-1808 POSTER** New constraints on seismic anisotropy along the Dead Sea transform fault: **A Kaviani**, G Rumpker, G Asch

0800h **DI41B-1809 POSTER** An Empirical Approach to Simulating the Development of Various Olivine Fabric and Associated Seismic Anisotropy in Complex Geodynamic Flow Models: **K J Miller**, L G Montesi

0800h **DI41B-1810 POSTER** Long-period Rayleigh wave azimuthal anisotropy in Southern California: **C R Alvizuri**, T Tanimoto

0800h **DI41B-1811 POSTER** Receiver function images of subducted slabs beneath South Korea: **Y Park**, H Yoo, K Kim, M Park

0800h **DI41B-1812 POSTER** Shear-wave splitting observations of mantle anisotropy beneath Alaska: **A K Bellesiles**, D H Christensen, E Entwistle, M Litherland, G A Abers, X Song

0800h **DI41B-1813 POSTER** Anisotropy and Mantle Flow in the Eastern Sierras Pampeanas from Shear Wave Splitting: **F D Wood**, M L Anderson, H J Gilbert, P M Alvarado, R Martino

DI41C Moscone South: Poster Hall Thursday 0800h
Structure and Dynamics of the Earth's Upper Mantle and Transition Zone: The Role of Water I Posters (*joint with MR, S, T, V*)

Presiding: **A Lenardic**

0800h **DI41C-1814 POSTER** Modeling of water-induced thermo-chemical convection in the mantle wedge: **S Honda**, T Gerya, G Zhu

0800h **DI41C-1815 POSTER** Variation of Seismic Velocity Structure and Topical Low Velocity Anomalies near the 660 km Discontinuity: Inference and Observational Uncertainties: **F C Tajima**, K Sigloch, T Nakagawa

0800h **DI41C-1816 POSTER** Cratonic root survival by low olivine water contents at the lithosphere-asthenosphere boundary: evidence from FTIR analyses of Kaapvaal peridotite xenoliths: **A H Peslier**, A B Woodland, M Lazarov

0800h **DI41C-1817 POSTER** Genesis of Pseudotachylytes: Role of Water and Grain-size Reduction: **M R Riedel**

0800h **DI41C-1818 POSTER** STRATIFICATION OF THE EARTH BENEATH AZORES FROM P AND S RECEIVER FUNCTIONS: **M M Silveira**, E Stutzmann, L P Vinnik, S Kiselev, V Farra, I Morais

0800h **DI41C-1819 POSTER** Numerical modeling of subduction parameters' influence on partial melting: **P Arrial**, A Mocquet, O GRASSET, C Guivel, A Bezos

0800h **DI41C-1820 POSTER** Diamond Formation in association with Deep Mantle Dehydration Zones: **B Harte**

0800h **DI41C-1821 POSTER** Electrical resistivity structure in the mantle across the Mariana subduction system: **T Matsuno**, N Seama, K Baba, A D Chave, R L Evans, T Goto, A White, G Boren, A Yoneda, H Utada, G S Heinson, K Suyehiro

0800h **DI41C-1822 POSTER** Hydrous Ringwoodite: Clarifying Defect Mechanisms Through Combined Single-Crystal Refinement, Compressibility, and IR Spectroscopy: **W R Panero**, J R Smyth, S D Jacobsen, D J Frost, D M Reaman, J S Pigott, S Thomas, Z Liu

0800h **DI41C-1823 POSTER** The effect of Non-Stoichiometry on the Stability and Elasticity of Phase D: **B Kiefer**, L Li

0800h **DI41C-1824 POSTER** Large scale deformation of incoming plates before subduction and implications for oceanic plate hydration: A Calahorrano Betancourt, **C R Ranero**, U Barckhausen, C J Reichert, I Grevemeyer

0800h **DI41C-1825 POSTER** Mantle discontinuities around 410 km depth beneath California: L Vinnik, Y Ren, **E Stutzmann**, V Farra, S Kiselev

0800h **DI41C-1826 POSTER** Structurally-Bonded Grain Boundary Water in Forsterite: **L Wang**

0800h **DI41C-1827 POSTER** IR Absorption Coefficients for the Quantification of Water in Hydrous Ringwoodite: **S Thomas**, S D Jacobsen, C R Bina, J R Smyth, D J Frost

Mineral and Rock Physics

MR41A Moscone South: Poster Hall Thursday 0800h
Rock Deformation From Grain Boundaries to Plate Boundaries II Posters (joint with T, S, V, DI)

Presiding: **D S King**, University of Minnesota; **P A Skemer**, Washington University in St. Louis

0800h **MR41A-1828 POSTER** Physico-Mechanical Property Changes Incorporating Revelation Characteristics of Microfractures of Jurassic Granite in Wonju, Korea Due to Freeze-Thaw Weathering: **J Um**, I Woo, H Park

0800h **MR41A-1829 POSTER** Compaction Trends in Carbonate Sediments - Theory and Experiments: **M Prasad**, J V Prajapat

0800h **MR41A-1830 POSTER** Uncertainties in rock pore compressibility and effects on time lapse seismic modeling - An application to Norne field: **A SUMAN**, T Mukerji

0800h **MR41A-1831 POSTER** Preliminary rock physics analysis on Grosmont carbonate formation, Alberta, Canada: **D Hu**, Y Keehm

0800h **MR41A-1832 POSTER** Probing mechanical change due to CO₂ exposure in carbonate sandstone applying Nonlinear Resonance Ultrasound Spectroscopy: **P Le Bas**, P A Johnson, J W Carey, T W Darling

0800h **MR41A-1833 POSTER** Gas Transport Parameters for Landfill Cover Soils: Effects of Soil Compaction and Water Blockages: **P N Wickramarachchi**, S Hamamoto, K Kawamoto, U Nawagamawa, T Komatsu, P Moldrup

0800h **MR41A-1834 POSTER** Interactions Between Rocks and Pore Fluids and Their Effect on Rock Physics Parameters as Measured in CO₂-saturated Zeolites and Sandstones: **D E Dralus**, T Vanorio, G Mavko

0800h **MR41A-1835 POSTER** Effects of anneal, grain size and water content on deformation of olivine at subduction zone conditions: **H Long**, D J Weidner, L Li

0800h **MR41A-1836 POSTER** Experimental Determination of the Osmotic Properties of Sensitive Shales: **E Detournay**, J Sarout

0800h **MR41A-1837 POSTER** Elasticity of Calcium-Alkaline Amphiboles: Revised Properties for Crustal Seismic Models: K B Straughan, N R Castle, **J Brown**

0800h **MR41A-1838 POSTER** Influence of anisotropic viscosity on mantle flow patterns near plate boundaries-- implementation for general, flow-induced olivine texture: D K Blackman, **O Castelnau**

0800h **MR41A-1839 POSTER** Deformation Mechanics of Quartz at a Single Asperity under Hydrothermal Conditions: **S Bakku**, N M Beeler, S Hickman, B Evans

0800h **MR41A-1840 POSTER** Shear Deformation of Wadsleyite in the Rotational Drickamer Apparatus: **J W Hustoft**, T Kawazoe, S Karato, J Ando, Z Jing, K Otsuka, G Amulele, Z Du

0800h **MR41A-1841 POSTER** Deformation experiment on fayalite using deformation-Cubic Anvil, D-CAP 700, with synchrotron X rays: **R S Ohnuma**, E Ohtani, A Suzuki, T Kubo, N Doi, A Shimojuku, T Kato, T Kikegawa

0800h **MR41A-1842 POSTER** HP-HT deformation of olivine: new in-situ insights into P-T dependent creep mechanisms from monochromatic X-Ray Diffraction: **N Hilairet**, Y Wang, T Sanehira, S Mei

0800h **MR41A-1843 POSTER** Gelatins as rock analog in laboratory models: a rheological study and preliminary applications: **F CORBI**, E Di Giuseppe, F Funiciello, G Ranalli, C Faccenna

0800h **MR41A-1844 POSTER** The effect of muscovite on quartz deformation in a two phase, naturally deformed system: **J Gage**, L B Goodwin, B Tikoff

0800h **MR41A-1845 POSTER** Folding Mechanism of a Kilometer-Scale Anticline Inferred from Systematics of Deformed Detrital Phyllosilicate Grains in the Fold Limbs: **E Yeh**, R C Fletcher, D M Fisher

0800h **MR41A-1846 POSTER** Transformation experiment on sodium feldspar using deformation-Cubic Anvil, D-CAP 700, with synchrotron X rays: **N Doi**, T Kato, T Kubo, R S Ohnuma, A Shimojuku, A Suzuki, E Ohtani, T Kikegawa

0800h **MR41A-1847 POSTER** Experimental deformation of natural diabase at high-pressure: implications for the rheology of the lower crust: **E T Goergen**, G Hirth

0800h **MR41A-1848 POSTER** Effect of water on the slip systems in olivine single crystals at high pressure: **J GIRARD**, J Chen, P C Raterron, C W Holyoke

0800h **MR41A-1849 POSTER** Measurements of grain size sensitivity in olivine deformed at high pressure in the deformation DIA: **N A Dixon**, W B Durham, A M Suzuki, S Mei

0800h **MR41A-1850 POSTER** Detecting grain boundaries in deformed rocks using cellular automata approach: **P Gorsevski**, C M Onasch

0800h **MR41A-1851 POSTER** Experimental evidence for hydrologic and mechanical controls on formation of hydraulic fractures in quartz-rich sandstone and siltstone: **M E French**, L B Goodwin, D F Boutt

0800h **MR41A-1852 POSTER** Relating Lattice Preferred Orientation to Deformational Process using Statistical Analysis of Symmetry in Orientation Distribution Space: **C Thissen**, M T Brandon

0800h **MR41A-1853 POSTER** Can Structural Optimization Explain Slow Dynamics of Rocks?: **H Kim**, O Vistisen, J A TenCate
 0800h **MR41A-1854 POSTER** Role of Convective Instabilities in the Evolution of the Oceanic Upper Mantle: **M E Bureau**, E Parmentier
 0800h **MR41A-1855 POSTER** Experimental research on thermal damage of Yingcheng Mine rock salt with ultrasonic wave testing: **J Chen**, H Tang, C Yang
 0800h **MR41A-1856 POSTER** Elastic Plastic Self Consistent (EPSC) Modeling of Plastic Deformation in Fayalite Olivine: **P C Burnley**
 0800h **MR41A-1857 POSTER** Deformation of Wet Polycrystalline Olivine Aggregates at High Confining Pressure: **C W Holyoke**, J GIRARD, P C Raterron, A K Kronenberg
 0800h **MR41A-1858 POSTER** Microstructural observation of naturally deformed antigorite serpentinite: **Y M Urata**, Y Soda, J Ando
 0800h **MR41A-1859 WITHDRAWN**

MR41B Moscone West: 2003 Thursday 0800h
Chemistry and Physics of Planetary Cores I (*joint with DI, V*)

Presiding: **A J Campbell**, University of Maryland; **M J Walter**, University of Bristol

0800h **MR41B-01** In situ investigation of diapirism as a core formation mechanism using high-pressure synchrotron X-ray radiography (*Invited*): **B Chen**, L Gao, K D Leinenweber, Y Wang, J Li
 0815h **MR41B-02** Metallic Liquid Segregation Mechanisms: Texturally-Based Models for Estimating Timescales of Core Formation: **T A Rushmer**, N Petford, P Treloar
 0830h **MR41B-03** EARTH'S CORE FORMATION: NEW CONSTRAINTS FROM SIDEROPHILE ELEMENTS PARTITIONING (*Invited*): **J siebert**, A Corgne, F J Ryerson
 0845h **MR41B-04** Metal-silicate partitioning and the light element in the core (*Invited*): **B J Wood**, J Wade, J Tuff
 0900h **MR41B-05** The light element component of the Earth's core: Constraints from in situ X-Radiography in the LHDAC: **O T Lord**, M J Walter, D Walker, S M Clark
 0915h **MR41B-06** Effect of silicon on the equation of state and crystal chemistry of hcp iron up to 150 GPa and 2500 K: **A Shahar**, Y Fei, A Ricolleau, Y Kuwayama
 0930h **MR41B-07** Behavior of Xenon-iron system under core pressure: **T Yagi**, D Nishio-Hamane, N Sata, T Fujita, T Okada
 0945h **MR41B-08** Paradoxical Planetary Cores: Compositional Stratification and Initial Top-down Solidification are Likely the Norm in Cores from Asteroids to Mercury (*Invited*): **Q Williams**

Seismology

S41A Moscone South: Poster Hall Thursday 0800h
New Views of Ancient Earthquakes II Posters (*joint with T, NH*)

Presiding: **S E Hough**, U.S. Geological Survey; **R G Bilham**, University of Colorado

0800h **S41A-1890 POSTER** Preliminary study on enigmatic synsedimentary cracks in the Lower Cretaceous lacustrine deposits, Jinju Formation, Korea: **H Lee**, I Paik, H Kang, H Kim, J Chun
 0800h **S41A-1891 POSTER** USING IN-SITU CHLORINE-36 COSMONUCLIDE TO RECOVER PAST EARTHQUAKE HISTORIES ON LIMESTONE NORMAL FAULT SCARPS: A REAPPRAISAL OF METHODOLOGY AND INTERPRETATIONS: **L C Benedetti**, A Schlagenhauf, Y Gaudemer, I Manighetti, L Palumbo, I Schimmelpfennig, R C Finkel, K Pou

0800h **S41A-1892 POSTER** Uranium/Thorium Dating and Growth Laminae Counting of Stalagmites Reveal a Record of Major Earthquakes in the Midwestern US: **Z Zhang**, **C Lundstrom**, S Panno, K C Hackley, B W Fouke, B Curry
 0800h **S41A-1893 POSTER** The Frazier Mountain Paleoseismic Site on the Big Bend Portion of the San Andreas Fault, A.D. 1480 to Present: **R Weldon**, K M Scharer
 0800h **S41A-1894 POSTER** Rare Earth Elements reveal past earthquakes on limestone normal faults: **I Manighetti**, E Boucher, C Chauvel, A Schlagenhauf, L Benedetti
 0800h **S41A-1895 POSTER** Earthquake Geology of the Bulnay Fault, Mongolia: **M Rizza**, J R Ritz, C S Prentice, R Vassallo, C Larroque, A Arzhanikova, S Arzhanikov, M Todbileg, J Javkhlan, R Braucher, S Mahan, J Michelot, M Massault
 0800h **S41A-1896 POSTER** HOLOCENE MASS-WASTING EVENTS IN LAGO FAGNANO, TIERRA DEL FUEGO (54°S): IMPLICATIONS FOR PALEOSEISMICITY OF THE MAGALLANES-FAGNANO TRANSFORM FAULT: **D Ariztegui**, **N Waldmann**, J A Austin, F Anselmetti, C Moy, R B Dunbar
 0800h **S41A-1897 POSTER** Slip History of the 1944 Rupture Segment on North Anatolia Fault Near Gerede, Turkey: Constraints on Earthquake Recurrence Models: **K Okumura**, T K Rockwell, S O Akciz, N Wechsler, E M AKSOY, D Ishimura
 0800h **S41A-1898 POSTER** Searching for the buried memory of past strong earthquakes on strike-slip faults: **S Garambois**, I Manighetti, J Malavieille, R M Langridge, T R Davies
 0800h **S41A-1899 POSTER** THE MISSING EARTHQUAKES OF HUMBOLDT COUNTY: RECONCILING RECURRENCE INTERVAL ESTIMATES, SOUTHERN CASCADIA SUBDUCTION ZONE: **J R Patton**, T H Leroy
 0800h **S41A-1900 POSTER** Using the Locations of $M \geq 4$ Earthquakes to Delineate the Extents of the Ruptures of Past Major Earthquakes in Intraplate Regions: **J Ebel**
 0800h **S41A-1901 POSTER** The historical earthquake catalogue of Mt. Etna volcano (Southern Italy): a long-term dataset to investigate local seismotectonics and seismic hazards: **S D'Amico**, R Azzaro, V Castelli, A Mostaccio, L Scarfi, T Tuvè
 0800h **S41A-1902 POSTER** Using seismic hazard techniques to quantify magnitude and frequency of earthquakes impacting river catchments, New Zealand: **N J Litchfield**, W Smith, K R Berryman
 0800h **S41A-1903 POSTER** Probabilistic seismic hazard from historical macroseismic data: an application at the volcanic region of Mt. Etna (Southern Italy): **R Azzaro**, S D'Amico, T Tuvè
 0800h **S41A-1904 WITHDRAWN**
 0800h **S41A-1905 POSTER** A Major Historical Earthquake in the French Pyrenees Revisited using Actual Moderate Size Earthquakes: **F Courboux**, L Honore, A Souriau
 0800h **S41A-1906 POSTER** Epicentral parameter estimation from intensity data of uncertain accuracy: **R G Bilham**, **B Singh**, W M Szeliga, S Hough

S41B Moscone South: Poster Hall Thursday 0800h
Progress in Imaging Earth's Attenuation Structure I Posters (*joint with T*)

Presiding: **T M Hearn**, New Mexico State University; **Y Hwang**, University of Michigan

0800h **S41B-1907 POSTER** Source-size effects on high-frequency spectral decay of seismic ground motions: Observations from an earthquake cluster: **C Lee**, N Hirata, B Huang, W Huang, Y Tsai
 0800h **S41B-1908 POSTER** Attenuation imaging of cross-well data using waveform inversion: **R Kamei**, R G Pratt

0800h **S41B-1909 POSTER** Q of 1Hz Lg Wave and its Coda in Northern Ethiopian Rift Region: **A L Jemberie**

0800h **S41B-1910 POSTER** THE OBSERVABILITY OF MULTIPLY REFLECTED P WAVES Michel Foundotos, Guust Nolet
Geosciences Azur, University of Nice Sophia Antipolis, France: **M Foundotos**, G Nolet

0800h **S41B-1911 POSTER** Variations of attenuation along backarc axis of the SW Okinawa trough: effect of the Eurasian plate: **Y Ko**, B Kuo, S Hung

0800h **S41B-1912 POSTER** Global teleseismic S wave attenuation: **Y Hwang**, J E Ritsema

0800h **S41B-1913 POSTER** Seismic Velocity and Attenuation Structures beneath the Kii Peninsula, Japan: **E Hayami**, J Nakajima, N Umino

0800h **S41B-1914 POSTER** Earth's Structure as the Cause of Frequency-Dependent t^* and Q : **I B Morozov**

0800h **S41B-1915 POSTER** Attenuation and velocity structure in central Mexico: **T Chen**, R W Clayton

0800h **S41B-1916 POSTER** The effects of 3-D anelasticity (Q) structure on surface waves: **Y Ruan**, Y Zhou

0800h **S41B-1917 POSTER** Amplitude and Coda Tomography in Central California: **T M Hearn**

0800h **S41B-1918 POSTER** Study of Spectral Attenuation Laws of Seismic Waves for Michoacán state, México: **R Vazquez Rosas**, J Aguirre, H Mijares Arellano

0800h **S41B-1919 POSTER** Mapping Lateral Pn Attenuation Variation in Asia: **X Yang**, W S Phillips, G E Randall

0800h **S41B-1920 POSTER** S-wave Coda Attenuation and Crustal Shear Wave Anisotropy in the Korean Peninsula: **X He**, T Hong

0800h **S41B-1921 POSTER** Amplification and Attenuation in Southern California Basins Empirically Calculated from the Ambient Seismic Field: **M Denolle**, G Prieto, J F Lawrence, G C Beroza

0800h **S41B-1922 POSTER** Variation in the Seismic Quality Factor Q for the Mississippi Embayment from Spectral Analysis of Reflection Data: **M W Towle**, M Magnani, C A Langston, S P Horton

0800h **S41B-1923 POSTER** Shallow Velocity and Q Structure of Tianjin Basin from P, PP, PPP and Psed: **X Tian**, S Ni, X Zhang, F Wang

0800h **S41B-1924 POSTER** Improving attenuation predictions in heterogeneous porous media using laboratory data: **Y Masson**, S R Pride

0800h **S41B-1925 POSTER** A New Interpretation on the Scattering Origin of Seismic Coda: **Y Zeng**, Y Jing

0800h **S41B-1926 POSTER** Refining the 3D seismic velocity and attenuation models for Katmai National Park, Alaska: **R A Murphy**, C H Thurber, S G Prejean

S41C Moscone South: Poster Hall Thursday 0800h
Structure of the Crust and Lithosphere I Posters (joint with T, V)

Presiding: **P Arroucau**, The Australian National University;
G S Franca, Universidade de Brasília

0800h **S41C-1927 POSTER** A surface wave reflector in Southwestern Japan: **S Mak**, K Koketsu, H Miyake, K Obara, S Sekine

0800h **S41C-1928 POSTER** Waveform through the subducted plate under the Tokyo region in Japan observed by a ultra-dense seismic network (MeSO-net) and seismic activity around megathrust earthquakes area: **S Sakai**, K Kasahara, K Nanjo, S Nakagawa, H Tsuruoka, Y Morita, A Kato, T Iidaka, N Hirata, T Tanada, K Obara, S Sekine, E Kurashimo

0800h **S41C-1929 POSTER** Imaging Mt. Fuji with receiver functions: **S Miyabayashi**, T Igarashi, Y Aoki, M Takeo

0800h **S41C-1930 POSTER** P- and S-wave velocity model along KCRT2004 refraction and wide-angle reflection profile in the southern Korean peninsula: **H Cho**, C Baag, J M Lee, W M Moon, H Jung, K Kim

0800h **S41C-1931 POSTER** Preliminary Interpretation of the crustal wide-angle reflection and refraction experiment along a 300 km survey line of NW-SE direction in South Korea: the Gangwha-Yeongdeok line: **M Choi**, C Baag, J M Lee, H Jung, K Kim, H Cho

0800h **S41C-1932 POSTER** 1D velocity structure beneath broadband seismic stations in the Gyeongsang Basin and the Okcheon Fold Belt of Korea by receiver function analysis: **S Park**, J M Lee, T Kang, S Han

0800h **S41C-1933 POSTER** Unraveling the Conrad Discontinuity in the Crust of a Paleo-collision Zone: **D Chi**, X He, T Hong

0800h **S41C-1934 POSTER** Discovery of Geophysical Anomaly in the West Sea of South Korea: **K Cho**, J Gwak, S Yu

0800h **S41C-1935 POSTER** Estimation of S-Wave Velocity Structure at Taichung Area, Taiwan, Using Array Records of Microtremors: **H Huang**, C Hsu

0800h **S41C-1936 POSTER** S-Wave Velocity Structure of the Puli Basin, Taiwan, Using the Array Records of Microtremors: **C Wu**, H Huang

0800h **S41C-1937 POSTER** Seismic anisotropy beneath the southern Nepal-North India- Himalayas-Tibet collision zone: **G Herquel**

0800h **S41C-1938 POSTER** Receiver function studies of Northern Sumatra: T Volti, **A Gorbato**

0800h **S41C-1939 POSTER** Love and Rayleigh wave phase velocity maps of New Zealand obtained via cross-correlation of ambient seismic noise: preliminary estimates of radial anisotropy: Y Behr, J Townend, M K Savage, **S C Bannister**

0800h **S41C-1940 POSTER** Rayleigh wave group tomography in southeast Australia and Tasmania from cross-correlation of the ambient noise wavefield recorded with WOMBAT, a rolling array experiment: **P Arroucau**, N Rawlinson, M Sambridge, A M Reading

0800h **S41C-1941 POSTER** AusMoho: A new Moho map of the Australian Continent: **M Salmon**, E Saygin

0800h **S41C-1942 POSTER** Pn Tomography of the Uppermost Mantle Beneath South Africa: **K Wittig**, T Ryberg

0800h **S41C-1943 POSTER** Structure and Anisotropy of Southern Africa's Lithosphere: Constraints From Broad-band Surface-Wave Dispersion: **J Adam**, S Lebedev

0800h **S41C-1944 POSTER** Use of High-Frequency Teleseismic Receiver Function to estimate upper crust discontinuities in the Borborema Province, NE Brazil: C G Pavao, **G S Franca**, A do Nascimento, J M Ferreira

0800h **S41C-1945 POSTER** Peru Subduction Experiment (PERUSE) Preliminary results of Gravity measurements, Earthquake locations and Regional Seismicity in Southern Peru: **E J Foote**, P M Davis, R Guy, M L Lukac, H S Feng, R W Clayton, K E Phillips, S Skinner, L Audin, H Tavera, V Aguilar

0800h **S41C-1946 POSTER** High resolution receiver function Images of the lithosphere beneath the Central Andes between 19° and 24° S using data of Integrated Plate boundary Observatory Chile (IPOC): **F Sodoudi**, G Asch, R Kind, O Oncken, J Vilotte, S E Barrientos, P Salazar Reinoso

0800h **S41C-1947 POSTER** Poisson's Ratio of the Upper Crust Beneath Montserrat: **A J Young**, V Miller, C Ammon, B Voight, V Bass

0800h **S41C-1948** POSTER Studying propagation of seismic waves across the Valley of Mexico from correlations of seismic noise: **D N Rivet**, M Campillo, N M Shapiro, S Singh, V M Cruz Atienza, L Quintanar, C Valdés

0800h **S41C-1949** POSTER AN APPLICATION OF CROSS-CORRELATION OF RANDOM FIELDS TO VOLCAN DE COLIMA, MÉXICO: **T Domínguez**, M Rodríguez, M E West

0800h **S41C-1950** POSTER The Deep Crustal Seismic Structure of Colima Volcano, Mexico: **M Gardine**, M E West, T Domínguez

0800h **S41C-1951** POSTER A feature illustration and application of azimuthal P receiver function patterns: C Eckhardt, **W Rabbel**

0800h **S41C-1952** POSTER The effect of variations in arrival angle on surface wave phase velocity models: observations and improvements: **A E Foster**, G Ekstrom, V Hjørleifsdóttir

0800h **U51C-0037** POSTER Crustal thickness and velocity structure of the Colorado Rockies from CREST and Transportable array data: **S M Hansen**, J C Stachnik, K G Dueker

0800h **S53A-1480** POSTER SEISMIC VELOCITY STRUCTURE OF THE CALABRIAN ARC SUBDUCTION SYSTEM (SOUTH ITALY) AND RELATIONSHIPS BETWEEN DEEP AND SHALLOW DYNAMICS: **C Totaro**, B Orecchio, D Presti, I Guerra, G Neri

S41F Moscone West: 2007 Thursday 0845h
Earthquake Swarms, Seismicity, and Tectonics in the Columbia Basin, Washington (joint with T, NH)

Presiding: **J S Gombert**, US Geological Survey; **A Rohay**, Pacific Northwest Natl Lab

0845h **S41F-01** The Yakima Fold and Thrust Belt – a paradigm for active shortening in the Columbia embayment from Pasco to the Pacific Ocean (*Invited*): **R E Wells**, R J Blakely, B L Sherrod, C S Weaver

0900h **S41F-02** Which Yakima folds are most likely to sustain an earthquake? (*Invited*): **R S Yeats**

0915h **S41F-03** A Tale of Two Seismic Swarms: Implications for different forcing mechanisms (*Invited*): **W A Thelen**, J S Gombert, P Bodin, R Hartog, A Wright, A Rohay

0930h **S41F-04** InSAR measurement of surface deformation at the Hanford Reservation associated with the 2009 Wooded Island earthquake swarm (*Invited*): **C W Wicks**, J S Gombert, C S Weaver

0945h **S41F-05** Ground Motion Amplitudes from the Wooded Island Earthquake Swarm, Hanford, Washington: **A Rohay**

S41D Moscone West: 2007 Thursday 0800h
Normal Modes (joint with DI)

Presiding: **J Chang**, Saint Louis University; **X Hu**, Institute of Geodesy and Geophysics

0800h **S41D-01** Observation of the seismic anisotropy effects on free oscillations below 4 mHz: **X Hu**, L Liu

0815h **S41D-02** Search for the 1S1 Slichter mode using the 2004 Sumatra earthquake: **J Chang**, L Zhu, D J Crossley

0830h **S41D-03** Free oscillations of the Earth and seismic waves detected using pore pressure monitoring: **T Yanagidani**, Y Kano

S41E Moscone West: 2005 Thursday 0800h
Topography Effects in Ground Motion Predictions: From Numerical Modeling to Engineering Design I (joint with NH, NS)

Presiding: **D Assimaki**, Georgia Institute of Technology; **A K Yong**, US Geological Survey

0800h **S41E-01** Effects of surface topography on seismic ground motion: recent results, remaining issues and needs. (*Invited*): **P Bard**, E O Chaljub

0815h **S41E-02** Realistic Topography effects on Seismic-Wave Propagation: An Example from Taiwan (*Invited*): **S Lee**, D Komatitsch, Y Chan, B Huang, J Tromp

0830h **S41E-03** TOPOGRAPHIC SITE RESPONSE AT HARD ROCK SITES: **A K Yong**, S E Hough

0845h **S41E-04** LOW VELOCITY ZONE AND TOPOGRAPHY AS A SOURCE OF SITE AMPLIFICATION EFFECT ON TARZANA HILL, CALIFORNIA: **V Graizer**

0900h **S41E-05** A Study of Frequency-Dependent Seismic Wave Amplifications due to Topography Effects: **V K Hermann**, M Kaeser, J M Wassermann

0915h **S41E-06** Effects of Topography and Geology on Shaking Damage to Wood Frame Residential Structures During the 2003 San Simeon Earthquake, Western San Luis Obispo County, California: **T P McCrirk**, C J Wills, C R Real, M W Manson

0930h **S41E-07** EXPERIMENTAL AND NUMERICAL APPROACHES OF TOPOGRAPHIC SITE EFFECTS CLAIMED TO BE RESPONSIBLE FOR 1909 PROVENCE EARTHQUAKE DAMAGE DISTRIBUTION: **A Duval**, E Bertrand, J Régner, E Grasso, J Gance, N Glinsky, J Semblat

0945h **S41E-08** Topographic Effects on Ground Motion at Santiaguito Volcano, Guatemala: **J Anderson**, J M Lees, J B Johnson, G P Waite

Tectonophysics

T41A Moscone South: Poster Hall Thursday 0800h
Brittle Deformation of Solids and Granular Materials I Posters (joint with MR, NG, S)

Presiding: **Y Ben-Zion**, University of Southern California; **C G Sammis**, Univ Southern California

0800h **T41A-1984** WITHDRAWN

0800h **T41A-1985** POSTER Distinct Asymmetry in Rupture-Induced Inelastic Strain Across Dipping Faults: A Prediction Based on the Mohr-Coulomb Yield Criterion: **S Ma**

0800h **T41A-1986** POSTER Experiments on granular rheology: effects of particle size and fluid viscosity: **I Sumita**, N Higashi

0800h **T41A-1987** POSTER Dynamic Strength Variation of Laboratory Faults at Slip Velocities up to 1 m/s: **D A Lockner**, Z Reches

0800h **T41A-1988** POSTER Scaling of the Critical Slip Distance in Granular Layers: **T Hatano**

0800h **T41A-1989** POSTER Acoustic Emissions and Damage during the Brittle/Ductile Transition and Dehydration of Gypsum: **N Brantut**, A J Schubnel, Y Gueguen

0800h **T41A-1990** POSTER Experimental investigation of asymmetric pulverization along the Arima-Takatsuki fault: G Gary, **M Doan**, T M Mitchell

0800h **T41A-1991** POSTER Jay Melosh was right! Earthquake acoustics can trigger fault rupture: **M J McSaveney**, T R Davies

0800h **T41A-1992** POSTER Localization of Strain and Rate/State Friction: **A P Rathbun**, C Marone

0800h **T41A-1993** POSTER Is low-angle normal fault slip aided by local stress rotations?: Assessment of paleostress inversion methods: **A L Luther**, G J Axen, J Selverstone, N Khalsa

0800h **T41A-1994 POSTER** Collateral Damage: How Damage Zone Fracture Density Profiles Reflect Slip Distribution: **H M Savage**, E E Brodsky

0800h **T41A-1995 POSTER** Analysis of Fault Slip Behavior Based on Nondimensional Control Parameters: **T Suzuki**, T Yamashita

0800h **T41A-1996 POSTER** Mathematical and numerical analysis of non-planar static mode-II crack in a two-layered medium: **S Hirano**, T Yamashita

0800h **T41A-1997 POSTER** Time-dependent Brittle Creep in Rock: The Influence of Confining Pressure and Temperature: P G Meredith, **M J Heap**, P Baud, A F Bell, I G Main

0800h **T41A-1998 POSTER** Numerical modeling of fold-and-thrust belts: Applications to Kuqa foreland fold belt, China: **H Yin**, J K Morgan, J Zhang, Z Wang

0800h **T41A-1999 POSTER** A non-conventional seismogenic layer in Northern Apennines (Italy): laboratory investigations of physical and elastic properties of the Triassic Evaporites: **F Trippetta**, C Collettini, S Vinciguerra, P G Meredith

0800h **T41A-2000 POSTER** Characterizing Damage Evolution and Yield in Sandstone Under Triaxial Loading as a Function of Changing Effective Pressure: **R C Choens**, F M Chester

0800h **T41A-2001 POSTER** To branch or not to branch: Numerical modeling of dynamically branching faults: **N L Dedontney**, E L Templeton Barrett, J R Rice, R Dmowska

0800h **T41A-2002 POSTER** Characterization of frictional heating, mechanical behavior, and microstructure evolution of Punchbowl Fault ultracataclasite sheared at seismic slip rates: Implications for dynamic weakening mechanism: **H Kitajima**, J S Chester, F M Chester, T Shimamoto

0800h **T41A-2003 POSTER** Design of new frictional testing machine for shallow fault materials: O Tadai, **W Tanikawa**, T Hirose, M Sakaguchi, W Lin

0800h **T41A-2004 POSTER** Dynamic Deformation and Collapse of Granular Columns: K Uenishi, K Tsuji, **S Doi**

T41B Moscone South: Poster Hall Thursday 0800h
From Subduction to Collision, With Recent TAIGER and Other Results I Posters (*joint with S*)

Presiding: **D A Okaya**, Univ Southern California

0800h **T41B-2005 POSTER** High Resolution Taiwan Moho Discontinuity Reference Model: **H Chen**, K Syu, H Wang, Y Duan, L Zhu

0800h **T41B-2006 POSTER** Imaging Taiwan Moho Discontinuity from Receiver Function Inversion, Analysis and Migration: **H Wang**, H Chen, L Zhu, Y Duan

0800h **T41B-2007 POSTER** Moho Depth and Crustal Structure across the Chaochou Fault, South of Taiwan from Teleseismic Receiver Functions: **C Tang**, L Zhu, C Chen, T Teng

0800h **T41B-2008 POSTER** Detecting Moho Boundary under Taiwan with Wide-angle Data by Ray-tracing Method – The TAIGER Project: **Y N Kuo**, C Wang, D A Okaya

0800h **T41B-2009 POSTER** Crustal Structure of Taiwan Revealed by Seismic Traveltimes from TAIGER Active-Source Experiments: **Y Lin**, L Zhao, S Hung

0800h **T41B-2010 POSTER** Precisely relocated seismicity using 3-D seismic velocity model by double-difference tomography method and orogenic processes in central and southern Taiwan: **S Nagai**, Y Wu, J Suppe, N Hirata

0800h **T41B-2011 POSTER** Seismic velocity structure of the Eurasian margin of the southern Taiwan Strait: **H J Van Avendonk**, W Lester, K D McIntosh, C Lee, T K Wang, F T Wu, C Liu

0800h **T41B-2012 POSTER** Collaborative Taiwan-USA Seismic Onshore-Offshore Imaging of Arc-Continent Collision under Taiwan: **D A Okaya**, C Wang, Y N Kuo, H Yen, B Huang, W Liang, M Shih, S Wen, F T Wu

0800h **T41B-2013 POSTER** Multi-component reflection survey with MEMS accelerometer for Vp/Vs estimation across the Kitakami Lowland, Northeast Japan: **K Shiraishi**, S Abe, H Saito, H Sato, S Koshiya, N Kato, T Kawanaka

0800h **T41B-2014 POSTER** Three dimensional Qp- and Qs-Tomography beneath Taiwan Orogenic Belt: Implication to the Tectonic and Thermal Structure: **Y Wang**, K Ma, F Mouthereau, D M Eberhart-Phillips

0800h **T41B-2015 POSTER** First results from OBS modelling of the ACTS wide-angle seismic profile offshore Taiwan: **F Klingelhoefer**, S Lallemand, C Lee, P Schnürle, C Liu, K D McIntosh, H J Van Avendonk, F T Wu, Y Font, T Theunissen

0800h **T41B-2016 POSTER** A New Passive Seismic tomography of the Southernmost Ryukyu forearc area (Eastern Taiwan): **S Gautier**, T Theunissen, Y Font, S Lallemand, W Liang

0800h **T41B-2017 POSTER** A Preliminary OBS Data Analysis in the Luzon Arc: **H Wu**, H Chen, C Liang, C Lee, T Wang

0800h **T41B-2018 POSTER** OBS analysis in the structures of northern part of South China Sea: **M Chiu**, T Wang, C Lee

0800h **T41B-2019 POSTER** A Preliminary OBS analysis in the East of Taiwan Region: **L Wang**, H Tsai, C Lee

0800h **T41B-2020 POSTER** 3D absolute earthquake location in subduction zone using MAXI method: Application to the Ryukyu Subduction (Taiwan): **T Theunissen**, Y Font, S Gautier, S Lallemand, W Liang

0800h **T41B-2021 POSTER** Historical Instrumental seismicity (1900-2008) off Eastern Taiwan: New catalog and special emphasis on M7.7 1920 event: Y Font, **T Theunissen**, S Lallemand, A Villasenor, W Liang

T41C Moscone South: Poster Hall Thursday 0800h
From Subduction to Collision, With Recent TAIGER and Other Results II Posters (*joint with S*)

Presiding: **J Malavieille**, Université Montpellier 2

0800h **T41C-2022 POSTER** New insights into accretionary prism development and deformation in the pre-arc-continent-collision transition zone offshore Taiwan: **D H Eakin**, K D McIntosh, H J Van Avendonk, S Hsu, C Liu

0800h **T41C-2023 POSTER** A Preliminary OBS Data Analysis in the West Philippine Basin: **W Lai**, W Huang, C Lee

0800h **T41C-2024 POSTER** New topographic and geophysical maps in the southwesternmost Ryukyu area give the key to understanding the role of the Ryukyu trench-arc-backarc system towards the Taiwan orogeny: **T Matsumoto**, R Shinjo, M Nakamura, S Tu, C Liu

0800h **T41C-2025 POSTER** New insights on the tectonics of northwestern West Philippine Basin: **W Doo**, S Hsu, C Tsai, Y Yeh, C Chang

0800h **T41C-2026 POSTER** Crustal structure of the pre-collision passive margin from seismic reflection imaging offshore southwest Taiwan: **W R Lester**, K D McIntosh, C Liu, F T Wu

0800h **T41C-2027 POSTER** Sediment dispersal and tectonic accommodation in the Gaoping Slope, Southwestern Taiwan: **H Hsu**, C Liu

0800h **T41C-2028 POSTER** Distribution and Development of Mud Diapirs Offshore Southwestern Taiwan: **C Ko**, C Liu

0800h **T41C-2029 POSTER** Deep crustal structures across the Manila subduction zone between Taiwan and Luzon: **C Ku**, S Hsu, Y Yeh, C Tsai

0800h **T41C-2030 POSTER** Curie point depth and magnetic basement map based on the magnetic anomaly data in Taiwan: **H Hsieh**, H Yen

0800h **T41C-2031 POSTER** Time Dependant BSR Occurrence Offshore Taiwan After an Earthquake: **L Chen**, W Chi

0800h **T41C-2032 POSTER** Crustal structure of the Izu Collision zone, central Japan, revealed by dense seismic array observations:

E Kurashimo, H Sato, S Abe, N Kato, M Ishikawa, K Obara

0800h **T41C-2033 POSTER** OBLIQUE AND ANOMALY MARGIN COLLISION OF NORTH QILIAN OROGENIC BELT, CHINA: EVIDENCE FROM U-PB AGES OF DETRITAL ZIRCONS FROM THE LATE ORDOVICIAN-DEVONIAN SANDSTONES: **Y S Du**, J H Yang, Y J Xu, D Wu

0800h **T41C-2034 POSTER** A DANGLING SLAB AND ARC-NORMAL EXTENSION: THE CASE OF KAMCHATKA, RUSSIA: **A Kozhurin**

0800h **T41C-2035 POSTER** Dynamic models of a Taiwan-like orogeny: **N J Downey**, L L Lavier

0800h **T41C-2036 POSTER** An arbitrary Lagrangian-Eulerian formulation for modeling large strain deformations in accretionary wedges in three dimensions: **R Duddu**, V M Calo, L L Lavier

0800h **T41C-2037 POSTER** From oceanic to continental subduction in Taiwan: Dynamics of a growing orogenic wedge: **J Malavieille**, C Lu, K Chang, D Stephane, L Serge

T41D Moscone West: 2011 Thursday 0800h
From East to West: New Views on the Geology and Tectonics of the Himalayan-Tibetan Orogen I (*joint with G, PP, S, EP, V*)

Presiding: **C J Warren**, The Open University; **J M Cottle**, University of California Santa Barbara

0800h **T41D-01** The Pakistan Himalaya: Tectonics at the NW corner of exposed Indian continental crust (*Invited*): **J A DiPietro**

0815h **T41D-02** Geology of the Kohistan-Ladakh arc and its relation to the main Himalayan belt: **O E Jagoutz**, P Bouilhol, R Upadhyay

0830h **T41D-03** Controls on the architecture of the Himalayan thrust belt, NW India: **D M Robinson**, S K Paul, J A Chambers, M J Kohn

0845h **T41D-04** Eocene stabilization and Miocene incision of Tibetan Plateau Remnants in the Northwest Himalaya: **P Van Der Beek**, J Van Melle, S GUILLOT, A Pêcher, P W Reiners, P G Valla, M Latif

0900h **T41D-05** The Structure of the colliding plates beneath Tibet (*Invited*): **R Kind**, J Zhao, X Yuan, Z Zhang, P Kumar

0915h **T41D-06** Middle Miocene kinematic shift in northeastern Tibet from collision-related northward growth to eastward contraction: **R O Lease**, D W Burbank, B G Hough, M K Clark, H Zhang, K A Farley, Z Wang

0930h **T41D-07** Kinematics of the Himalayan arc from GPS geodesy and structural geology: **R Styron**, M H Taylor

0945h **T41D-08** Isotopic Constraints on the Tectonic Architecture of the Eastern Pamir: **A C Robinson**, M N Ducea, G E Gehrels

T41E Moscone West: 2009 Thursday 0800h
Intraplate Deformation and Sedimentary Basins: A Record of Plate Margin Processes? II

Presiding: **L E Webb**, University of Vermont; **C L Johnson**, University of Utah

0805h **T41E-01** Intraplate deformation: the role of rheological heterogeneity and anisotropy of the lithospheric mantle (*Invited*): **A Tommasi**, A Vauchez, S Neves

0825h **T41E-02** 10^{-19} s^{-1} : **P Eichhubl**, S E Laubach, J N Hooker, A Fall

0840h **T41E-03** Tectonic setting of Cretaceous basins in NE Tibet: Insights from the Jinguum basin: **W H Craddock**, E Kirby, J Liu

0855h **T41E-04** Tectonic Setting and Structural Evolution of the Late Cenozoic Gobi Altai Orogen, Mongolia: **W D Cunningham**

0910h **T41E-05** Mesozoic-Cenozoic Reconstruction of the East Gobi Fault Zone, Southern Mongolia: **M J Heumann**, C L Johnson, L E Webb, J P Taylor

0925h **T41E-06** Continental basement inheritance and multiscale rifted ocean margin architectures: case studies from the N Atlantic-Greenland region (*Invited*): **R E Holdsworth**, R Wilson, K J McCaffrey, J Imber, R Jones

0945h **T41E-07** Cainozoic deformation of Iberia: a model for intraplate mountain building and basin development based on analogue modelling: D Sokoutis, **J Fernández-Lozano**, E Willingshofer, G de Vicente, S Cloetingh

Volcanology, Geochemistry and Petrology

V41A Moscone South: Poster Hall Thursday 0800h
A Multidisciplinary Look at Volcanism in Continental and Oceanic Plate Interiors I Posters (*joint with NS, S, T*)

Presiding: **Y Yang**, University of Colorado at Boulder; **A K Tibbetts**, University of Nevada Las Vegas

0800h **V41A-2156 POSTER** Volatile Release from the Siberian Traps Inferred from Melt Inclusions: **B A Black**, L T Elkins-Tanton, M C Rowe, I Ukstins Peate

0800h **V41A-2157 POSTER** Water and Carbon Dioxide Preserved in Crystals of the Deccan Basalts: **S J Seaman**

0800h **V41A-2158 POSTER** Magma siphoning and the mechanics of Large Igneous Province eruptions: **L Karlstrom**, M Manga

0800h **V41A-2159 POSTER** Rates and Durations of Intraplate Melting and Volcanism Caused by Shear-Driven Upwelling: **T A Bianco**, C P Conrad, E I Smith

0800h **V41A-2160 POSTER** Relationship Between Low-Velocity S-wave Anomalies, Asthenospheric Dynamics and Basaltic Volcanism in the Intraplate Setting of the Basin and Range, USA: **A K Tibbetts**, E I Smith, C P Conrad, C Lee, T Plank, Y Yang

0800h **V41A-2161 POSTER** High resolution seismic reflection profiles of Holocene volcanic and tectonic features, Mono Lake, California: **A S Jayko**, P E Hart, M I Bursik, J S McClain, J C Moore, M Boyle, J R Childs, M Novick, D P Hill, M Mangan, S Roeske

0800h **V41A-2162 POSTER** Mushy Magma beneath Yellowstone: **R Chu**, D V Helmerberger, D Sun, J M Jackson, L Zhu

0800h **V41A-2163 POSTER** Comparing Inflation Clefts at the Carrizozo and McCartys Lava Flows, NM, and the 1859 Mauna Loa flow, HI: Differentiating Inflation and Collapse Pits: **J E Bleacher**, W B Garry, J R Zimbelman, L S Crumpler, J C Aubele

0800h **V41A-2164 POSTER** The occurrence of Pliocene to Holocene subalkalic volcanism in an intra-plate setting within the eastern Great Basin: Black Rock Desert volcanic field, Utah, USA: **R L Johnsen**, E I Smith

0800h **V41A-2165 POSTER** Seismic Anisotropy Beneath the Cameroon Volcanic Line from SKS and SKKS Splitting Analysis: **F W Koch**, D A Wiens, A Nyblade, A M Reusch, G G Euler, P Shore

0800h **V41A-2166 POSTER** Constraining Formation Models for the Cameroon Volcanic Line Using Broadband Seismic Data: **A M Reusch**, A Nyblade, D A Wiens, R Tibi, P Shore, G G Euler

0800h **V41A-2167 POSTER** Structure of the Crust Beneath Cameroon (West Africa) From the Joint Inversion of Rayleigh Wave Group Velocities and Receiver Functions: A Tokam, C Tabod, A Nyblade, **A M Reusch**, J Julia, G G Euler, D A Wiens, R Tibi, P Shore, B Ateba

0800h **V41A-2168 POSTER** Evidence for Pleistocene Volcanism Southwest of Cape Farvel I: Seismic Evidence: **G Uenzelmann-Neben**, D N Schmidt, C Marcussen, F Niessen, R H Stein

0800h **V41A-2169 POSTER** Pleistocene Volcanisms South-west of Cape Farewell, Greenland II: Geological Evidence: **D N Schmidt**, G Uenzelmann-Neben, C Marcussen, F Niessen, R H Stein

0800h **V41A-2170 POSTER** Oceanic Intraplate Magmatism Off The Vøring Volcanic Passive Margin, Norway – Constraints On Origin From Seismic Velocity Structure: **A J Breivik**, J I Faleide, R Mjelde

0800h **V41A-2171 POSTER** VOLCANIC SPREADING: FORCING AND FEEDBACK ON THE HYDROTHERMAL SYSTEM, AMIATA VOLCANO, ITALIA: **A Borgia**

V41B Moscone South: Poster Hall Thursday 0800h
Cenozoic Volcanism in Western North America: Plumes, Drips, Extension, and/or Subduction? I Posters (*joint with G, S, T*)

Presiding: **G Humphreys**; **M R Reid**, Northern Arizona University

0800h **V41B-2172 POSTER** On the Contrasts Between Basin and Range and Cascade Magmatism, & the Timing of Cordilleran Lithosphere Degradation: **K D Putirka**, C Busby

0800h **V41B-2173 POSTER** CONTROLS OF EXTENSION ON MIOCENE ARC MAGMATISM IN THE CENTRAL SIERRA NEVADA (CA): **C Busby**, K D Putirka, J C Hagan, A Koerner, B Melossh

0800h **V41B-2174 POSTER** Miocene through Holocene Arc and Post-arc Volcanism in the Northern Sierra Nevada and Western Nevada: **B Cousens**, C D Henry, A Timmermans, A Sylvester, W Wise, J Prytulak, A J Stoffers, V Gupta

0800h **V41B-2175 POSTER** Reestablishment of the Ancestral Cascades Arc in Western Nevada and Eastern California by Rollback of the Shallow Farallon Slab: **C D Henry**, B Cousens, D A John, J P Colgan

0800h **V41B-2176 POSTER** Relation of Volcanism to Crustal Deformation in Klamath Falls, Oregon: Transition from Calc-alkaline Basaltic Andesite to High Alumina Olivine Tholeiite: **G R Priest**, F R Hladky, R B Murray

0800h **V41B-2177 POSTER** Ar-Ar Ages of Lake Tahoe Basalts Confirm Several Eruptions at 2.3 to 2.0 Ma and Establish 0.92 Ma Activity: **W T Kortemeier**, J G Moore, R A Schweickert, A T Calvert

0800h **V41B-2178 POSTER** Segmentation of the Cascades Volcanic Arc Revealed Through Ambient Noise Based Surface Wave Tomography: **R W Porritt**, R M Allen, M P Moschetti, F Lin, M H Ritzwoller, N M Shapiro, M R Brudzinski, D C Boyarko, L O'Driscoll, G Humphreys, Y Zhai, A Levander

0800h **V41B-2179 POSTER** Cenozoic Plume-Slab Interaction Beneath the Pacific Northwest: **M J Obrebski**, R M Allen, S Hung, F F Pollitz

0800h **V41B-2180 POSTER** Newberry Volcano, Oregon: No traveling hot spot is needed: **J M Donnelly-Nolan**

0800h **V41B-2181 POSTER** Chemical and Isotopic Constraints on the Origin of Cenozoic Pacific Northwest Volcanism: **R W Carlson**, W K Hart, T L Grove, J M Donnelly-Nolan, J A Barr, C B Till

0800h **V41B-2182 POSTER** Chemostratigraphy and process modeling of late Pleistocene volcanism along the Arco-Big Southern Butte Volcanic Rift Zone, Eastern Snake River Plain, Idaho: **K E Potter**, S S Hughes

0800h **V41B-2183 POSTER** Crustal thickness and composition beneath the High Lava Plains of Eastern Oregon from teleseismic receiver functions: **K C Eagar**, M J Fouch, D E James, R W Carlson

0800h **V41B-2184 POSTER** Shear wave splitting beneath the High Lava Plains of Oregon: Linking upper mantle dynamics to surface tectonomagmatism: **M D Long**, M J Fouch, D E James

0800h **V41B-2185 POSTER** Detailed 3-D S-wave velocity beneath the High Lava Plains, Oregon, from 2-plane-wave Rayleigh wave inversions: **L S Wagner**, D W Forsyth, M J Fouch, D E James

0800h **V41B-2186 POSTER** Geochemical Evidence for Early to Mid-Cenozoic "Flat-Slab" Subduction Beneath the Western North American Interior: G Farmer, **K F Fornash**

0800h **V41B-2187 POSTER** Prolonged Eocene Magmatism and Assembly of the Caetano Caldera, Cortez Area, Nevada: Inferences from SHRIMP U-Pb Zircon Dating: **D A John**, J P Colgan, C D Henry, J L Wooden

0800h **V41B-2188 POSTER** Impingement of Deep Mantle-Derived Upwelling Beneath Northern, Subducted Extension of the East Pacific Rise and Palinspastically Restored Cenozoic Mafic Magmatism in Western North America: **D B Rowley**, R Moucha, A M Forte, J X Mitrovica, N A Simmons, S P Grand

0800h **V41B-2189 POSTER** Linearity of Mid-Continent Kimberlite-Carbonatite Magmatism, USA: Slab-Edge Focus as Alternative to Hot-Spot Track: **G I Duke**, R W Carlson

0800h **V41B-2190 POSTER** The Link between Hi - Magnesium Andesite Distribution in Baja California Peninsula and the Undetached Fragments of the Farallon Plate: **Y Wang**, D W Forsyth, B Savage

0800h **V41B-2191 POSTER** Direct detection of sharp upper-mantle features with waveform complexity: **D Sun**, D V Helmberger

V41C Moscone South: Poster Hall Thursday 0800h
Oceanic Plateaus Through Time: Formation, Preservation, and Environmental Impacts I Posters (*joint with T*)

Presiding: **A C Kerr**, Cardiff University; **J J Mahoney**, SOEST

0800h **V41C-2192 POSTER** Melt anomalies of the northern Atlantic Ocean basin: **T Wang**, J Lin, B E Tucholke

0800h **V41C-2193 POSTER** The Siquisique basalts and gabbros, Los Algodones, Venezuela: late Cretaceous oceanic plateau formed within the proto-Caribbean plate?: **A C Kerr**, I Neill, F Urbani, R Spikings, T Barry, J Tarney

0800h **V41C-2194 POSTER** Is the Mozambique Ridge related to the Agulhas Plateau Large Igneous Province?: K Gohl, **G Uenzelmann-Neben**, N Parsieglä

0800h **V41C-2195 POSTER** Chemical and U-Pb dating investigation of zircons from alnöites on Malaita, Solomon Islands: evidence for prolonged kimberlite-type magmatic activity: **A Simonetti**, C R Neal

0800h **V41C-2196 POSTER** Construction of an Oceanic Plateau: Stratigraphic and Geochemical Perspectives from the Accreted Triassic Wrangellia Flood Basalts: J S Scoates, **A R Greene**, D A Weis

0800h **V41C-2197 POSTER** Ridge Jumps, Segments Evolution and Accretion Rate Variations on the St-Paul & Amsterdam Plateau in a Context (as a Result?) of Ridge-Hotspot Interaction: **E Courrèges**, I Pessanha, M A Maia, M Patriat, W R Roest, V BRANDON, J Royer

V41D Moscone South: Poster Hall Thursday 0800h
Thermochronology: Diffusion Kinetics in Accessory Minerals
From He to Pb I Posters (*joint with T*)

Presiding: T Blackburn, MIT

0800h **V41D-2198 POSTER** Laser depth profiling of diffusion and alpha ejection profiles in Durango apatite: testing the fundamental parameters of apatite (U-Th)/He dating: **M C Van Soest**, B D Monteleone, J W Boyce, K Hodges

0800h **V41D-2199 POSTER** From Texas to the Northwest Territories: Low temperature history of the North American craton using a radiation damage model for apatite He diffusion: **R M Flowers**, A K Ault, E Wolin, S Kelley, S A Bowring

0800h **V41D-2200 POSTER** Thermal history of the Ecstall, and Butedale plutons: 40Ar/39Ar thermochronology and thermal modeling: **S J Brownlee**, P R Renne

0800h **V41D-2201 POSTER** In-situ U/Pb rutile dating by LA-ICP-MS: 208Pb correction and prospects for thermochronological applications: **T Zack**, D F Stockli, G L Luvizotto, M G Barth, M R Wolfe, R W Hinton, J Berndt-Gerdes, E Kooijman

0800h **V41D-2202 POSTER** Monazite and allanite U-Th-Pb vs mica ³⁹Ar-⁴⁰Ar ages in equilibrated metasediments: closure behavior and closure temperatures: **J Allaz**, M Engi, A Berger, E Janots, I M Villa

0800h **V41D-2203 POSTER** OSL-thermochronology: introduction, application and limitations: **F Herman**, E J Rhodes, M Jaiswal, J Schwenninger, R Reverman

0800h **V41D-2204 POSTER** Exploring the potential of whole rock shale (U-Th)/He thermochronometry: **R E McKeon**, P K Zeitler, B D Idleman, E Enkelmann

0800h **V41D-2205 POSTER** Standard development for coupled (U-Th)/(Pb-He) chronology of monazite: **E M Peterman**, J K Hourigan

0800h **V41D-2206 POSTER** An alternative hypothesis for high-T ⁴⁰Ar/³⁹Ar age spectrum discordance in polyphase extraterrestrial materials: **W S Cassata**, D L Shuster, P R Renne, B P Weiss

V41E Moscone West: 2018 Thursday 0800h
Bridging Field, Geochemistry, and Physical Models to Better Understand the Evolution of Crustal Magma Reservoirs and the Generation of Differentiated Melts I

Presiding: C Annen, University of Bristol; J Blundy, University of Bristol

0800h **V41E-01** Quantum magmatism: The Probability of Magma Chamber Melt Extraction From a Dynamics Perspective (*Invited*): **J Dufek**, O Bachmann

0830h **V41E-02** Impact of Melt Segregation on Genesis of Intermediate and Silicic Magmas in Deep Crustal Hot Zones: **J Solano**, M Jackson, R S Sparks, J Blundy

0845h **V41E-03** A test of whether contrasting magma supply rates (hotter vs. cooler lower crust) influences the differentiation of arc magmas in the Mexican arc: **R A Lange**

0900h **V41E-04** Thermal reactivation of shallow crystalline mushes, the dual role played by volatiles: **C Huber**, O Bachmann, M Manga

0915h **V41E-05** Effusive Eruptive Behavior as a Consequence of Mafic Recharge and Temperature-Induced Viscosity Decrease: **P Ruprecht**, O Bachmann

0930h **V41E-06** Wholesale, massive partial melting and melt separation in granite host rock, McMurdo Dry Valleys, Antarctica: **R M Currier**, B D Marsh

0945h **V41E-07** The future of volcanism at Yellowstone caldera: **G Girard**, J Stix

V41F Moscone West: 2020 Thursday 0800h
Synthesizing Diverse Data Sets Into Models of Hawaiian Plume and Island Evolution I

Presiding: B K Nelson, Univ Washington; T A Bianco, University of Hawaii at Manoa

0800h **V41F-01** The return of the concentric plume model (*Invited*): **F Albarede**, J Blichert-Toft

0815h **V41F-02** High Resolution Seismic Images of Transition Zone Discontinuities beneath the Hawaii-Emperor Seamount Chain: **Q Cao**, P Wang, R D van der Hilst, S Shim

0830h **V41F-03** Isotopic evolution of Hawaiian shield basalts over 4.5 million years and implications for plume structure: **D A Weis**, M O Garcia, D J Depaolo, J S Scoates

0845h **V41F-04** Geochemistry and geochronology of Kaua'i lavas: Evolution of the Hawaiian plume over 4.5 Ma and origin of rejuvenated volcanism: **M O Garcia**, D A Weis, L Swinnard, A R Greene, T Tagami, H Sano, C Gandy

0900h **V41F-05** Evolution of Hawaiian shield volcano revealed by antecryst-hosted melt inclusions: **R Tanaka**, P A Sakyi, K Kobayashi, E Nakamura

0915h **V41F-06** Incompatible Trace Element Abundances in Hawaiian Olivines: **G Yu**, S Huang, S Mukhopadhyay, S B Jacobsen

0930h **V41F-07** Submarine Tholeiitic Volcanism (ca. 3.6 to 4.9 Ma) West of Ka'ena Ridge, Hawaiian Islands: Implications of Low Magma Productivity in the Evolution of the Hawaiian Plume: **A R Greene**, M O Garcia, D A Weis, M Kuga, G Ito, J E Robinson

0945h **V41F-08** High-precision Pb isotopic variations of the historical summit lavas of Kilauea Volcano (1823-1982 AD): **D E Heaton**, A J Pietruszka, M O Garcia, J P Marske

Union

U42A Moscone South: I03 Thursday 1020h
Mantle Heterogeneity: Bridging the Gap Between Observations and Dynamics II

Presiding: F Albarede, Ecole Normale Supérieure de Lyon; J E Ritsema, University of Michigan

1020h **U42A-01** Signature of chemical heterogeneity within 1-D seismic reference models for the mantle (*Invited*): **L J Cobden**, S D Goes, F Cammarano, E E Styles, M Ravenna, J Connolly

1035h **U42A-02** Mantle structure: The message from scattered seismic waves (*Invited*): **G R Helffrich**, S Kaneshima

1050h **U42A-03** Towards imaging thermal and compositional structure in the global upper mantle: **Y Zhou**, Y Ruan

1105h **U42A-04** Tracking Lowermost Mantle Chemistry with Ultra-Low Velocity Zones: **E J Garnero**, S Rost, A K McNamara, M S Thorne

1120h **U42A-05** Mantle Heterogeneity: Length Scales and Correlations: **J G Konter**, J Kellogg, S R Hart, L H Kellogg, B A Romanowicz, T W Becker

1135h **U42A-06** Mantle heterogeneity: origins and observables (*Invited*): **L P Stixrude**, C R Lithgow-Bertelloni

1150h **U42A-07** Formation, Deformation, Evolution and Destruction of Mantle Heterogeneities: **R J O'Connell**, S B Jacobsen, J Kellogg

1205h **U42A-08** Generation of mantle heterogeneity by oceanic crust recycling: how well can we match geochemical and geophysical observations? (*Invited*): **P E Van Keken**, J P Brandenburg, E H Hauri, C J Ballentine

Atmospheric Sciences

A42A Moscone West: 3006 Thursday 1020h **Climate and Chemistry Impacts of Aviation and Aerospace Emissions I**

Presiding: **M Ross**, The Aerospace Corporation; **D W Toohey**, University of Colorado; **B Karcher**, Institute for Atmospheric Physics

1025h **A42A-01** Aviation and Global Climate Change in the 21st Century (*Invited*): **D W Fahey**

1040h **A42A-02** Contrail cirrus and their impact on cirrus cloudiness and global radiative forcing: **U Burkhardt**, B Karcher

1052h **A42A-03** Quantifying the Effects of Aircraft on Climate With a Model That Treats the Subgrid Evolution of Contrails From All Commercial Flights Worldwide: **M Z Jacobson**, J T Wilkerson, A D Naiman, S K Lele

1104h **A42A-04** A new contrail cirrus prediction tool and its application to estimate the radiative forcing from aviation: **U Schumann**, K Graf, B C Mayer, H Mannstein

1116h **A42A-05** Climatic Effects of Contrail Cirrus over the Western United States: A Regional Climate Model Investigation K. N. Liou¹, S. C. Ou¹, J. Kim¹, R. Friedl^{2,1}, Y. Gu¹, and P. Yang³
¹Joint Institute for Regional Earth System Science and Engineering, University of California, Los Angeles, CA, USA ²Jet Propulsion Laboratory/California Institute of Technology/NASA, CA, USA ³Texas A&M University, College Station, TX, USA: **K Liou**, S S Ou, J Kim, Y Gu, P Yang, R R Friedl

1128h **A42A-06** Probabilistic description of ice-supersaturated layers in low resolution profiles of relative humidity N. C. Dickson, K. Gierens, H. L. Rogers, R. L. Jones: **N Dickson**

1140h **A42A-07** Aircraft induced sulphur impact on the atmosphere: **O Dessens**, H L Rogers, J A Pyle

1152h **A42A-08** Space Shuttle Impacts on Mesospheric Clouds and Iron Layers as Observed by Lidars and Satellites in the Antarctic and Arctic: **X Chu**, R L Collins, M H Stevens, J M Plane, R R Meier, M T DeLand, M C Kelley, M J Nicolls, B Thuraiarajah, R H Varney, K Mizutani, Z Yu

1204h **A42A-09** Aircraft-Induced Hole Punch and Canal Clouds: **A J Heymsfield**, P Kennedy, S T Massie, C G Schmitt, Z Wang, S Haimov, A Rangno

A42B Moscone West: 3002 Thursday 1020h **Multiscale Organization of Tropical Convection and Its Interaction With the Large-Scale Circulation: Year of Tropical Convection (YOTC) II**

Presiding: **M W Moncrieff**, NCAR; **D E Waliser**

1020h **A42B-01** Multi-scale modeling of clouds and process studies using CRM and MMF frameworks (*Invited*): **M F Khairoutdinov**

1035h **A42B-02** Parameterizing convection in high-resolution global atmospheric models (*Invited*): **J T Bacmeister**, W Tao, M Lee, W C Skamarock, R Mittal

1050h **A42B-03** The MJO in an Aquaplanet General Circulation Model: **E D Maloney**, A H Sobel, W M Hannah

1105h **A42B-04** Relative Roles of Convection Closure, Trigger Condition and Convective Momentum Transport in GCM Simulations of the Madden-Julian Oscillation: **X Wu**, L deng

1120h **A42B-05** What can Cloud-Resolving Models Tell us About Critical Phenomena in Atmospheric Precipitation?: **S K Krueger**, A Kochanski

1135h **A42B-06** Representation of intra-seasonal activity in coupled GCMs with varying atmospheric and oceanic resolutions: **W Stern**, A J Rosati, G A Vecchi

1150h **A42B-07** Evaluating parameterized variables in the Community Atmospheric Model along the GCSS Pacific cross-section during YOTC: **C Hannay**, D Williamson, R B Neale, J Olson, D Shea

1205h **A42B-08** Mesoscale weather and climate modeling with the global non-hydrostatic Goddard Earth Observing System Model (GEOS-5) at cloud-permitting resolutions: **W M Putman**, M Suarez

A42C Moscone West: 3004 Thursday 1020h **Patterns in Soil-Vegetation-Atmosphere Systems: Monitoring, Modeling, and Data Assimilation I** (*joint with H, B, GC*)

Presiding: **S J Kollet**, University of Bonn; **H Vereecken**

1020h **A42C-01** Heterogeneity and scaling in soil-vegetation atmosphere systems: implications for pattern analysis (*Invited*): **Y A Pachepsky**

1035h **A42C-02** On the use of bedrock-to-atmosphere models to diagnose spatiotemporal patterns within the hydrologic cycle. (*Invited*): **R M Maxwell**

1050h **A42C-03** The Importance of Groundwater Convergence to Dry-season Evaporation in the Danube Basin: A Lam, D J Karssenberg, B J van den Hurk, **M F Bierkens**

1105h **A42C-04** Isolating Effects of Terrain and Subsurface Heterogeneity on Land Surface Energy Fluxes using Coupled Surface-Subsurface Simulations: **J Rihani**, R M Maxwell, F K Chow

1120h **A42C-05** Land-atmosphere interactions during a Northwestern Argentina Low event: **J Paegle**, L Ferreira, C Saulo, M Seluchi, J Ruiz

1135h **A42C-06** Effect of soil type patterns on the variability of bare soil evaporation within a field: comparison of eddy covariance measurements with potential and actual evaporation calculations: **J Vanderborght**, A Graf, C Steenpass, B Scharnagl, N Prolingheuer, M Herbst, H Vereecken

1150h **A42C-07** Simulation of AMSR-E Brightness Temperature in LIS-CRTM System: **W Zheng**, M B Ek, X Zhan, C J Meng, J Derber

1205h **A42C-08** Improved spatial monitoring of air temperature in forested complex terrain: an energy-balance based calibration method: **A M Kennedy**, C K Thomas, T G Pypker, B J Bond, J S Selker, M H Unsworth

A42D Moscone West: 3008 Thursday 1020h **Wildland Fire Emissions in Chemical Transport Models: Improving Input Resolution I** (*joint with B, GC*)

Presiding: **A J Soja**, National Institute Aerospace; **C Wiedinmyer**, National Center for Atmospheric Research; **B J Stocks**, B.J. Stocks Wildfire Investigations Ltd.

1020h **A42D-01** Biomass Burning Emissions – The Importance of Reducing Uncertainties for Improved Regulatory Decisions; an EPA Perspective (*Invited*): **J J Szykman**, J Kordzi, G Pouliot, T E Pierce, T Pace, T Rao

1035h **A42D-02** Uncertainties in fuel loading and fire consumption calculations and the Smoke and Emissions Model Intercomparison Project: **N Larkin**, R Solomon, T Strand, S M Raffuse, K Craig

1050h **A42D-03** New smoke predictions for Alaska in NOAA's National Air Quality Forecast Capability: **P M Davidson**, M Ruminski, R Draxler, S Kondragunta, J Zeng, G Rolph, I Stajner, G Manikin

1105h **A42D-04** Interannual Variability of Carbonaceous Particles from Boreal Wildland Fires and their Contributions to Aerosol Loading and Deposition in the Arctic (*Invited*): **D Lavoue**, T L Zhao, S L Gong, P Huang, S Sharma, B J Stocks

1120h **A42D-05** A Parameterization of Wildfire Emission Injection Heights in North America: Analysis from Satellite Observations and Models: **M Val Martin**, J A Logan, R A Kahn, C M Ichoku, S R Freitas, A Cantin

1135h **A42D-06** Wildland Fire Emission Inventories – Sensitivity to Assumptions in Fuel Mapping and Loading: **S P Urbanski**, W M Hao, B Nordgren

1150h **A42D-07** Analysis of Errors Associated with the Estimation of Smoke Emission Rates from Satellite Fire Radiative Power Measurements over North America: **K T Dharshana**, C M Ichoku

1205h **A42D-08** Satellite, climatological, and theoretical inputs for modeling of the diurnal cycle of fire emissions: **E J Hyer**, J S Reid, C C Schmidt, L Giglio, E Prins

Biogeosciences

B42A Moscone West: 3018 Thursday 1020h
Molecular Biogeochemical Impressionism: Painting the Big Carbon Picture With Many Small Strokes II (*joint with PP, OS*)

Presiding: **G Mollenhauer**, Alfred-Wegener Institute; **N Drenzek**, Schlumberger-Doll Research

1020h **B42A-01** A strategic approach to detailed studies of biogeochemical processes (*Invited*): **J M Hayes**

1035h **B42A-02** WITHDRAWN

1050h **B42A-03** Criteria to demonstrate that microbial community composition is important for biogeochemical function: **J C von Fischer**

1105h **B42A-04** Biogeography of soil organic matter molecular structure across multiple soil size fractions: **C L Meier**, J Neff

1120h **B42A-05** Resolving active microbial cycling of carbon pools using ¹⁴C: **G F Slater**, J M Ahad, P L Morrill

1135h **B42A-06** Estimating soil organic carbon input to marine sediments (*Invited*): **J Weijers**, S Schouten, E Schefuss, R R Schneider, J S Sinninghe Damsté

1150h **B42A-07** CHARACTERIZATION OF BACTERIAL BIOMASS IN MARINE SEDIMENTS BENEATH THE ROSS ICE SHEET, ANTARCTICA BY PHOSPHOLIPIDS ANALYSIS AND 16S RRNA GENE SEQUENCING: **S A Carr**, A W Glossner, R B Dunbar, S W Vogel, J Brandes, J W Sahl, C Pepe-Ranney, J R Spear, T Naish, R D Powell, K W Mandernack

1205h **B42A-08** Stable Carbon Isotope Ratios Indicative of Global Carbon-Cycle Perturbations at the Permian-Triassic Boundary: **L E Hays**, R E Summons, K Grice, C Cao, C M Henderson

B42B Moscone West: 3016 Thursday 1020h
Toward Phenological Assessments: Regional, National, Global II (*joint with A, GC, H, PA*)

Presiding: **G M Henebry**, South Dakota State University; **M D Schwartz**, UW-Milwaukee; **J L Betancourt**, U.S. Geological Survey

1020h **B42B-01** Changing timing of the onset of spring in western North America—An update (*Invited*): **M D Dettinger**, D R Cayan, N Knowles, T Das

1050h **B42B-02** The Phenology of Plant Invasions: How temporal niches assemble plant communities: **E M Wolkovich**, E E Cleland

1105h **B42B-03** Phenological assessment in the Owhyee Uplands: integrating climate drivers and ecological response at local to regional scales: **A Torregrosa**, S Hanser, M L Tumbusch, D Bedford

1120h **B42B-04** Recent Progress Estimating Phenology From MODIS: Comparison of Collection 5 Results With Ground Data and Other Sensors (*Invited*): **M A Friedl**

1150h **B42B-05** Satellite Remote Sensing of Global Vegetation Phenology: Comparison of Optical-Infrared and Microwave Sensors: **M O Jones**, J S Kimball, L A Jones, K C McDonald

1205h **B42B-06** Toward A National Early Warning System for Forest Disturbances Using Remotely Sensed Land Surface Phenology: **W W Hargrove**, J Spruce, G Gasser, F M Hoffman

Cryosphere

C42A Moscone West: 3014 Thursday 1020h
The Changing Cryosphere and Hydrosphere Through Remote Sensing, Geodesy, and Modeling I (*joint with G, GC, H, NG*)

Presiding: **R R Muskett**, University of Alaska Fairbanks; **G Grosse**, University of Alaska Fairbanks; **S Marchenko**, University of Alaska Fairbanks

1020h **C42A-01** A multi-satellite concept in support of high latitude permafrost modelling and monitoring (*Invited*): **A Bartsch**

1035h **C42A-02** On the role of submarine melting of tidewater glaciers in driving the Greenland ice sheet out of balance (*Invited*): **E J Rignot**, M N Koppes, I Velicogna

1050h **C42A-03** Response of shallow lakes and ponds to contemporary climate change in the Hudson Bay Lowland near Churchill, Manitoba (*Invited*): **C R Duguay**, M L Macrae, J A Parrott, L Brown, N Svachina

1105h **C42A-04** Recent wastage of Bering Glacier, Alaska: **E G Josberger**, R A Shuchman

1120h **C42A-05** High-precision GPS measurements of anomalous high-speed sea ice drift in the Arctic Ocean: **P Elosegui**, S Hanson, J Wilkinson, R Forsberg, L Toudal, G Dybkjær, S Olsen, H Skourup, J de Juan

1135h **C42A-06** (Accelerated) mass changes in the Siberian permafrost regions from GRACE: **J Mueller**, H Steffen, J Boike, N Peterseim

1150h **C42A-07** Changes in the Canadian Arctic Archipelago: Observations from Spaceborne and Airborne Laser Altimeters: **C E Webb**, G A Catania, J G Sonntag, W B Krabill

1205h **C42A-08** Above-linear increase in Greenland and Antarctica ice mass loss from GRACE and other data: **I Velicogna**, E Rignot

Education and Human Resources

ED42A Moscone West: 3020 Thursday 1020h
Developing Sustainable Education and Outreach Programs and Projects: Lessons Learned II

Presiding: **C E Walker**, National Optical Astronomy Observatory; **R M Johnson**

1020h **ED42A-01** Creating and Sustaining University-Community Partnerships in Science Education (*Invited*): **N Finkelstein**

1035h **ED42A-02** Sustainable Outreach: Lessons Learned from Space Update and Discovery Dome: **P H Reiff**, C Sumners, C C Law

1050h **ED42A-03** Creating the EPO Quilt: Using small money to sustain large programs: **E A Cobabe-Ammann**, E L Wood

ED42B Moscone West: 3020 Thursday 1120h
Improved Broader Impacts = Enhanced Scientific Impacts II
(joint with PA)

Presiding: G Scowcroft, University of Rhode Island; L A Hotaling, Beacon Institute

1120h **ED42B-01** Broader Impacts Demystified (*Invited*):
S E Franks

1135h **ED42B-02** Checkerspot Butterflies, Science, and
Conservation Policy: A Grassroots View of Nitrogen Overdose:
S B Weiss

1150h **ED42B-03** Fostering Students' and Teachers' Understanding
of the Nature of Science: Where We Need the Broadest of Broader
Impacts: **S L Laursen**, R Dauber, P H Molnar, L K Smith

1205h **ED42B-04** OUTREACH AND USER
LINKAGE: COMMUNICATING AN UNKNOWN SCIENTIFIC
SUBJECT IN THE NEW MEDIA - SCIENCE 2.0: **B L Bye**

Earth and Planetary Surface Processes

EP42A Moscone West: 2008 Thursday 1020h
**Computational Modeling of Landscapes and Seascapes:
Models, Data Sets, and Applications I** (joint with A, AE, B)

Presiding: J P Syvitski, CSDMS; B (Jagers, Deltares; G E Tucker,
University of Colorado; R L Slingerland, The Pennsylvania State
University

1020h **EP42A-01** Modeling the complex dynamic interactions
between surface processes, crustal deformation and climate change
(*Invited*): **J Braun**, S D Willett, F Herman, P Yamato

1035h **EP42A-02** Numerical modelling of glacial landscape
response to the Middle Pleistocene Transition: **S H Brocklehurst**,
K R MacGregor, D Foster

1050h **EP42A-03** How do pediments form? A numerical modeling
investigation with comparison to pediments in southern Arizona,
USA: **J D Pelletier**

1105h **EP42A-04** IMPLICATIONS OF NON-LOCALITY
OF TRANSPORT IN GEOMORPHIC TRANSPORT LAWS:
HILLSLOPES AND LANDSCAPE EVOLUTION MODELING:
E Fofoula-Georgiou, V K Ganti, W E Dietrich

1120h **EP42A-05** Reconstructing the Waipaoa Sedimentary System
at the LGM: **P Upton**, A J Kettner, N J Litchfield, A R Orpin

1135h **EP42A-06** Community Sediment-Transport Modeling
System (CSTMS) (*Invited*): **C R Sherwood**, J C Warner, H G Arango,
W R Geyer, N K Ganju

1150h **EP42A-07** Process-Response Numerical Modeling in
Carbonate Systems - Current Status and Importance (*Invited*): **J Sarg**,
C J Jenkins, P M Burgess, D A Budd, E C Rankey, R V Demicco

1205h **EP42A-08** Computational Investigation of Turbidity
Currents and River Outflows (*Invited*): **E Meiburg**

Geodesy

G42A Moscone West: 3022 Thursday 1020h
Satellite Gravity Missions: GRACE, GOCE, and Beyond I (joint
with C, OS, H, PA)

Presiding: S V Bettadpur, The University of Texas at Austin;
M R Drinkwater, European Space Agency

1020h **G42A-01** GOCE: Mission Overview and Early Results
(*Invited*): R F Rummel, **D Muzi**, M R Drinkwater, R Floberghagen,
M Fehringer

1035h **G42A-02** Status and performance of the GOCE satellite
(*Invited*): **M Fehringer**, D Muzi, R Floberghagen, J Pineiro, C Steiger

1050h **G42A-03** The GOCE gradiometer - instrument status, data
processing and product performance (*Invited*): **R Floberghagen**,
M Fehringer, D Lamarre, D Muzi, M R Drinkwater

1105h **G42A-04** Approaching 8 Years On Orbit: Status and Outlook
for GRACE (*Invited*): **M M Watkins**, B D Tapley, F Flechtner,
S V Bettadpur

1120h **G42A-05** Greenland ice sheet mass loss variations observed
by GRACE: **E J Schrama**, B Wouters

1135h **G42A-06** Greenland GPS Network: Uplift rates compared
with predicted elastic response obtained from GRACE mass loss:
S A Khan, J M Wahr, M G Bevis, E C Kendrick

1150h **G42A-07** The viscosity structure of Northern Europe
inferred from GRACE data: **H Steffen**, P P Wu, H Wang

1205h **G42A-08** Uncertainty in ocean mass trends from GRACE:
K J Quinn, R M Ponte

Global Environmental Change

GC42A Moscone West: 3001 Thursday 1020h
**Understanding and Responding to Pan-Arctic Environmental
Change** (joint with C, H, B)

Presiding: P Schlosser, Columbia University; **M K Tjernstrom**,
Stockholm University

1020h **GC42A-01** The Intersection of Environmental Variability,
Policy, and Human Values: International Treaties, Yukon River
Salmon, and Food Security in a Changing Arctic (*Invited*): **S Gerlach**,
P A Loring, M S Murray

1035h **GC42A-02** WITHDRAWN

1050h **GC42A-03** How Do We Know that the Arctic is Changing?:
J E Overland

1105h **GC42A-04** Crossing the Threshold - Reviewed Evidence for
Regime Shifts in Arctic Terrestrial Ecosystems: **J Mård Karlsson**,
G Destouni, G Peterson, L Gordon

1120h **GC42A-05** Analysis of the Arctic System for Freshwater
Cycle Intensification: Observations and Expectations: **M A Rawlins**,
M Steele, M M Holland, J C Adam, J E Cherry, J A Francis,
P Y Groisman, L D Hinzman, T G Huntington, D L Kane,
J S Kimball, R Kwok, R B Lammers, C Lee, D P Lettenmaier,
K C McDonald, E Podest, J W Pundsack, B Rudels, M C Serreze,
A I Shiklomanov, O Skagseth, T J Troy, C J Vorosmarty,
M Wensnahan, E F Wood, R A Woodgate, D Yang, K Zhang, T Zhang

1135h **GC42A-06** 30-Year Mid-Tropospheric Temperature Trends
over the Polar Regions Using MSU/AMSU-A Data: **W Wang**, C Zou

1150h **GC42A-07** A circulation based perspective on the impacts
of the 1976 Pacific Climate Shift on Alaskan weather: **E Cassano**,
J Cassano, M Nolan

1205h **GC42A-08** Marginal Ice Zone Flux and Variability:
S L Pfirman, B Tremblay, R Newton, C Fowler

Geomagnetism and Paleomagnetism

GP42A Moscone West: 2002 Thursday 1020h
Geologic Insights From Magnetic Properties I (joint with PP, V)

Presiding: J G Rosenbaum, U.S. Geological Survey; **I Lascu**,
University of Minnesota

1020h **GP42A-01** Magnetic Surveys and Rock Magnetic Properties of Clinkers in the Williston Basin: **R S Sternberg**

1035h **GP42A-02** Rock magnetic characteristics of faulted sediments with magnetic anomalies: A case study from the Albuquerque Basin, Rio Grande Rift, New Mexico (*Invited*): **M R Hudson**, V J Grauch

1050h **GP42A-03** Magnetic evaluation of the thermal history of the Karoo Basin, South Africa: **L P Mare**, E C Ferre, C K Ranaweera, M C Marsh, J Marsh

1105h **GP42A-04** Magnetofossils as Biomarkers of Environmental Change: A Multiproxy Example from the Paleocene-Eocene Continental Shelves of North America (*Invited*): **P C Lippert**

1120h **GP42A-05** Towards a Holocene northern North Atlantic Magnetic Synthesis: Developing a better understanding of Climate, Environment and the Geomagnetic Field (*Invited*): **J S Stoner**

1135h **GP42A-06** Stress-Related Structures and Magnetic Properties of Deformed Magnetite in Experimental Shear Zones: B M Moskowitz, **J L Till**, M J Jackson, I Lasu

1150h **GP42A-07** Origin and Significance of Magnetic Anisotropy in the Dufek Layered Intrusion: **J S Gee**, M W Lusk, M J Cheadle, C B Grimes, W P Meurer

1205h **GP42A-08** Field-dependent AMS and AMR of some ultramafics and host granulites of the Bohemian Massif: implications for metamorphism induced fabric changes: **F Hrouda**, J Franek, S W Faryad, M Chlupacova

Hydrology

H42A Moscone West: 3007 Thursday 1020h
Characterization of Soil Moisture Dynamics and Plant/Soil Water Interactions III (*joint with B, NS*)

Presiding: **R Heinse**, University of Idaho; **T Ochsner**, Oklahoma State University; **N P Crook**, Stanford University

1025h **H42A-01** Employing native shrubs to improve agricultural potential of arid lands: Drawing on plants to draw water (*Invited*): **M I Dragila**, F Kizito, R Dick

1050h **H42A-02** Modeling plant competition for soil water balance in Water-limited Mediterranean Ecosystems: **C Cortis**, N Montaldo

1105h **H42A-03** Effects of Crops on Solute Transport in Undisturbed Soil: **S Garre**, J Vanderborcht, M Javaux, H Vereecken

1120h **H42A-04** Neutron tomography of the root-soil interface: water distribution around different parts of the root structure: **A B Moradi**, A Carminati

1135h **H42A-05** A Step Towards Unraveling Rhizosphere Physics: M Berli, M Menon, **T A Ghezzehei**, N Pillai, E E Regentova, P S Nico, M Young, S W Tyler

1150h **H42A-06** Soil Moisture Dynamics under Corn, Soybean, and Perennial Kura Clover: **T Ochsner**, R T Venterea

1205h **H42A-07** The influence of tree species on soil moisture dynamics and lateral water flow during intense rainfall: **G Jost**, H Schume, H Hager

H42B Moscone West: 3009 Thursday 1020h
Fate of Nanoparticle and Colloids in the Environment II (*joint with B*)

Presiding: **G V Lowry**, Carnegie Mellon University; **A A Keller**, UCSB; **D M O'Carroll**, University of Western Ontario; **Y Li**, University of Nebraska - Lincoln

1020h **H42B-01** Transport of fecal-derived microorganisms from latrine ponds to aquifers in Bangladesh: **P S Knappett**, L D McKay, A Layton, M Alam, D Williams, M R Huq, B J Mailloux, A Ferguson, J E Feighery, P J Culligan, V Escamilla, M Emch, Y Akita, M L Serre, E Perfect, R W Gentry, K M Ahmed, A van Geen

1035h **H42B-02** Size-dependent Structure and Reactivity of Silver Nanoparticles under Different Environmental Conditions: **C Levard**, F M Michel, T Kendelewicz, G E Brown

1050h **H42B-03** Fate of manufactured nanoparticles in environmental systems: **A Gelabert**, Y Sivry, V Siron, A Akrouit, R Ferrari, F Juillot, N Menguy, M F Benedetti

1105h **H42B-04** Colloidal Suspended Iron in Rivers: **A M Shiller**

1120h **H42B-05** In-Situ Measurements of Engineered Nanoporous Particle Transport in Saturated Porous Media: **J Shang**, C Liu, Z Wang, K Zhu, J Li, J Liu, J M Zachara

1135h **H42B-06** Behavior of metal oxide nanoparticles in natural aqueous matrices: **A A Keller**, D Zhou, H Wang

1150h **H42B-07** Quantification of hydrophobic interaction affinity of colloids: **G Saini**, N Nasholm, B D Wood

1205h **H42B-08** Quantitative Evaluation of the Stability of Engineered Water Soluble Nanoparticles: **M J Mulvihill**, S Habas, T Mokari, J Wan

H42C Moscone West: 3011 Thursday 1020h
Hydroclimatology of Large Northern Watersheds: From Surface Observation, Remote Sensing, to Modeling I (*joint with A, B, C*)

Presiding: **D Yang**, Univ Alaska Fairbanks; **L D Hinzman**, University of Alaska Fairbanks

1020h **H42C-01** The Hydroclimatology of the Mackenzie River and Delta (*Invited*): **P Marsh**, L F Lesack

1035h **H42C-02** Assessment of climate change effects on water and carbon cycling and habitat change in the Yukon River Basin: Piloting a National Strategy (*Invited*): **P S Murdoch**, R G Striegl

1050h **H42C-03** A Case Study of the Hydrological Response of a North-Draining Basin: Kugaruk River, Northern Alaska: **D L Kane**, E K Youcha, H A Toniolo

1105h **H42C-04** The hydrological changes occurring in Eastern Siberia during the recent decades. (*Invited*): **T Ohata**, Y Iijima, H PARK, K Sugiura, H Yabuki

1120h **H42C-05** Is the hydrological cycle in the pan-Arctic accelerating? Historical analysis and contemporary status. (*Invited*): **A I Shiklomanov**, R B Lammers, M A Rawlins

1135h **H42C-06** The role of wetlands in Community Land Model simulations of the hydrologic cycle of northern high latitude regions: **S C Swenson**, D M Lawrence

1150h **H42C-07** Calibration and Validation of WRF 3.0-CLM3.5 in Snowpack Simulations: **J Jin**, L Wen, Z M Subin, N L Miller

1205h **H42C-08** Synthesizing International Understanding of Changes in the Arctic Hydrological System: **J W Pundsack**, C J Vorosmarty, L D Hinzman

H42D Moscone West: 3005 Thursday 1020h
Nutrient Sources and Cycling in Aquatic Systems I (*joint with B*)

Presiding: **J Wang**, City University of New York; **C Kendall**, USGS; **E M Elliott**, University of Pittsburgh

1020h **H42D-01** Urban Runoff and Nutrients Loading Control from Sustainable BMPs (*Invited*): **Q Xiao**

- 1035h **H42D-02** Factors controlling stream water nitrate and phosphor loads during precipitation events: **J Rozemeijer**, Y Van der Velde, F van Geer, G H de Rooij, H Broers, M F Bierkens
- 1050h **H42D-03** Synthesizing physical and microbial controls on isotopic composition of nitrate in rivers: a model for increasing precision of natural abundance-based assessments: **N S Wells**, T J Clough, W T Baisden
- 1105h **H42D-04** Assessing the Role of Sewers and Atmospheric Deposition as Nitrate Contamination Sources to Urban Surface Waters using Stable Nitrate Isotopes: **M T Sikora**, E M Elliott
- 1120h **H42D-05** The magnitude and controls on denitrification during managed aquifer recharge into a shallow, unconfined aquifer in a coastal groundwater basin: **C M Schmidt**, A T Fisher, A J Racz, C G Wheat, J Sharkey, B S Lockwood
- 1135h **H42D-06** Nutrient inputs, dynamics and phytoplankton response in a semi-enclosed subtropical embayment, Kaneohe Bay, Hawaii: **P Drupp**, D P Dumas, E H De Carlo, F T Mackenzie
- 1150h **H42D-07** Implications of diel changes in water chemistry and isotopes in large rivers for regional to national-scale water quality monitoring programs (*Invited*): **M B Young**, C Kendall, S R Silva, R A Dahlgren, P W Lehman, W T Stringfellow
- 1205h **H42D-08** Discriminating assimilatory and dissimilatory N processing in a large spring-fed river using dual nitrate isotopes: **M J Cohen**, J B Heffernan, J B Martin, A Albertin

Earth and Space Science Informatics

IN42A Moscone South: 102 Thursday 1020h
Making Earth Science Data Records II (*joint with A, B, C, G, V, OS, H*)

Presiding: **H K Ramapriyan**, NASA; **M Gregg**, NOAA NODC

- 1020h **IN42A-01** The Recently Revived and Produced Goddard Satellite-based Surface Turbulent Fluxes Version-2b (GSSTF2b) Dataset: **C Shie**, L Chiu, R F Adler, I I Lin, E J Nelkin, J V Ardizzone, S Gao
- 1035h **IN42A-02** Satellite Ocean Color Data Merging Using a Bio-optical model: A Path for Earth Science Data Records ? : **S MARITORENA**, D A Siegel, O Hembise Fanton d'Andon, A Mangin, J Frew, N Nelson
- 1050h **IN42A-03** Ice Velocity Mapping of the Great Ice Sheets: Antarctica: **B Scheuchl**, E J Rignot, J Mouginit, T Scambos, J A Bohlander, J Shimada
- 1105h **IN42A-04** Mapping Central Amazon Wetlands Dynamics with Seasonal ALOS PALSAR SCANSAR Imagery: **B D Chapman**, L L Hess, L Durieux, E Arraut, B Marshall, K C McDonald
- 1120h **IN42A-05** Progress on Developing Consistent Earth System Data Records for the Global Terrestrial Water Cycle: **E F Wood**, D P Lettenmaier, P Houser, R T Pinker, C D Kummerow, M Pan, H Gao, A K Sahoo
- 1135h **IN42A-06** Vegetation Index and Phenology ESDRs from Multiple Long Term Satellite Data Records: Toward a Sensor Independent Time Series: **K Didan**, A Barreto-Munoz
- 1150h **IN42A-07** Solid Earth Science Data System for Exploration of Lithospheric Deformation in the Western US: **F Webb**, Y Bock, S Kedar, S E Owen, D Dong, P Jamason, P Fang, M B Squibb, B W Crowell, D Avraham
- 1205h **IN42A-08** A Terrestrial Surface Climate Data Record for Global Change Studies: **E Vermote**, C O Justice, I A Csizsar, J Eidenshink, R B Myneni, F Baret, E Masuoka, R E Wolfe

Nonlinear Geophysics

NG42A Moscone South: 309 Thursday 1020h
Nonlinear Pattern Formation and Emergent Phenomena in the Earth Sciences I (*joint with H, B*)

Presiding: **L Cueto-Felgueroso**, MIT; **J A Neufeld**, Institute of Theoretical Geophysics

- 1020h **NG42A-01** Growth of a Dendritic Channel Network (*Invited*): **D Rothman**, D M Abrams, O Devauchelle, A P Petroff, A E Lobkovsky, K M Straub, B McElroy, D C Mohrig, A Kudrolli
- 1035h **NG42A-02** Dynamics of vegetation patterns in drylands (*Invited*): **A Provenzale**, J Von Hardenberg, E Meron
- 1050h **NG42A-03** Of geographic ranges of freshwater fish in river basins (and other ecohydrological patterns) (*Invited*): **A Rinaldo**, E Bertuzzo, R Muneeppeerakul, I Rodriguez-Iturbe
- 1105h **NG42A-04** Reaction-diffusion, early photosynthesis, and the spatial organization of conical stromatolites. (*Invited*): **D Rothman**, **A P Petroff**, B Liang, M Sim, T Bosak
- 1120h **NG42A-05** On the diameter of basalt columns (*Invited*): **M Hofmann**, H Bahr, H Weiss, G Fischer, J Nellesen, H Balke
- 1135h **NG42A-06** Evolving mud crack patterns: **L Goehring**, R Conroy, A Akhter, W J Clegg, A F Routh
- 1150h **NG42A-07** Dynamics of crater formations in immersed granular materials: **G Varas**, V Vidal, J Géminard
- 1205h **NG42A-08** Earth Surface Patterns in 200 Years (*Invited*): **B Werner**

Natural Hazards

NH42A Moscone West: 2006 Thursday 1020h
Remote Sensing of Natural Hazards II (*joint with NH, A, C, ED, OS, H, GC, S, V, T, PA*)

Presiding: **H M El-Askary**, Chapman Univ; **Z Lu**, U.S. Geological Survey; **V Singhroy**, Canada Centre for Remote Sensing

- 1020h **NH42A-01** A global survey of intense surface plankton blooms and floating vegetation using the European MERIS satellite sensor (*Invited*): **J F Gower**, S King
- 1035h **NH42A-02** Forecast of hurricane Track and Intensity Using Remote Sensing Data (*Invited*): **J Li**, H Liu, J Li, T J Schmit
- 1050h **NH42A-03** Towards Observing Tsunamis in the Ionosphere Using GPS TEC Measurements: **D A Galvan**, A Komjathy, A Mannucci, M P Hickey, G Schubert, R L Walterscheid, G Occhipinti
- 1105h **NH42A-04** WITHDRAWN
- 1120h **NH42A-05** Applications of Global Earth Observations for Natural Hazards (Flood and Landslide) Monitoring and Prediction (*Invited*): **Y Hong**, J Wang, R F Adler, D B Kirschbaum, F S Policelli, S Habib, D Irwin
- 1135h **NH42A-06** Role of InSAR in Monitoring and Characterizing Natural Hazards: **Z Lu**
- 1150h **NH42A-07** Review of the Applications of Formosat-2 on Rapidly Responding to Global Disasters and Monitoring Earth Environment: **C Liu**
- 1205h **NH42A-08** USGS Emergency Response and the International Charter Space and Major Disasters: **B K Jones**

Near Surface Geophysics

NS42A Moscone West: 2016 Thursday 1020h
Back to Basics: Measurement of Electrical Properties of Rocks and Sediments II (*joint with H, MR, GP*)

Presiding: **K E Butler**, University of New Brunswick; **J B Merriam**, University of Saskatchewan

1025h **NS42A-01** The seismoelectric method: underlying theory in saturated and unsaturated conditions, forward and inverse modeling (*Invited*): **A Revil**

1045h **NS42A-02** Electrical and Magnetic Measurements from microHertz to teraHertz (*Invited*): **G R Olhoeft**

1105h **NS42A-03** Laboratory measurements of basalts electrical resistivity under deep oceanic crustal conditions: **M E Violay**, B Gibert, P Azais, P A Pezard, O G Flovenz, R Asmundsson

1120h **NS42A-04** Pollutant monitoring in a sand-column with Spectral Induced Polarization, Time Domain Reflectometry, and geochemistry analysis: experimentation and modeling: **V Pierre**, M Schmutz, M Franceschi, A Revil

1135h **NS42A-05** New insights into the electrical properties of ice and permafrost: R E Grimm, **D Stillman**, J A MacGregor, C L Dinwiddie, R N McGinnis, D M Hooper

1150h **NS42A-06** Streaming potential coupling coefficient in sandstones saturated with natural and artificial brines at high salinity: M Z Jaafar, **J Vinogradov**, M Jackson

1205h **NS42A-07** EXPERIMENTAL INVESTIGATION OF THE THERMOELECTRIC COUPLING COEFFICIENT IN SATURATED POROUS MEDIA: **E Leinov**, J Vinogradov, M Jackson

Ocean Sciences

OS42A Moscone West: 3003 Thursday 1020h
Geological Setting of Gas Hydrate Reservoirs and Seeps: A Source for Clean Energy and/or Storage for CO₂ III

Presiding: **B Kvamme**, University of Bergen

1020h **OS42A-01** Methane Hydrate Exploration Related to Deep Sediment Carbon Dioxide Sequestration (*Invited*): **R B Coffin**

1035h **OS42A-02** Impacts from Salinity on Hydrate Growth Pattern and Induction Time in Porous Sandstone: **K Birkedal**, G Ersland, J Husebø, B Kvamme, J Stevens, J J Howard, A Graue

1050h **OS42A-03** Meso-Scale Clathrate Experiments: Effect of Grain Size on Formation Pathways: **J R Leeman**, M Elwood-Madden, J Alford, T J Phelps, C Rawn

1105h **OS42A-04** Microscale Modelling of Water and Gas-Water Flows in Subsea Sand Sediment: **T Sato**, T Sugita, S Hirabayashi, J Nagao, Y Jin, F Kiyono

1120h **OS42A-05** Sulfate, Methane, Alkalinity, Calcium and Carbon Isotope ($\delta^{13}\text{C}$) Profiles as an Indicator of Upward Methane Flux: S Chatterjee, G Bhatnagar, W G Chapman, G R Dickens, B Dugan, G J Hirasaki

1135h **OS42A-06** Carbon dioxide sequestration in natural gas hydrates: Thermodynamic considerations: **J M Schicks**, B Beeskow-Strauch, M Luzi, M Girod, J Erzinger

1150h **OS42A-07** Neutron Powder Diffraction Study of CO₂ Hydrate as a Function of Pressure: **C J Rawn**, B C Chakoumakos, O Garlea, J R Leeman, J Alford, M Elwood-Madden, T J Phelps

1205h **OS42A-08** Characterization of Methane Hydrate Growth from Aqueous Solution by Raman Spectroscopy: **I Chou**, W Lu, S Yuan, J Li, R C Burruss

Planetary Sciences

P42A Moscone South: 104 Thursday 1020h
Focus on Enceladus II (*joint with C, SM*)

Presiding: **R M Mastrapa**, SETI Institute/NASA Ames; **D R Stegman**, Univ. of California, San Diego

1020h **P42A-01** Detection and measurement of ice grains and gas distribution in the Enceladus plume by Cassini's Ion Neutral Mass Spectrometer: **B D Teolis**, M Perry, B A Magee, J H Westlake, J H Waite

1035h **P42A-02** Cassini/RPWS Dust Measurements During the Enceladus Flybys in 2008: **Z Wang**, W S Kurth, T F Averkamp, D A Gurnett

1050h **P42A-03** Ammonia on Enceladus: **R M Mastrapa**, J W Barnes, B Matthews, A N Srivastava, B Ou-Yang

1105h **P42A-04** Methanol on Enceladus: **R P Hodyss**, C D Parkinson, P V Johnson, J V Stern, J D Goguen, Y L Yung, I Kanik

1120h **P42A-05** A New Tour Design Technique to Enable an Enceladus Orbiter: **N Strange**, S Campagnola, R Russell

1135h **P42A-06** Dry Sources of Plume Emissions on Enceladus: **M Y Zolotov**

1150h **P42A-07** Origin of ice diapirism, true polar wander, subsurface ocean, and tiger stripes of Enceladus driven by compositional convection: J Freeman, **D R Stegman**, D May

1205h **P42A-08** Joule Heating of the South Polar Terrain on Enceladus: **K P Hand**, K K Khurana, C F Chyba

P42B Moscone South: 307 Thursday 1020h
Modeling Planetary Dynamics III (*joint with G, DI, T, EP*)

Presiding: **D T Sandwell**, SIO; **C Sotin**, Jet Propulsion Laboratory

1020h **P42B-01** Core-Envelope Interior Models of the Outer Planets: **G Schubert**, J D Anderson, R Helled

1032h **P42B-02** Mantle convection and plate tectonics on Earth-like exoplanets: **C Sotin**, G Schubert

1044h **P42B-03** Influence of rheology and giant impactors on the terrestrial core formation: **G J Golabek**, T Gerya, B J Kaus, R Ziethe, G Moll, P J Tackley

1056h **P42B-04** Fluid Flow and Chemical Alteration in Carbonaceous Chondrite Parent Bodies: **J Palguta**, G Schubert, B J Travis

1108h **P42B-05** Optimal Dynamos in Terrestrial Exoplanets: **P E Driscoll**, P Olson

1120h **P42B-06** LOWLID FORMATION AND PLATE TECTONICS ON EXOPLANETS: **V Stamenkovic**, L Noack, D Breuer

1132h **P42B-07** Dynamic Layer Formation in Planetary Interiors: **U Hansen**

1144h **P42B-08** Mode 1 Mantle Convection in Tidally-locked Rocky Exoplanets: **S E Gelman**, L T Elkins-Tanton, S Seager

1156h **P42B-09** Interplay of endothermic phase transition and electron thermal conductivity results in episodic mantle convection in Super-Earth exoplanets: **A P Van Den Berg**, D A Yuen

1208h **P42B-10** Lifting the cover of the cauldron: Convection in young planets: **Y R Ricard**, S J Labrosse, F Dubuffet

Paleoceanography and Paleoclimatology

PP42A Moscone West: 2004 Thursday 1020h Reconstructing Warm Climates of the Early Eocene I

Presiding: J E Tierney, Brown University; C Chazen, Brown University

1020h **PP42A-01** Kimberlite degassing and paleoclimate: M Patterson, D Francis

1035h **PP42A-02** Simulating the Warm Climate of the Early Eocene (*Invited*): J T Kiehl, C A Shields

1050h **PP42A-03** A High-Latitude Convective Cloud Feedback and Equable Climates (*Invited*): D S Abbot, M Huber, G Bousquet, C C Walker, E Tziperman

1105h **PP42A-04** Tropical Sea-Surface Temperatures for the Early Paleogene Greenhouse Climate: Ion Microprobe Analysis of $\delta^{18}\text{O}$ in Muricae of Planktonic Foraminiferal Tests (*Invited*): R Kozdon, D Kelly, N Kita, J W Valley

1120h **PP42A-05** Investigating Seasonal Isotopic Variability along an Early Eocene Shallow Shelf: J A Sessa, L C Ivany, T H Schlossnagle

1135h **PP42A-06** Eocene Precipitation: How Wet and Where? A Model-Proxy Comparison: D R Greenwood, M Huber, R Y Smith

1150h **PP42A-07** Modeling the influence of a reduced equator-to-pole sea surface temperature gradient on the distribution of water isotopes in the Eocene: E N Speelman, J O Sewall, D C Noone, M Huber, J S Sinninghe Damsté, G Reichert

1205h **PP42A-08** Climatic and floral change during the Paleocene-Eocene Thermal Maximum in the Bighorn Basin (*Invited*): S L Wing

SPA - Solar and Heliospheric Physics

SH42A Moscone South: 301 Thursday 1020h Half a Century of Collisionless Shock Physics: Open Questions and Recent Progress III (*joint with SM*)

Presiding: M L Goldstein, NASA Goddard Space Flight Center; M Balikhin, The University of Sheffield

1020h **SH42A-01** Kinetic simulations of astrophysical collisionless shocks (*Invited*): A Spitkovsky

1050h **SH42A-02** Dynamical shock: Theory and observations (*Invited*): V Krasnoselskikh, V Lobzin

1120h **SH42A-03** New Observations of Earth's Bow Shock: G K Parks, E Lee, A F TESTE, N Lin, F Mozer, M Wilber, S Fu, J Cao, I S Dandouras, H Reme, J Sauvaud, K Meziane

1135h **SH42A-04** Waves associated with interplanetary shocks driven by stream interactions: X Blanco-Cano, E Aguilar-Rodriguez, C Russell, L Jian, J G Luhmann

1150h **SH42A-05** Two-dimensional Hybrid model of Collisionless Relaxation of Ion Distributions downstream of Quasi-perpendicular Shocks: L Ofman, M Gedalin

1205h **SH42A-06** Modeling Spectral Turnovers in Interplanetary Shocks Observed by ULYSSES: E J Summerlin, M G Baring

SPA - Magnetospheric Physics

SM42A Moscone South: 303 Thursday 1020h The Scientific Promise of Nanosatellites and CubeSats to Advance Geospace and Upper Atmosphere Science II (*joint with AE, SA*)

Presiding: M Pilinski, University of Colorado Boulder; D M Klumppar, Montana State University

1020h **SM42A-01** The NSF CubeSat Program: The Promise of Scientific Projects (*Invited*): T Moretto

1040h **SM42A-02** A Retrospective Look Forward on Constellation-Class Geospace Missions (*Invited*): H E Spence, T E Moore

1100h **SM42A-03** The Challenges and Promise of CubeSat-Based Instrumentation for Thermal Plasma and Neutral Measurements (*Invited*): G Earle, R Davidson

1144h **SM42A-04** DANDE: A Nanosatellite for Measuring Thermospheric Wind and Density: M Pilinski, S E Palo

1150h **SM42A-05** Radio Aurora Explorer : Mission overview and the science objectives: H Bahcivan, J Cutler, J Buonocore, M Bennett

1156h **SM42A-06** Dynamic Ionosphere Cubesat Experiment (DICE): G Crowley, C S Fish, G S Bust, C Swenson, A Barjatya, M F Larsen

1202h **SM42A-07** The NSF Firefly Cubesat: Progress and status: D E Rowland, A T Weatherwax, J H Klenzing, J Hill

1208h **SM42A-08** FIREBIRD: A Dual Satellite Mission to Examine the Spatial and Energy Coherence Scales of Radiation Belt Electron Microbursts: D M Klumppar, H E Spence, B A Larsen, J B Blake, L Springer, A B Crew, E Mosleh, K W Mashburn

1214h **SM42A-09** CINEMA (Cubesat for Ion, Neutral, Electron, Magnetic fields): R P Lin, G K Parks, J S Halekas, D E Larson, J P Eastwood, L Wang, J G Sample, T S Horbury, E C Roelof, D Lee, J SEON, J Hines, H Vo, C Tindall, J Ho, J Lee, K Kim

SM42B Moscone South: 305 Thursday 1020h Universality in MHD Turbulence: Tools, Theory, and Observations II (*joint with SH, NG*)

Presiding: C Ng, Geophysical Institute; A Pouquet, NCAR

1020h **SM42B-01** Magnetic field elasticity and the role of reconnection in MHD turbulence (*Invited*): D P Lathrop

1038h **SM42B-02** The Turbulent Cascade and Proton Heating in the Solar Wind at 1 AU with Emphasis on High Cross Helicity States (*Invited*): C W Smith, M A Forman, J E Stawarz, B J Vasquez, J Tessein, B T MacBride

1056h **SM42B-03** The Existence and Origin of Turbulence in Solar Active Regions: J A Klimchuk, G Nigro, R B Dahlburg, S K Antiochos

1110h **SM42B-04** Coexistence of wave and strong turbulence anisotropic MHD flows: B Bigot, S Galtier, H Politano

1124h **SM42B-05** Generation of non-Gaussian statistics and coherent structures in ideal magnetohydrodynamics: W H Matthaeus, M Wan, S Servidio, S Oughton

1138h **SM42B-06** Real-Life Turbulence in Earth's Magnetosphere: Are We There Yet?: V M Uritsky

1152h **SM42B-07** Interchange Contributions to Plasma Sheet Turbulence: The Necessity for a Kinetic Treatment: F V Coroniti, P L Pritchett

1206h **SM42B-08** Modelling the Burstiness of Complex Space Plasmas Using Linear Fractional Stable Motion: N W Watkins, S J Rosenberg, S C Chapman, R Sanchez, D Credgington

Study of Earth's Deep Interior (DI)

DI42A Moscone West: 2003 Thursday 1020h Composition, Structure, and Thermodynamics of the Earth's Core II (*joint with GP, MR, S*)

Presiding: D Antonangeli, Institut de minéralogie et de physique des milieux condensés, Institut de Physique du Globe de Paris, Université Paris 6 et 7; A F Deuss, University of Cambridge

1020h **DI42A-01** Modelling degree-one velocity structure in Earth's inner core using normal modes: **J C Irving**, A F Deuss

1035h **DI42A-02** Inner Core Hemisphericity and Anisotropy: New Observations from Large Seismic Arrays (*Invited*): **F Niu**

1050h **DI42A-03** Earthquakes and Stations of the Southern Hemisphere: Keys to the Inner Core Anisotropy Puzzle?: **H Tkalcic**

1105h **DI42A-04** Scaling the Earth's inner core differential rotation: **J Aubert**

1120h **DI42A-05** The Core Density and Elastic Anisotropy: insights from the hcp-Fe and Fe_{0.8}Ni_{0.2} Alloy P-V-T Equations of State and c/a Ratio to 220 GPa and 3000 K: **N Guignot**, A Dewaele, M Roskosz, G Morard, P Loubeyre, G Garbarino, J Perrillat, M Mezouar

1135h **DI42A-06** Ab initio calculations of the elasticity of hcp-Fe as a function of temperature at inner-core pressure (*Invited*): **L Vocablo**, I G Wood

1150h **DI42A-07** Phase relations of iron alloys at high pressure (*Invited*): **Y Kuwayama**, K Hirose, N Sata, Y Ohishi

1205h **DI42A-08** Stratification of the Outermost Core by Reaction with the Mantle: **J W Hernlund**, S J Labrosse, D Gubbins, K Hirose, M Jellinek, T Lay, E J Garnero, M Manga, C T Houser, N Coltice

Seismology

S42A Moscone West: 2007 Thursday 1020h
Advances in Signal Processing Methods for Seismology II

Presiding: **A C Rosca**, Chevron; **S Lebedev**, Dublin Inst Advanced Studies

1020h **S42A-01** Spectral Element Simulation of Waveforms Obtained by Correlation of Ambient Seismic Noise (*Invited*): **P Cupillard**, Y Capdeville, L Stehly, J Montagner, B A Romanowicz

1035h **S42A-02** Seismic Signature Feature Identification of the Subducting Slab of Japan (*Invited*): **I Lucifredi**, M Ishii

1050h **S42A-03** Curvelets for signal processing in seismology: an exploration perspective (*Invited*): **G Hennenfent**

1105h **S42A-04** Autoregression of Quasi-Stationary Time Series (*Invited*): **T M Meier**, L Küperkoch

1120h **S42A-05** Interferometric correlogram-space analysis: **O V Poliannikov**, M E Willis, B J Mashele

1135h **S42A-06** The virtual refraction in elastic media: **K Van Wijk**, T D Mikesell, J D Nichols, M M Haney

1150h **S42A-07** A Secret Decoder Ring for Volcanic Tremor: Method and Application to Erta Ale, Ethiopia: **J P Jones**, R Carniel, S D Malone

1205h **S42A-08** Spectrographic Image Analysis Applied to Gabor and Wavelet Transforms: **J M Lees**

S42B Moscone West: 2005 Thursday 1020h
Earthquake Strong Ground Motions I (*joint with NH, NS*)

Presiding: **S Song**, URS Corporation; **J B Fletcher**, US Geological Survey

1020h **S42B-01** Site Response And Slow Basin Waves In The Sacramento/San Joaquin Delta: **J B Fletcher**, R Sell

1035h **S42B-02** A wavelet-based seismogram inversion algorithm for the in-situ characterization of nonlinear soil behavior: **D Assimaki**, A Kalos, W Li

1050h **S42B-03** Physics-based earthquake source modeling with geostatistics for ground motion simulation: **S Song**, P G Somerville, R W Graves

1105h **S42B-04** The Effect Of Fault Stepovers On Ground Motion: **J Lozos**, D D Oglesby, J N Brune

1120h **S42B-05** Characterized Source Model of Intrastab Earthquakes for Strong Ground Motion Prediction: **T Iwata**, K Asano

1135h **S42B-06** The dynamic rupture and near source ground motion characteristics of thrust, normal and vertical strike slip faults under different tectonic loading regimes: **L A Dalguer Gudiel**, P M Mai

1150h **S42B-07** 3-D ground motion modeling for M7 dynamic rupture earthquake scenarios on the Wasatch fault, Utah: **D Roten**, K B Olsen, V M Cruz Atienza, J C Pechmann, H W Magistrale

1205h **S42B-08** The Slapdown Phase in the Strong Motion Record for the 2008 Iwate-Miyagi Nairiku Earthquake: **JJ Mori**, M Yamada, T H Heaton

Tectonophysics

T42A Moscone West: 2011 Thursday 1020h
From East to West: New Views on the Geology and Tectonics of the Himalayan-Tibetan Orogen II (*joint with G, PP, S, EP, V*)

Presiding: **L M Schoenbohm**, University of Toronto at Mississauga; **A C Robinson**, University of Houston

1020h **T42A-01** Eastern Himalaya; their oddities, geologic causes and implications (*Invited*): **D Grujic**

1035h **T42A-02** Dating the depths of the India-Asia collision: U-(Th)-Pb chronology of amphibolite and granulite-grade rocks in NW Bhutan: **C J Warren**, D Grujic, J M Cottle, D A Kellett

1050h **T42A-03** Pre-Cenozoic metamorphism and deformation of Lesser Himalayan rocks in central Nepal: **A J Martin**, P Copeland

1105h **T42A-04** Time-Scales of Melt Generation in the Ama Drime and Leo Pargil Domes: Quantifying Links Between Mid-Crustal Anatexis and Exhumation in the Core of the Himalayan Orogen: **J M Cottle**, M J Jessup

1120h **T42A-05** Along-strike variations in syncollisional extension in the Himalayas and southern Tibet: **M A Murphy**, V Sanchez, T Baltz

1135h **T42A-06** Along-strike Variation of Himalayan Drainage Patterns and the Role of Tectonic Development, Climate Condition, and Thickness Distribution of Foreland Sediments: **A Yin**, W Burgess

1150h **T42A-07** Lower Paleozoic Continuity of the East Gondwanan Margin and Implications for Interpretation of Tectonostratigraphic Zones of the Himalaya: **P Myrow**, N Hughes, C M Fanning, D Banerjee, J A DiPietro

1205h **T42A-08** The age and degree of diachroneity of India-Asia collision determined from the sedimentary record: a comparison of new evidence from the east (Tibet) and west (Ladakh) of the orogen: **Y Najman**, M Boudagher-Fadel, L Godin, R Parrish, P Bown, E Garzanti, M Horstwood, D Jenks

T42B Moscone West: 2009 Thursday 1020h
Intraplate Deformation and Sedimentary Basins: A Record of Plate Margin Processes? III

Presiding: **M J Heumann**, University of Utah; **J P Taylor**, Syracuse University

1020h **T42B-01** Thermal structure of the lithosphere in the Hudson Bay region (*Invited*): **J Mareschal**, F Levy, C P Jaupart

1035h **T42B-02** Lithospheric architecture of the Hudson Bay region (*Invited*): **D W Eaton**, F A Darbyshire

1050h **T42B-03** Using GRACE Gravity Data to Constrain Continental Dynamics and Structure over Laurentia (*Invited*):

J X Mitrovica, M E Tamisiea, A M Forte, J L Davis

1105h **T42B-04** Precambrian Crustal Evolution of the Hudson Bay Region: Insights from Receiver Function Analysis (*Invited*):

D A Thompson, I D Bastow, G R Helffrich, J M Kendall, J Wookey, D B Snyder, D W Eaton

1120h **T42B-05** The opening of Sirte basin: Result of slab avalanching?: **F A Capitanio**, C Faccenna

1135h **T42B-06** Flat-slab subduction and continental deformation: an integrated geophysical and geological investigation of basement uplifts within the eastern Sierras Pampeanas, Argentina:

T J Richardson, K D Ridgway, R Martino, H J Gilbert, M L Anderson, P M Alvarado, C Carignano, E Enkelmann

1150h **T42B-07** Thermochronological constraints on a Long Term (25 Ma) Record of Persistent Focused Exhumation in the Eastern Alaska Range: **J Benowitz**, P W Layer, S E Perry, S Roeske, P G Fitzgerald

1205h **T42B-08** Structure of the Tahoe and Truckee Basins, California, from Geophysical Constraints: **P A Bedrosian**, C E Ailes, M K Burgess, B H Imig

Volcanology, Geochemistry and Petrology

V42A Moscone West: 2018 Thursday 1020h
Bridging Field, Geochemistry, and Physical Models to Better Understand the Evolution of Crustal Magma Reservoirs and the Generation of Differentiated Melts II

Presiding: **O Bachmann**, University of Washington; **C Huber**, Georgia Institute of Technology

1020h **V42A-01** The origins of large volume, compositionally-zoned volcanic eruptions – new constraints from U-series isotopes and numerical thermal modeling for the 1912 Katmai-Novarupta eruption: **S Turner**, M Sandiford, M K Reagan, C J Hawkesworth, E W Hildreth

1035h **V42A-02** A new method fingerprinting magmatic processes using combined U/Pb ID-TIMS geochronology and accessory mineral geochemistry: **B Schoene**, U Schaltegger, C Latkoczy, D Günther

1050h **V42A-03** Geochronology of zircon surfaces enhances the record of magma storage and recycling beneath Mount St. Helens: **L L Claiborne**, C F Miller, D M Flanagan, J L Wooden, M A Clynne

1105h **V42A-04** Zircon from Swift Creek stage eruptions records the assembly and evolution of an intrusive magmatic complex beneath Mount St. Helens: **D M Flanagan**, L L Claiborne, C F Miller, M A Clynne, J L Wooden

1120h **V42A-05** High Precision U-Pb CA-TIMS Geochronology for the Sentinel and Yosemite Creek Granodiorites, Sierra Nevada Batholith, CA: A history of punctuated intrusion and protracted crystallization: **S D Burgess**, S A Bowring, J Petsche, R B Miller, J S Miller

1135h **V42A-06** Interpreting Al-in Hornblende and Hbl-Plag thermobarometry results from the Tuolumne batholith and magmatic lobes in conjunction with single mineral element distribution electron microprobe maps: **V Memeti**, J Krause, J L Anderson, S R Paterson

1150h **V42A-07** Examining the role of magma mixing with major and minor element distribution patterns in rock-forming minerals in the Tuolumne batholith, Sierra Nevada, CA: **J Krause**, V Memeti, S R Paterson

1205h **V42A-08** Isotopic evidence of magmatic processes and tectonic setting in a tilted arc crustal section, southern Mongolia:

R C Economos, S R Paterson, M N Ducea

V42B Moscone West: 2020 Thursday 1020h
Using Small-Scale Observations to Answer Big Questions in Earth Sciences: Advances From 30 Years of Ion Microprobe Analysis I (*joint with PP, P, DI, T, EP*)

Presiding: **M G Jackson**, Carnegie Inst. of Washington; **E F Rose-Koga**, Laboratoire Magmas et Volcans; **S R Hart**, Woods Hole Oceanographic Institution; **S R Hart**, Woods Hole Oceanographic Institution

1020h **V42B-01** High-Precision Stable Isotope Analyses with the NanoSIMS 50L (*Invited*): **E H Hauri**, J Wang, D Papineau, F Hillion

1035h **V42B-02** Evidence for deep pooling of low degree melts from volatile, major, and trace element chemistry of olivine-hosted melt inclusions and glasses from the ultra-slow spreading Gakkel Ridge: **A M Shaw**, M D Behn, S E Humphris, R A Reves-Sohn, P M Gregg

1050h **V42B-03** Melt Inclusions from the Galápagos Plume: Clues to the Origin of 'Ghost Plagioclase': **K Burgess**, A Saal, A M Koleszar, E H Hauri, Y Liang, R F Cooper

1105h **V42B-04** Do Melt Inclusions Answer Big Questions?: **A W Hofmann**, A V Sobolev

1120h **V42B-05** Elevated water concentrations and evidence of small scale heterogeneity in olivine-hosted melt inclusions: Insight into the source of high melt volumes in the Iceland hotspot: **M E Peterson**, C Stefano, N Shimizu, A J Kent, S B Mukasa

1135h **V42B-06** The Origin of Pb Isotopic Variations in Icelandic Melt Inclusions: **D P McKenzie**, J MacLennan

1150h **V42B-07** Correlations between Pb isotopes and volatile elements in melt inclusions from Sao Miguel, Azores: **M A Moreira**, E F Rose-Koga, K T Koga, I Vlastelic, N Shimizu, M Whitehouse

1205h **V42B-08** Chlorine and Fluorine partitioning between peridotite and basalt at mantle wedge conditions: Implications for arc magma source: **C Dalou**, K T Koga, N Shimizu

Thursday P.M.

Union

U43A Moscone South: Poster Hall Thursday 1340h
Quantifying the Sensitivity of Landscapes to Climate Change II Posters (*joint with EP, H, GC, NH*)

Presiding: **W E Dietrich**, University of California

1340h **U43A-0061 POSTER** Reading river response to climate change from hyperpynal-plume deposits: **M P Lamb**, D C Mohrig, B J McElroy, B Kopriva, J Shaw

1340h **U43A-0062 POSTER** Earthflow response to Pacific Decadal Oscillation-driven climate change: 20th Century trends and predictions for the Eel River, California: **B H Mackey**, J J Roering

1340h **U43A-0063 POSTER** Design of integrated hydrologic, hydrodynamic, and biogeophysical modeling studies for the Skagit River basin in Washington State and prospects for implementation: **A F Hamlet**, T P Khangaonkar

1340h **U43A-0064 POSTER** Distinct Regimes: Using Hypsometry and Field Observations to Predict the Hydrologic and Geomorphic Response to Changes in Precipitation Phases within the Salmon River, Idaho: **C J Tennant**, **B T Crosby**

1340h **U43A-0065** *POSTER* Spatial and temporal trends in soil properties in response to Quaternary climate forcing: an assessment using the mARM3D soil evolution model: **S Cohen**, G R Willgoose, G R Hancock

1340h **U43A-0066** *POSTER* A Python Plug-in Based Computational Framework for Spatially Distributed Environmental and Earth Sciences Modelling: **G R Willgoose**

1340h **U43A-0067** *POSTER* Climate change and the impact of increased rainfall variability on sediment transport and catchment scale water quality: **G R Hancock**, G R Willgoose, S Cohen

1340h **U43A-0068** *POSTER* Sediment sources and yields within the Idaho batholith in a changing climate: **J Goode**, C Luce, J M Buffington

1340h **U43A-0069** *POSTER* Quantification of coupling between erosion and hydrology in an intensely monitored "field laboratory" in southeastern Arizona, USA: J P Johnson, **S DeLong**, K X Whipple, D V Malmon

1340h **U43A-0070** *POSTER* Can uncertain landscape evolution models discriminate between landscape responses to stable and changing future climate? A millennial-scale test: **A Temme**, J Baartman, J Schoorl

1340h **U43A-0071** *POSTER* Modeling Coastline Response to Changing Storm Climate: **D McNamara**, A B Murray, L J Moore, O Brenner

1340h **U43A-0072** *POSTER* A coupled eco-hydro-geomorphic investigation of basin response to climate change: Examining the role of climate on internal basin dynamics: **A Francipane**, V Y Ivanov, E Istanbuluoglu, V Noto

U43B Moscone South: I03 Thursday 1340h
Science and Technology in GEO and GEOSS I

Presiding: **H Plag**, **N Gabron**, JRC; **K S Fontaine**, NASA

1340h **U43B-01** The Role of Science and Technology in the Global Earth Observation System of Systems (GEOSS): S A Minchin, **P Whung**

1352h **U43B-02** The ASTER Global Topographic Data Set: **M Abrams**, B Bailey, H Tsu, M Hato

1404h **U43B-03** Real-time Global Flood and Landslide Prediction Using Satellite Observations (*Invited*): **R F Adler**, K K Yilmaz, D Kirschbaum, Y Hong, H Pierce, F Policelli

1416h **U43B-04** Scientific Contributions to GEO Global Earth Observation Priorities: **L Friedl**, E LeDrew

1426h **U43B-05** Enhancing Decision Making in the Energy Sector Using Space-Based Earth Observations: A GEO and CEOS Perspective: **R S Eckman**, P W Stackhouse

1436h **U43B-06** How Key GEOSS Datasets Contribute to the Global Monitoring and Assessment of Glaciers: **S S Khalsa**, A Racoviteanu, B H Raup, R L Armstrong

1446h **U43B-07** Recent Advances in GEO Water Cycle Activities: **R G Lawford**

1456h **U43B-08** Satellite Constellation for Ocean Wind and Stress: **W Liu**, X Xie

1506h **U43B-09** The Global Invasive Species Information Network: contributing to GEO Task BI-07-01b: J Graham, **J T Morissette**, A Simpson

1516h **U43B-10** A GEO Global Agricultural Water Productivity Mapping System: **P S Thenkabail**, W Pozzi, N L Miller, B Fekete, J Sheffield, L Dumenil-Gates

1526h **U43B-11** Integrating Socioeconomic Data into GEOSS to Enable Societal Benefits: **R S Chen**, G Yetman

Atmospheric Sciences

A43A Moscone South: Poster Hall Thursday 1340h
Composition of the Arctic Atmosphere: Sources, Transport, Chemistry, and Impacts on Clouds and Climate VI Posters

Presiding: **C A Brock**, NOAA Earth System Research Laboratory; **P Quinn**, NOAA

1340h **A43A-0153** *POSTER* A case study of polarimetric aerosol property retrieval over clouds during the ARCTAS field campaign: **K D Knobelspiesse**, B Cairns, M D Alexandrov, M Ottaviani, C A Hostetler, R A Ferrare

1340h **A43A-0154** *POSTER* Validation of satellite overland retrievals of AOD at northern high latitudes with coincident measurements from airborne sunphotometer, lidar, and in situ sensors during ARCTAS: **J M Livingston**, Y Shinozuka, J Redemann, P B Russell, S Ramachandran, R R Johnson, A D Clarke, S G Howell, C McNaughton, S Freitag, V N Kapustin, R A Ferrare, C A Hostetler, J W Hair, O Torres, P Veefkind, L A Remer, S Mattoo, R C Levy, A D Chu, R A Kahn, M R Davis

1340h **A43A-0155** *POSTER* THE BRIGHTEST SIDE OF ARCTAS: USING SUNGLINT AND POLARIZATION IN RETRIEVALS OF AEROSOL PROPERTIES: **M Ottaviani**, B Cairns, K D Knobelspiesse, C A Hostetler, R A Ferrare, J Redemann, Y Shinozuka, J M Livingston, A D Clarke, C S McNaughton

1340h **A43A-0156** *POSTER* The Influence of Aerosol Chemistry on Spectral Aerosol Optical Properties During ARCTAS: **C A Corr**, S R Hall, K Ullmann, R Shetter, B Anderson, M Cubison, J L Jimenez, E M Scheuer, J E Dibb, P O Wennberg

1340h **A43A-0157** *POSTER* Aerosol Optical and Microphysical Properties of Arctic Haze, Forest Fire Plumes, and Ozone Depletion Events during ARCTAS (DC-8): **A J Beyersdorf**, B Anderson, G Chen, K L Thornhill, E L Winstead, L D Ziemba, T L Latham, J E Dibb, E M Scheuer, J L Jimenez, M Cubison, Y Kondo

1340h **A43A-0158** *POSTER* Analysis of Snow BRDF from Spring-2008 ARCTAS Campaign: **A Lyapustin**, C K Gatebe, R A Kahn, R E Brandt, J Redemann, P B Russell, M D King, C A Pedersen, S Gerland, R Poudyal, A Marshak, Y Wang, C Schaaf, D K Hall, A A Kokhanovsky

1340h **A43A-0159** *POSTER* Airborne Measurement of Surface Albedo in Alaska: S Schmidt, **E Bierwirth**, P Pilewskie, J Redemann, R E Brandt, A Lyapustin, C K Gatebe, C Schaaf, R A Kahn

1340h **A43A-0160** *POSTER* Aerosol, surface, and cloud optical parameters derived from airborne spectral actinic flux: measurement comparison with other methods: **H Stark**, E Bierwirth, S Schmidt, B C Kindel, P Pilewskie, D A Lack, S Madronich, D D Parrish

1340h **A43A-0161** *POSTER* Characterization of Aerosols and Bidirectional Reflectance Distribution Function from Airborne Radiation Measurements over Snow, Sea Ice, Tundra, And Clouds: **C K Gatebe**, M D King

1340h **A43A-0162** *POSTER* Investigating the CCN Activation Kinetics of Aerosol in Arctic Haze and Canadian Boreal Forest Fires: **T L Latham**, A Nenes, R Moore, B Anderson, A J Beyersdorf, K L Thornhill, E L Winstead, M Cubison, J L Jimenez, R Weber, A Hecobian, A D Clarke, C S McNaughton, S Howell

1340h **A43A-0163** *POSTER* Absorption Properties of Arctic Aerosol: **R Gao**, J P Schwarz, D A Lack, R Bahreini, K D Froyd, S Lance, J R Spackman, W Laurel A, D W Fahey, A M Middlebrook, P R Veres, C A Brock

- 1340h **A43A-0164 POSTER** Airborne High Spectral Resolution Lidar Aerosol Measurements during ARCTAS: **R A Ferrare**, C A Hostetler, J W Hair, A Cook, D Harper, S P Burton, M D Obland, R Rogers, A J Swanson, A D Clarke, C S McNaughton, Y Shinozuka, J Redemann, J M Livingston, P B Russell, C A Brock, D A Lack, K D Froyd, J A Ogren, B Andrews, A Laskin, R Moffet, M K Gilles, A Nenes, T L Latham, P Liu
- 1340h **A43A-0165 POSTER** Height of the Planetary Boundary Layer During ICEALOT 2008: **V R Sawyer**, R K Varner, P J Kelly, E J Welton, D C Vandemark, D E Wolfe, R W Talbot
- 1340h **A43A-0166 POSTER** Absorbing aerosol in the troposphere of the Western Arctic during the 2008 ARCTAS/ARCPAC airborne field campaigns: **C S McNaughton**, A D Clarke, S Freitag, V N Kapustin, Y Kondo, N Moteiki, L K Sahu, N Takegawa, J P Schwarz, J R Spackman, G S Diskin, G W Sachse, J R Podolske, J Holloway, A Wisthaler, T Mikoviny, J A De Gouw, C Warneke, J L Jimenez, M Cubison, S Howell, A M Middlebrook, R Bahreini, B Anderson, E L Winstead, K L Thornhill, D A Lack, J Cozic, C A Brock
- 1340h **A43A-0167 POSTER** Ice and Aerosol Observations by the NASA Langley Airborne High Spectral Resolution Lidar during ARCTAS: **S P Burton**, R A Ferrare, C A Hostetler, J W Hair, L D Ziemba, A H Omar, A Cook, D Harper, M D Obland, R Rogers, N O'Neill
- 1340h **A43A-0168 POSTER** The microphysical properties of arctic cirrus derived from in-situ measurements during ISDAC and M-PACE: implications for the importance of small ice crystals: **G M McFarquhar**, K Bae, J Um, P Lawson, A V Korolev, W Strapp, R Jackson, M Freer, M Poellot
- 1340h **A43A-0169 POSTER** Aerosol Influence on Ice Nucleation via the Immersion Mode in Mixed-Phase Arctic Stratiform Clouds: **G de Boer**, T Hashino, G J Tripoli, E W Eloranta
- 1340h **A43A-0170 POSTER** High Spectral Resolution Lidar and CALIPSO measurements from the ARCTAS field campaign: **R Rogers**, R A Ferrare, C A Hostetler, J W Hair, M D Obland, S P Burton, M Vaughan, A Cook, D Harper
- 1340h **A43A-0171 POSTER** Modeling of Polar Precipitation with CloudSat, AIRS and High Frequency Microwave Radiometers: **F J Turk**, K Park, N Wang, Z S Haddad
- 1340h **A43A-0172 POSTER** Characterization of Ice Nuclei in the Arctic during the Indirect Semi-Direct Aerosol Campaign (ISDAC): **A Glen**, S D Brooks, P Liu, A Macdonald
- 1340h **A43A-0173 POSTER** The Effect of Black Carbon and Snow Grain Size on Snow Surface Albedo: **O L Hadley**, T Kirchstetter, M Flanner
- 1340h **A43A-0174 POSTER** An Overview of CCN Activity and Droplet Growth Kinetics Measurements of Arctic Aerosol During the 2008 NOAA ARCPAC and NASA ARCTAS Campaigns: **R Moore**, T L Latham, A Nenes, R Bahreini, A M Middlebrook, J Cozic, C A Brock, B Anderson, A J Beyersdorf, K L Thornhill, E L Winstead, M Cubison, J L Jimenez, R Weber, A Hecobian
- 1340h **A43A-0175 POSTER** Spectroscopy of Aerosols on-board of the NASA-P3 during ARCTAS: **G J Fochesatto**, R Krejci, G E Shaw, C Cahill, C S McNaughton, S Howell, A D Clarke, P B Russell
- 1340h **A43A-0176 POSTER** TOWARDS ICE FORMATION CLOSURE IN MIXED-PHASE BOUNDARY LAYER CLOUDS DURING ISDAC: **A Avramov**, A S Ackerman, A M Fridlind, B van Diedenhoven, A V Korolev
- 1340h **A43A-0177 POSTER** Aerosol Chemical, Physical, and Optical Properties Over an Ice-Free Region of the Arctic During the International Chemistry Experiment in the Arctic Lower Troposphere (ICEALOT): **T S Bates**, P Quinn, D J Coffman, D Covert, L M Russell, J F Burkhardt
- 1340h **A43A-0178 POSTER** Determining Sources and Pathways of Anthropogenic Emissions Contributing to Arctic Haze: **D L Harrigan**, H E Fuelberg, G E Shaw, K Sassen
- 1340h **A43A-0179 POSTER** Understanding the transport pathways of pollutants to the Arctic during the 2008 ARCTAS/CARB campaign: A regional scale modeling study: **S Kulkarni**, G R Carmichael, B Adhikary, C Wei, A D'Allura, M Huang, P Marrapu, A Jamroensan, Y Cheng, Y Tang, D G Streets, Q Zhang, R Pierce, J A Al-Saadi, J E Dibb, A J Weinheimer, G S Diskin, P O Wennberg, M Cubison, J L Jimenez, Y Kondo, J J Schauer, M M Shafer, P Solomon, J J Lantz, I Granberg, B Chen
- 1340h **A43A-0180 POSTER** Chemical characteristics of aerosols observed during ARCPAC 2008: **R Bahreini**, A M Middlebrook, K D Froyd, C Warneke, J Brioude, J Cozic, J deGouw, J Holloway, J B Nowak, J W Peischl, T B Ryerson, J P Schwarz, J R Spackman, P Veres, C A Brock, D M Murphy
- 1340h **A43A-0181 POSTER** Snow Core Records of Recent Deposition of Trace Metals to Central (Summit) Greenland: **M M Shafer**, J J Schauer, M Bergin
- 1340h **A43A-0182 POSTER** 1D Multiphase Modeling of Chemistry Over Remote Ice Sheets: **J L Thomas**, J Stutz, R von Glasow
- 1340h **A43A-0183 POSTER** On the origin of haze in the Icelandic wake: **A Blechschmidt**, J E Kristjánsson, H Ólafsson
- 1340h **A43A-0184 POSTER** Shipboard measurement of atmospheric DMS and its oxidation products over the Canadian Arctic: **O T Rempillo**, A Seguin, A L Norman
- 1340h **A43A-0185 POSTER** Large-Scale Ozone and Aerosol Variations Observed Over the Arctic During the ARCTAS Field Experiment: **J W Hair**, M A Fenn, S Ismail, E V Browell, C F Butler, A Notari, J E Collins, A J Weinheimer, R Pierce, S T Arctas
- 1340h **A43A-0186 POSTER** Chemical and Physical Properties of aerosols in aged-smoke layers from Asia during ARCTAS: **G E Shaw**, G J Fochesatto, C Cahill
- 1340h **A43A-0187 POSTER** Overview of POLARCAT intercomparisons: M M Kleb, **G Chen**, K Belli, J H Crawford, A F Rowell
- 1340h **A43A-0188 POSTER** Long-range transport into the Arctic: Pathways, chemical impacts, and interannual variability: **B N Duncan**, Q Liang
- 1340h **A43A-0189 POSTER** OH and HO₂ during the north Canadian spring: **P Edwards**, R Commane, T Ingham, D E Heard, M J Evans, J Lee, S moller, J Hopkins, J Dorsey, M Flynn, R Leigh, L Carpenter
- 1340h **A43A-0190 POSTER** Analysis of Atmospheric Mercury Depletion Events during the NASA ARCTAS Field Campaign: **S Kim**, R W Talbot, H Mao
- 1340h **A43A-0191 POSTER** Historical Data from the NOAA WP-3D Arctic Gas and Aerosol Sampling Program (AGASP) Flights: 1983, 1986, 1989 and 1992: **R C Schnell**, P J Sheridan
- 1340h **A43A-0192 POSTER** Gas Phase Bromine in Ozone Depleted Air Over the Arctic Ocean: **J Neuman**, J B Nowak, L G Huey, J E Dibb, J Holloway, J W Peischl, J M Roberts, T B Ryerson, E M Scheuer, H Stark
- 1340h **A43A-0193 POSTER** The ARCTAS aircraft mission: design and execution: **D J Jacob**, J H Crawford, H B Maring, A D Clarke, J E Dibb, R A Ferrare, C A Hostetler, P B Russell, H B Singh, A M Thompson, G E Shaw, E McCauley, J R Pederson, J A Fisher
- 1340h **A43A-0194 POSTER** HO_x Chemistry and Ozone Production during ARCTAS: **X Ren**, J Mao, W H Brune, C A Cantrell, L Mauldin, J R Olson, J H Crawford, G Chen

- 1340h **A43A-0195** POSTER Summertime tropospheric ozone budget above Greenland during the International Polar Year: **G Ancellet**, F Ravetta, K Law, R Adam de Villiers
- 1340h **A43A-0196** POSTER Transport to the Arctic during the ARCTAS 2008 Mission: **H E Fuelberg**, D L Harrigan, W Sessions
- 1340h **A43A-0197** POSTER Airborne Formaldehyde and VOC Measurements during Select Arctic Boundary Layer Runs in the 2008 ARCTAS Study and Estimates of Halogen Atom Mixing Ratios: **A Fried**, D Richter, P Weibring, E C Apel, K A Gorham, J Walega, D R Blake, N J Blake, J J Orlando, A Weinheimer, D J Knapp, G Huey, S Meinardi
- 1340h **A43A-0198** POSTER Photochemical Analysis of ARCTAS Observations: **J R Olson**, J H Crawford, G Chen, W H Brune, X Ren, P O Wennberg, A Fried, J Mao
- 1340h **A43A-0199** POSTER MOPITT Observations of Arctic Tropospheric CO from 2000 - 2009: **M N Deeter**, D P Edwards, L K Emmons, J C Gille, D S Masters, H M Worden, J W Hannigan, R Batchelor, R Lindenmaier, K Strong, T Blumenstock, F Hase, P C Novelli
- 1340h **A43A-0200** POSTER Records of Northern Hemisphere Atmospheric Carbon Monoxide and Hydrogen Back to ~1950 AD from Greenland Firn Air: **V V Petrenko**, P C Novelli, D M Etheridge, I Levin, Z Wang, P MARTINERIE, T Blunier, J A Chappellaz, J Kaiser, P Lang, P Steele, F Vogel, M Leist, J E Mak, R Langenfelds, J Schwander, J P Severinghaus, G Forster, W T Sturges, M Rubino, J W White
- 1340h **A43A-0201** POSTER Measurement Evidence for the Role of Halogens in Arctic Mercury Depletion: **H Mao**, R W Talbot, B Sive
- 1340h **A43A-0202** POSTER Patterns of CO₂ and radiocarbon across high northern latitudes during IPY 2008: **S A Vay**, Y Choi, K P Vadrevu, J Woo, S C Tyler, D R Blake, G S Diskin, H E Fuelberg
- 1340h **A43A-0203** POSTER Constraining recent lead pollution sources in the North Pacific using ice core stable lead isotopes: **K J Kreutz**, E C Osterberg, B Gross, M Handley, C P Wake, K Yalcin
- 1340h **A43A-0204** POSTER Arctic tropospheric ozone depletion during spring 2008 : Source regions and transport: **J Koo**, Y Wang, S Choi, T P Kurosu, K Chance, A J Weinheimer, T B Ryerson, S J Oltmans, J W Hair
- 1340h **A43A-0205** POSTER Modelling the Polar Summer Tropopause with CLaMS: **G Guenther**, A Roiger, C Schiller, H Schlager, R Mueller, J Grooss
- 1340h **A43A-0206** POSTER Large Scale NMHC and Halocarbon Distributions during Spring in the Arctic: **N J Blake**, S Meinardi, K A Gorham, L K Emmons, G S Diskin, A J Weinheimer, E L Atlas, G Huey, D R Blake
- 1340h **A43A-0207** POSTER Investigation of tracer emission and transport in GEOS-5 during ARCTAS: **H Bian**, M Chin, S R Kawa, P R Colarco, E Nielsen, S Pawson, T Kucsera, A Da Silva, A D Chu
- 1340h **A43A-0208** POSTER Integrated Analysis of Sources and Long-Range Transport Pathways of Ozone to the Arctic Troposphere: **T W Walker**, M Parrington, D B Jones, D K Henze, J Worden, K W Bowman, L T Murray, J Davies, D W Tarasick, A M Thompson, J W Bottenheim, K G Anlauf
- 1340h **A43A-0209** POSTER Actinic flux and photolysis frequency characteristics in the Arctic atmosphere: Results from ARCTAS and OASIS: **S R Hall**, K Ullmann, R Shetter, S Madronich, B Anderson, J W Hair, S Schmidt, R M Staebler
- 1340h **A43A-0210** POSTER Long-term trends and dynamical modulation of atmospheric carbon dioxide seasonality: **A Stine**, I Fung, P Huybers
- 1340h **A43A-0211** WITHDRAWN
- 1340h **A43A-0212** POSTER Observations of Alkyl Nitrates during ARCTAS: Investigation of the low NO_x Chemistry of Isoprene Nitrates: **E C Browne**, R C Cohen, P J Wooldridge, K Min, E C Apel, D R Blake, W H Brune, A Fried, X Ren, A J Weinheimer, A Wisthaler, A S Team
- 1340h **A43A-0213** POSTER Determining the contribution of singlet molecular oxygen to the decay of pollutants on snow and ice: **J P Bower**, C Anastasio
- 1340h **A43A-0214** POSTER Improving AIRS CO products using ARCTAS measurements: **J X Warner**, Z Wei, H Bian, B N Duncan, G S Diskin
- 1340h **A43A-0215** POSTER Retrieval of BrO vertical profiles from SCIAMACHY limb during Arctic spring 2008: **J P Parrella**, K Chance, D J Jacob
- 1340h **A43A-0216** POSTER 15 Years of Ground-based UV-visible Observations of Bromine Monoxide Over Harestua, Southern Norway (60°N, 11°E): **F Hendrick**, N Theys, T P Canty, M M De Maziere, A Rozanov, R J Salawitch, X Yang, M Van Roozendael
- 1340h **A43A-0217** POSTER Understanding Satellite BrO Measurements during ARCTAS and ARCPAC: **S Choi**, Y Wang, J Koo, T Zeng, T P Kurosu, K Chance, A Richter, A Rozanov, R Pierce, M Natarajan, J A Al-Saadi, J Worden, G Huey, J Neuman, J E Dibb, J W Hair, M A Fenn, A J Weinheimer, T B Ryerson, S J Oltmans, A M Thompson, W R Simpson, R J Salawitch, T P Canty, C Adams, K Strong
- 1340h **A43A-0218** POSTER Finding the missing stratospheric Br₂: A global modeling study of CHBr₃ and CH₂Br₂: **Q Liang**, R S Stolarski, S R Kawa, E Nielsen, J M Rodriguez, D R Blake, E L Atlas
- 1340h **A43A-0219** POSTER BrO Information from Satellites over the Hudson Bay, Canada: Stratospheric or Tropospheric?: L Poissant, **J W Bottenheim**, C T McElroy, P B Shepson, S L Gong, D W Tarasick, C Sioris, H He, M Pilote
- 1340h **A43A-0220** POSTER Towards a Space-Based Estimate of Tropospheric Column BrO: A Description of Model Estimates of the Stratospheric Contribution to the Total Column: **T P Canty**, R J Salawitch, Q Liang, A Da Silva, S Pawson, J M Rodriguez, D E Kinnison, S Tilmes, L Pan, R Pierce, T P Kurosu, K Chance, X Liu, W R Simpson, D Donohoue, D A Carlson
- 1340h **A43A-0221** POSTER Multiple Axis Differential Optical Absorption Spectroscopy (MAX-DOAS) Observations of Bromine Monoxide (BrO) at Barrow, Alaska: An Instrumental Inter-Comparison: **D A Carlson**, D Donohoue, W R Simpson, U Friess, H Sihler, U Platt
- 1340h **A43A-0222** POSTER An Empirical Approach to Determining the Boundary Layer Bromine Monoxide (BrO) Abundance from Satellite Total Column Measurements: **W R Simpson**, D Donohoue, D A Carlson
- 1340h **A43A-0223** POSTER A lagrangian case study of the evolution of aerosol composition from a boreal fire plume during the ARCTAS campaign: **M Cubison**, J L Jimenez, D Sueper, J F Burkhardt, A Wisthaler, T Mikovny, E C Apel, A J Hills, A Weinheimer, D J Knapp, L K Emmons, H E Fuelberg, W Sessions, G S Diskin, G W Sachse, L G Huey
- 1340h **A43A-0224** POSTER Overview Of Haze And Smoke Measurements in Northern High Latitudes And California During ARCTAS Using The NASA Ames Airborne Sunphotometer And Associated In Situ And Remote Sensors: **P B Russell**, J Redemann, J Livingston, Y Shinozuka, S Ramachandran, R R Johnson, A D Clarke, S G Howell, C McNaughton, B Holben, N O'Neill, B Mearthur, E Reid, R A Ferrare, C A Hostetler

1340h **A43A-0225 POSTER** Comparison of the Chemical and Physical Evolution and Characteristics of 495 Biomass Burning Plumes Intercepted by the NASA DC-8 Aircraft during the ARCTAS/CARB-2008 Field Campaign: **A Hecobian**, R Weber, J L Jimenez, S A Vay, G S Diskin, G W Sachse, A Wisthaler

1340h **A43A-0226 POSTER** Transport Simulations of Carbon Monoxide and Aerosols from Boreal Wildfires during ARCTAS using WRF-Chem: **W Sessions**, H E Fuelberg, D M Winker, A D Chu, R A Kahn

1340h **A43A-0227 POSTER** Interannual and Seasonal Variability of Biomass-Burning and Anthropogenic Emissions at Summit, Greenland: **L J Kramer**, R E Honrath, D Helmig, H Jacques, S J Oltmans, R C Schnell, J F Burkhart, A Stohl

1340h **A43A-0228 POSTER** Boreal Forest Fires and Pyrocumulonimbus Convection as a Source of Hg(0) to the Troposphere: **R W Talbot**, H Mao

1340h **A43A-0229 POSTER** Observations of Volatile Organic Compounds in Biomass Burning Plumes During POLARCAT/ARCTAS: **R S Hornbrook**, E C Apel, D D Riener, P O Wennberg, J Crounse, J St. Clair, G S Diskin, S A Vay, D R Blake, A Wisthaler, T Mikoviny, A Kuerten

1340h **A43A-0230 POSTER** Enhanced Ozone Over Western North America From Biomass Burning in Eurasia During April 2008 as Seen in Surface and Profile Observations: **S J Oltmans**, A Lefohn, J M Harris, D W Tarasick, A M Thompson, H Wernli, B J Johnson, J Davies, P C Novelli, S A Montzka, C Sweeney, L C Patrick, A Jefferson, T Dann, B N Holben

1340h **A43A-0231 POSTER** Measurements of Acylperoxynitrates (PANs) in Biomass Burning Plumes over the Arctic in Spring 2008: **J M Roberts**, J Neuman, J B Nowak, T B Ryerson, J W Peischl, J Holloway, C Warneke, J A De Gouw

1340h **A43A-0232 POSTER** Seasonal and interannual variability of Arctic Haze: Role of anthropogenic and biomass burning emissions and climate variability: **M Chin**, T L Diehl, Q Tan

1340h **A43A-0233 POSTER** O₃ Production in Boreal Fire Smoke Plumes during ARCTAS-B: Satellite Observations and Model Results: **M J Alvarado**, J A Logan

1340h **A43A-0234 POSTER** Modeling the role of HONO in the plume chemistry of boreal forest biomass burning emissions during the summer 2009 ARCTAS campaign: **J M St Clair**, M J Alvarado, A Kuerten, P O Wennberg, J A Logan, G S Diskin, G W Sachse, X Ren, W H Brune, R C Cohen, E C Apel, J L Jimenez, M Cubison, S A Vay, G Huey, A J Weinheimer, D J Knapp, A Wisthaler, T Mikoviny, J E Dibb, E M Scheuer, A Fried, P Weibring, J Walega, R E Shetter, S R Hall, D R Blake, B Anderson, Y Kondo, C A Cantrell

1340h **A43A-0235 POSTER** Transport and Transformations of NO_y and Other Species in Pyro-Convection: **D J Knapp**, A J Weinheimer, F M Flocke, W Zheng, D D Montzka, P O Wennberg, J Crounse, G S Diskin, G W Sachse, G Huey, J E Dibb

1340h **A43A-0236 POSTER** GEM-AQ Simulation of Transport of Biomass Burning Emissions into the Arctic in April 2008: **A Lupu**, N T O'Neill, J W Kaminski, K Toyota, J C McConnell, A Saha, M Sofiev

1340h **A43A-0237 POSTER** Interannual Variability of Boreal Biomass Burning and Relationship with Climate Cycles: **D Chu**, A Johnson, K Kim

1340h **A43A-0238 POSTER** Characterization of Smoke Plumes as Observed by the NASA/LARC DIAL Instrument during the ARCTAS Field Campaign: **C F Butler**, J W Hair, S Ismail, E V Browell, M A Fenn, A Notari, J E Collins, A J Beyersdorf, S T Arctas

1340h **A43A-0239 POSTER** Reconstructing ozone chemistry during transport of boreal fire plumes over Northern Pacific with satellite, aircraft measurement, and modeling: **R Dupont**, J Worden, P D Hamer, R Pierce, M Natarajan, J W Hair, M A Fenn, K W Bowman

A43B Moscone South: Poster Hall Thursday 1340h **Patterns in Soil-Vegetation-Atmosphere Systems: Monitoring, Modeling, and Data Assimilation II Posters**

Presiding: **S J Kollet**, University of Bonn

1340h **A43B-0240 POSTER** Microscale simulations of NMR relaxation in porous media: **O Mohnke**, N Klitzsch, C Clauser

1340h **A43B-0241 POSTER** Space-time variability of the wind, temperature, and horizontal advection of sensible heat in the subcanopy of a dense coniferous forest: **C K Thomas**, K J Davis, B E Law

1340h **A43B-0242 POSTER** Spatial Partitioning of Net Ecosystem Production (NEP) and Ecosystem Respiration (Re) Using Airborne LiDAR, Wind Direction, and Atmospheric Stability Within a Divided Boreal Peatland/Upland Ecosystem: **R M Petrone**, L Chasmer, S M Brown, N Kljun, C hopkinson, C A Mendoza, K J Devito

1340h **A43B-0243 POSTER** A sensor network driven micrometeorology study in the Serro do Mar rainforest canopy, southeast Brazil: **D R Fatland**, H R da Rocha, D Carlson, J A Gupchup, J Salles, A Terzis, C Nobre

1340h **A43B-0244 WITHDRAWN**

A43C Moscone South: Poster Hall Thursday 1340h **Wildfire Dynamics: Observations and Modeling of Fire-Atmosphere Interactions II Posters**

Presiding: **C B Clements**, San Jose State University

1340h **A43C-0245 POSTER** An assessment of California wildfire effects on air quality: **S M Sermondadaz**, L Jin, N J Brown

1340h **A43C-0246 POSTER** Sensitivity Analysis and Application of WRF-Fire: **K M Yedinak**, B K Lamb, J L Coen

1340h **A43C-0247 POSTER** Use of handheld video recorders to evaluate MISR forest fire plume height data: **F T Leung**, R Kremens

1340h **A43C-0248 POSTER** In situ Micrometeorological Measurements during RxCADRE: **C B Clements**, J K Hiers, S J Strenfel

1340h **A43C-0249 POSTER** Fire Whirl Formation in Complex Terrain: **D Seto**, C B Clements, S J Strenfel, W E Heilman, X Bian

1340h **A43C-0250 POSTER** Progress made towards including wildfires in real-time cloud resolving forecasts at NOAA/ESRL and examining its impact upon weather and air quality: **G A Grell**, **S Peckham**, T Smirnova, S Benjamin, S A McKeen, M Stuefer, S R Freitas, K Longo

1340h **A43C-0251 POSTER** Seasonal Comparison of Observed Water Vapor Enhancement in Prescribed Fire Smoke Plumes: **C M Kiefer**, C B Clements, B E Potter, S J Strenfel, J K Hiers

1340h **A43C-0252 POSTER** Characterization of Indonesian smoke plumes during El Niño and La Niña: **M G Tosca**, C S Zender, J T Randerson, D L Nelson, D J Diner

A43D Moscone West: 3008 Thursday 1340h **Atmospheric Carbon Dioxide: Observation, Validation, Modeling, and Assimilation I (joint with GC)**

Presiding: **T Yokota**, NIES

1340h **A43D-01** Preliminary XCO₂ and XCH₄ retrievals in the GOSAT routine processing (*Invited*): **T Yokota**, Y Yoshida, N Eguchi, I Morino, O Uchino, S S Maksyutov, H Watanabe

1355h **A43D-02** Greenhouse gases observation from space -initial operation and calibration results of TANSO on GOSAT- (*Invited*): **A kuze**, K Shiomi, H Suto, M Nakajima

1410h **A43D-03** AIRS Mid-Tropospheric CO₂ for Application to Chemistry Transport Models: **M T Chahine**, E T Olsen, X Jiang, L Chen, T S Pagano, Y L Yung

1425h **A43D-04** Characterization of Tropospheric Emission Spectrometer (TES) CO₂ for carbon cycle science: **S S Kulawik**, D B Jones, R Nassar, J Worden, K W Bowman, F W Irion

1455h **A43D-05** The OCO "full-physics" CO₂ retrieval algorithm: expected performance based on full-orbit simulations: **C W O'Dell**, H Boesch, R Castano, M Christy, B J Connor, D Crisp, J McDuffie, C E Miller, V Natraj, D O'Brien, F Oyafuso, I N Polonsky

1510h **A43D-06** WITHDRAWN

1525h **A43D-07** BOUNDARY RESOLUTION OF CO₂ USING IR AND NIR MEASUREMENTS: **D Lafont**, J Worden, Z Qu, A Eldering, K W Bowman, S S Kulawik

A43E Moscone West: 3006 Thursday 1340h
Australian Wildfire and Pyroconvection: Black Saturday 2009 and Beyond I

Presiding: **N J Livesey**, Jet Propulsion Laboratory; **M D Fromm**, Naval Research Lab

1340h **A43E-01** Characterising Emissions from Australia's Black Saturday Fires: **C Paton-Walsh**, E Young, L K Emmons, C Wiedinmyer, L Stevens

1355h **A43E-02** Weather and fire behaviour during the Victorian bushfires of 7 February 2009: **L McCaw**, T Bannister, A Sullivan, K Tolhurst

1410h **A43E-03** Vertical and horizontal transport of the Australian Black Saturday bushfire plume in the stratosphere (*Invited*): **S V Petelina**, J M Siddaway

1430h **A43E-04** The Dispersal of Smoke in the UTLS Region Following the Australian PyroCB Event of February 2009 as Observed by CALIPSO (*Invited*): **C R Trepte**, M Vaughan, S Kato, S Young

1450h **A43E-05** MLS observations of emissions from the Australian bush fires of February 2009 (*Invited*): **H C Pumphrey**, N J Livesey, M L Santee

1510h **A43E-06** Injection Heights from MISR of Grassland Fire Smoke Plumes in Australia, and Possible Role of Pyroconvection: **S R Mims**, R A Kahn, C M Moroney, B J Gaitley

1525h **A43E-07** Interpretation of Aura Satellite Observations of CO and Aerosol Index related to the December 2006 Australia Fires: M Luo, **C S Boxe**, J H Jiang, R Nassar, J A Logan, N J Livesey

A43F Moscone West: 3004 Thursday 1340h
Cloud Properties and Physical Processes, Including Aerosol-Cloud Interactions II

Presiding: **A Nenes**, Georgia Institute of Technology; **G L Stephens**, Colorado State University

1340h **A43F-01** Effect of aerosol on small trade cumulus clouds: **H Jiang**, G Feingold, I Koren

1355h **A43F-02** Evidence for a Third aerosol Indirect Effect from Ship Tracks Observed by Calipso: **M Christensen**, G L Stephens

1410h **A43F-03** Dominant Role by Vertical Wind Shear in Regulating Aerosol Effects on Deep Convective Clouds: **J Fan**, T Yuan, J M Comstock, S J Ghan, A Khain, L Leung, Z Li, J Martins, M Ovtchinnikov

1425h **A43F-04** The Effect of Aerosol-Cloud-Vegetation Interactions and Intraseasonal Meteorological Variability on Warm Cloud Development during the Amazonian Biomass Burning Season: **J E Ten Hoeve**, L A Remer, M Z Jacobson

1440h **A43F-05** Aerosol size distribution variability as a function of distance to Caribbean Trade Wind Cumulus Clouds: **M Colon-Robles**, R Rauber, L Di Girolamo, J B Jensen

1455h **A43F-06** Fire and ice: Atmospheric ice nuclei from prescribed and wild fires: **P J DeMott**, C H Twohy, A J Prenni, R Subramanian, K A Pratt, A Sullivan, G L Kok, K A Prather, S E Whitesell

1510h **A43F-07** Effects of Palmitic Acid on Water Uptake and Ice Nucleation Properties of Ammonium Sulfate Particles: **K J Baustian**, M E Wise, M A Tolbert

1525h **A43F-08** Observation of aerosol impacts on convection associated with TC genesis during NAMMA-06 field campaign: **A Pratt**

A43G Moscone West: 3002 Thursday 1340h
Role of Deep Convection in the Large-Scale Tropical Ocean-Atmosphere Interaction I (joint with OS)

Presiding: **R B Neale**, NCAR; **D Sun**, University of Colorado; **G J Zhang**, Scripps Institution Oceanography

1348h **A43G-01** Overview of Recent Cloud and Radiation Satellite Observations for Studying Tropical Climate Variability (*Invited*): **N G Loeb**, W Su, B Lin, S Kato, Z Eitzen

1403h **A43G-02** Year of Tropical Convection (YOTC): Status and Research Agenda (*Invited*): **D E Waliser**, M W Moncrieff

1418h **A43G-03** Impact of Deep Convection on ENSO Prediction Skill (*Invited*): **B P Kirtman**

1433h **A43G-04** Connecting Increased Intra-seasonal Variability and ENSO Changes Associated with Deep Convection Modifications in CCSM3: **R B Neale**, M Jochum, J H Richter

1446h **A43G-05** The Role of Atmosphere Feedbacks During ENSO: **J Lloyd**, E Guilyardi, H Weller

1459h **A43G-06** The Intertropical Convergence Zone, equatorial westerlies and the creation of climatically sensitive zones in the ocean (*Invited*): **P J Webster**, H Chang

1514h **A43G-07** Coupled Feedback and Ocean Heat Transport in the Simulation of ITCZ: **G J Zhang**, X Song

1527h **A43G-08** The double-ITCZ syndrome in coupled general circulation models: the role of large-scale vertical circulation regimes: **A Bellucci**, S Gualdi, A Navarra

Atmospheric and Space Electricity

AE43A Moscone South: Poster Hall Thursday 1340h
Effects of Thunderstorms and Lightning on the Atmosphere-Ionosphere System IV Posters (joint with A, P, SA)

Presiding: **D D Sentman**

1340h **AE43A-0253 POSTER** Sprites on other planets: **Y Yair**, Y Takahashi, U Ebert, C G Price, R Yaniv, D Dubrovina, S Nijdam, E van Veldhuizen

1340h **AE43A-0254 POSTER** Study of Streamers in Gradient Density Air: Table Top Modeling of Red Sprites: **D F Opaitis**, M N Shneider, P J Howard, R B Miles, G M Milikh

1340h **AE43A-0255** POSTER Investigation of tropospheric-ionospheric coupling mechanisms from lightning activity: **F Simoes**, R F Pfaff, J Berthelier

1340h **AE43A-0256** POSTER Comparison of the Characteristics of TLE Producing Convective Systems in Different Continents: **F S Tavares**, R R Azambuja, S Soula, C A Morales Rodriguez, R P Rocha, J Santiago

1340h **AE43A-0257** POSTER Global Electric Circuit Implications of Total Current Measurements Over Electrified Clouds: **D M Mach**, R Blakeslee, M G Bateman

1340h **AE43A-0258** POSTER The global hunt for Sprites: **T Whitley**, M Fullekrug, M J Rycroft, O Chanrion, O A Van Der Velde, T Neubert

1340h **AE43A-0259** POSTER Global lightning mapping with time of arrival method using ELF network data: **K Yamashita**, Y Takahashi, M Sato, H Kase

1340h **AE43A-0260** POSTER ON THE ACCURACY OF THE PROPAGATION THEORY AND THE QUALITY OF BACKGROUND OBSERVATIONS IN A SCHUMANN RESONANCE INVERSION PROCEDURE Vadim MUSHTAK, Earle WILLIAMS PARSONS LABORATORY, MIT: **V C Mushtak**

1340h **AE43A-0261** POSTER Short-baseline VLF observations of D-region reflection near active thunderstorms: **A R Jacobson**, R H Holzworth, X Shao

1340h **AE43A-0262** POSTER Lightning-Induced D region Disturbances Detected by Broadband VLF Sferics: **F Han**, S A Cummer

1340h **AE43A-0263** POSTER A First-Order Approximation for the ELF Sferic Propagation Across the Day/Night Terminator: **C Le Cocq**, A C Fraser-Smith

AE43B Moscone South: Poster Hall Thursday 1340h
From Cloud Electrification to Lightning: Initiation, Development, and Effects V Posters (*joint with A, SA*)

Presiding: R E Orville, Texas A&M University

1340h **AE43B-0264** POSTER Broadband VHF observations for lightning impulses from a small satellite SOHLA-1 (Maido 1): **T Morimoto**, H Kikuchi, T Ushio, Z Kawasaki, H Hidekazu, T Aoki

1340h **AE43B-0265** POSTER Development of the Langmuir Electric Field Array (LEFA): **R G Sonnenfeld**, K Eack, E Eastvedt, H E Edens, W W Hager, S Hunyady, V Alvidrez, J LaPierre, K Morris, G Vaive, T Wang, J Zhang

1340h **AE43B-0266** POSTER Estimations of Generator Currents in a Thunderstorm and Their Effect on the Global Electric Circuit: **B Ray**, T Marshall, M Stolzenburg

1340h **AE43B-0267** POSTER Study on monitoring global warming by using the data of Schumann resonance: **Y Hobara**, T Harada, M Hayakawa, M Sekiguchi, K Ohta

1340h **AE43B-0268** POSTER Intracloud lightning data in Brazil using LF detection range: first results: **K Naccarato**, O Pinto

1340h **AE43B-0269** POSTER New results about the study of the lightning activity and characteristics over the large urban area of the city of São Paulo: **W R Farias**, O Pinto, I R Pinto

1340h **AE43B-0270** POSTER The North American Lightning Detection Network (NALDN) – 2001-2008: Flash Characteristics: **R E Orville**, G R Huffines, W Burrows

1340h **AE43B-0271** POSTER The Intracloud to Cloud-to-Ground Lightning Ratio Associated with Extreme Weather over the Contiguous United States: **L D Carey**, W A Petersen, H J Christian Jr.

1340h **AE43B-0272** POSTER Total Lightning Flashrate and Severe Weather at Ground in a Thunderstorm at a Tropical Station: **S D Pawar**, P Murugavel, V Gopalakrishnan

1340h **AE43B-0273** POSTER Combined VLF and VHF lightning observations of Hurricane Rita landfall: **B G Henderson**, D M Suszcynsky, K C Wiens, T Hamlin, C A Jeffery, R E Orville

1340h **AE43B-0274** POSTER First Observations with Los Alamos dual-band Lightning Mapping Array: **X Shao**, N O'Connor, T Hamlin, C A Jeffery, C Ho

1340h **AE43B-0275** POSTER High Temporal-Resolution Analysis of Electrical Activity in a Severe Hailstorm Scanned Using Phased Array Radar: **C Emersic**, P Heinselman, D R MacGorman

1340h **AE43B-0276** POSTER Lightning in the Anvils of Supercells: **S A Weiss**, D R MacGorman, K M Kuhlman

1340h **AE43B-0277** POSTER Lightning Activity and Charge Structure of Microburst-Producing Storms: **K M Kuhlman**, T Smith, S Irwin

1340h **AE43B-0278** POSTER Case Study of a Strong Narrow-Bipolar-Event-Producing Storm on July 2 - 3, 2005: D M Suszcynsky, **E H Lay**

1340h **AE43B-0279** POSTER Theoretical and Practical Explanations of Total Lightning Density Patterns: **E C Bruning**

1340h **AE43B-0280** POSTER Charge Structure and Lightning Patterns in Simulated Mesoscale Convective Systems: **A P Silveira**, E R Mansell

1340h **AE43B-0281** POSTER Lightning Initiation by Columns of Positively Charged Air Rising from the Ground: **L Meadows**, K Law, J E Favors, G G Cyr, R Dahlgren, F T Freund

Biogeosciences

B43A Moscone South: Poster Hall Thursday 1340h
Dynamics of Dissolved Organic Matter in Watersheds III Posters (*joint with H, PA*)

Presiding: M F Benedetti, Institut de Physique du Globe de Paris; **H Wilson**, Yale University; **N Xu**, Yale University

1340h **B43A-0339** POSTER Catchment Hydro-biogeochemical Responses to Forest Harvest Intensity and Spatial Pattern: **A Abdelnour**, M Stieglitz, F Pan, R Mckane

1340h **B43A-0340** POSTER Hydrological Controls of DOC in Runoff in a forested Watershed in Germany: **S Strohmeier**, S Frei, J H Fleckenstein, S Peiffer, E Matzner

1340h **B43A-0341** POSTER Concentration, Structure, and Lability of Dissolved Organic Matter Across 16 Major Rivers in North America: **D E Butman**, P A Raymond, G Aiken, K Butler

1340h **B43A-0342** POSTER Characterization of Size Fractionated Dissolved Organic Matter From the Lower Mississippi River: **L Guo**, Z Zhou, B Stolpe, Y Cai, G Aiken, K Butler

1340h **B43A-0343** POSTER Biodegradability of dissolved organic carbon within and among hillslopes along a chronosequence of landscape age in arctic Alaska: **K A Whittinghill**, J C Finlay, S E Hobbie

1340h **B43A-0344** POSTER Variable flushing mechanisms and landscape structure control stream DOC export during snowmelt in a set of nested catchments: **K G Jencso**, B L McGlynn, V J Pacific

1340h **B43A-0345** POSTER Landscape Influences on Dissolved Organic Carbon, pH, Fe, and Ca in 37 Lakes in the Forest-Tundra of Northern Manitoba, Canada: **C E Umbanhowar**, P Camill, M Edlund, K Passow, P Henneghan

1340h **B43A-0346** POSTER Dissolved Organic Carbon Export from Sacramento and San Joaquin River Watersheds as Impacted by Precipitation and Agricultural Land Use: **N Oh**, C E Pallud

1340h **B43A-0347** POSTER Impact of climatic changes on organic carbon dynamic in wet tropical watersheds of Guadeloupe (FWI): **E Lloret**, C Dessert, J Gaillardet, P Albéric, M F Benedetti

1340h **B43A-0348** POSTER Partitioning of sediment-associated organic matter in agricultural watersheds: controlling parameters and water quality implications: **S Journet**, B A Pellerin, P A Bachand, R Spencer, B A Bergamaschi, P J Hernes

1340h **B43A-0349** POSTER Dissolved carbon dynamics in large boreal rivers from eastern Canada following their impoundment: **J Helie**, E Rosa, A Lalonde, C Hillaire-Marcel

1340h **B43A-0350** POSTER Litter leachate sources for streamwater dissolved organic matter in an oak woodland catchment: **R Y Dyda**, P J Hernes, S C Flores, A T O'Geen, R A Dahlgren, R Spencer

1340h **B43A-0351** POSTER Characterisation of natural organic matter (NOM) in depth profile of Mediterranean Sea by 3D-Fluorescence following with PARAFAC treatment: **Z Huiyu**, G Durieu, R Redon, L Heimbuerger, S Mounier

1340h **B43A-0352** POSTER The Characterization of Dissolved Organic Nitrogen in Wetlands by Ultrahigh Resolution Mass Spectrometry: **D C Podgorski**, D Osborne, W T Cooper

1340h **B43A-0353** POSTER Patterns in dissolved organic carbon quality in a New England coastal watershed: it's relationship to urban and wetland sources and flow dynamics: **G M Gettel**, W M Wollheim, C Hopkinson, T Harms

1340h **B43A-0354** POSTER Assessment of benthic flux of dissolved organic carbon in wetland and estuarine sediments using the eddy-correlation technique: **M P Swett**, A Amirbahman, E Boss

1340h **B43A-0355** POSTER Sources of Dissolved Organic Carbon and Disinfection By-Product Precursors to the McKenzie River: Use of absorbance and fluorescence spectroscopy: **T E Kraus**, C Anderson, K Morgenstern, B D Downing, B A Bergamaschi

1340h **B43A-0356** POSTER Interactions of Dissolved Organic Matter with Copper: Comparison of Results of Differential Absorbance and Fluorescence Quenching Spectroscopy: **G V Korshin**, **D J Dryer**, M F Benedetti

1340h **B43A-0357** POSTER Removal of High -Concentration and Refractory Organic Matter from Diosgenin Manufacture Wastewater : a case study of a demonstration project in Hubei Province, P R China: **J Bao**, L Wang

1340h **B43A-0358** POSTER Carbon Budget of an Alluvial Floodplain in Northwest Montana, USA: **A Appling**, G Poole, E S Bernhardt, J S Kimball, J Stanford

1340h **B43A-0359** POSTER Carbon isotopic exchange between dissolved inorganic and organic carbon: **B Thomas**, K H Freeman, C H House, M A Arthur

1340h **B43A-0360** POSTER Longitudinal dynamics of dissolved organic matter in a mixed land use watershed: **H F Wilson**, M A Xenopoulos

1340h **B43A-0361** POSTER Organic matter loss during hydrochloric acid treatment of aquatic samples: implications for elemental and stable isotopic analyses: **C Levesque**, K Juniper, D Planas

1340h **B43A-0362** POSTER The Adsorption of Short Single-Stranded DNA Oligomers on Mineral Surfaces: **M Kopstein**, D A Sverjensky, R M Hazen, H J Cleaves

1340h **B43A-0363** WITHDRAWN

1340h **B43A-0364** POSTER Characterization of Water Quality and Benthic Macroinvertebrate Communities In Angora Creek Following the June 2007 Angora Fire: **A A Oliver**, R A Dahlgren, J Reuter, A Heyvaert, D B Herbst

1340h **B43A-0365** POSTER Effect of Dissolved Organic Matter on Basalt Weathering Rates under Flow Conditions: **K Dontsova**, C I Steefel, J D Chorover

1340h **B43A-0366** POSTER Bio-fuel extracted from kelp and its environmental significance: **H Weng**

B43B Moscone South: Poster Hall Thursday 1340h
Toward Phenological Assessments: Regional, National, Global III Posters (joint with A, GC, H, PA)

Presiding: **M D Schwartz**, UW-Milwaukee; **G M Henebry**, South Dakota State University; **J L Betancourt**, U.S. Geological Survey

1340h **B43B-0367** POSTER Facilitating Phenological Assessments at Local, Regional and National Scales: Year Two Progress of the USA National Phenology Network: **J F Weltzin**

1340h **B43B-0368** POSTER The USA-National Phenology Network Biophysical Program: **M V Losleben**, T M Crimmins, J F Weltzin

1340h **B43B-0369** POSTER Toward Phenological Assessments: The USA-National Phenology Network and Plant Phenology: **K A Thomas**, J F Weltzin, E G Denny

1340h **B43B-0370** POSTER The USA National Phenology Network Land Surface Phenology/Remote Sensing Phenology Program: **J T Morisette**, J F Brown, G M Henebry

1340h **B43B-0371** POSTER Incorporating Animals in Phenological Assessments: USA National Phenology Network Methods to Observe Animal Phenology: **A J Miller-Rushing**, J F Weltzin

1340h **B43B-0372** POSTER The USA-NPN Information Management System: A tool in support of phenological assessments: **A Rosemartin**, R Vazquez, B E Wilson, E G Denny

1340h **B43B-0373** POSTER A new approach to generating research-quality phenology data: The USA National Phenology Monitoring System: **E G Denny**, A J Miller-Rushing, B P Haggerty, B E Wilson

1340h **B43B-0374** POSTER Next Generation Data Model for Phenology Observations: **B E Wilson**, E G Denny, M D Schwartz, A J Miller-Rushing, R Vazquez, K A Thomas, A Rosemartin, H A Shanafield

1340h **B43B-0375** POSTER Building a Rich Community-Contributed Phenology Dataset: Lessons Learned from Winegrapes in California's Napa Valley: **K N Cahill**, D R Cayan, M Dettinger

1340h **B43B-0376** POSTER Potential for Water Salvage by Release of the Biocontrol Beetle, *Diorhabda carinulata*, on Tamarisk (*Tamarix ramosissima*) Dominated Western U.S. Rivers: **R S Murray**, P L Nagler, C van Riper, D Bean, E P Glenn

1340h **B43B-0377** POSTER The phenology of roughness length – long term analysis from a Michigan mixed forest: **K Maurer**, G Bohrer, P Curtis, C S Vogel

1340h **B43B-0378** POSTER Phenology and growth of different vegetation types in the Ent Dynamic Global Terrestrial Ecosystem Model (DGTEM): **Y Kim**, P R Moorcroft, R D Koster, N Y Kiang

1340h **B43B-0379** POSTER Impacts of phenology on estimation of actual evapotranspiration with VegET model: **V Kovalsky**, G M Henebry

1340h **B43B-0380** POSTER The Relationship Between Seasonal Pattern of Photosynthetic Parameters and Plant Phenology: **G Zhang**, M A White

1340h **B43B-0381** POSTER Growing C4 perennial grass for bioenergy using a new Agro-BGC ecosystem model: **A V Di Vittorio**, R S Anderson, N L Miller, S W Running

B43C Moscone South: Poster Hall Thursday 1340h
Toward Phenological Assessments: Regional, National, Global
IV Posters (joint with A, GC, H, PA)

Presiding: **G M Henebry**, South Dakota State University;
M D Schwartz, UW-Milwaukee; **J L Betancourt**, U.S. Geological Survey

1340h **B43C-0382 POSTER** A simple and robust method for remote sensing of phenology using green and red reflectance: GRVI-method: **T Motohka**, K Nishida

1340h **B43C-0383 POSTER** MODIS VEGETATION PHENOLOGY METRICS ESTIMATED WITH AN ENHANCED TIMESAT ALGORITHM: **B Tan**, J T Morissette, R E Wolfe, F Gao, J M Nightingale, G A Ederer, J A Pedelty

1340h **B43C-0384 POSTER** Altering Their Ecological Niche: Investigating the Response of Avian Migrants to Changes in Vegetation Phenology at Northern Latitudes: **M E Budde**, D H Ward, C R Ely, C M Handel, J W Hupp

1340h **B43C-0385 POSTER** The relationship between climate and satellite-derived vegetation phenology: **Y Gu**, J F Brown, T J Hawbaker

1340h **B43C-0386 POSTER** Detecting crop growth stages of maize and soybeans by using time-series MODIS data: **T Sakamoto**, B D Wardlaw, A A Gitelson, S B Verma, A E Suyker, T J Arkebauer

1340h **B43C-0387 POSTER** Cross-calibration of AVHRR and MODIS NDVI Conterminous United States Datasets: **T Miura**, J F Brown, Y Gu

1340h **B43C-0388 POSTER** Modeling boreal forest performance with MODIS, site characteristics, and weather to monitor climate, management, and disturbance impacts: **B K Wylie**, K Murnaghan, J A Rover, L L Tieszen, B Brisco

1340h **B43C-0389 POSTER** Using Webcam Technology for Measuring and Scaling Phenology of Tamarisk (*Tamarix ramosissima*) Infested with the Biocontrol Beetle (*Diorhabda carinulata*) on the Dolores River, Utah: **P L Nagler**, T Brown, P E Dennison, K R Hultine, E P Glenn

1340h **B43C-0390 POSTER** Dual Scale Trend Analysis To Evaluate Climatic and Anthropogenic Effects on the Vegetated Land Surface in Agricultural Russia: **K de Beurs**, G M Henebry

1340h **B43C-0391 POSTER** Contemporary Trends in Land Surface Phenologies from the Aral Basin Suggest Weather- or Irrigation-Driven Changes in GPP not Land Cover Change: **C K Wright**, K de Beurs, G M Henebry

1340h **B43C-0392 POSTER** Prospects for phenological monitoring in an arid southwestern U.S. rangeland using field observations with hyperspatial and moderate resolution imagery: **D M Browning**, A S Laliberte, A Rango, J E Herrick

1340h **B43C-0393 POSTER** Broad-scale Spatiotemporal Relationships Between Air Temperature, Sea Ice, and Northern Hemisphere Vegetation Phenology: N G Platonov, **D C Douglas**, I V Alpatkiy, I Mordvintsev

1340h **B43C-0394 POSTER** The Landsat Phenology Study (LaPS): Preliminary CONUS Results for 2008: **G M Henebry**, D Roy, J Ju, V Kovalsky

1340h **B43C-0395 POSTER** High-resolution Average Forest Phenology and Annual Residuals for Quantifying the Start of Spring and Summer Leaf-area Dynamics: **A J Elmore**, S M Guinn

1340h **B43C-0396 POSTER** Phenologically informed re-ordering of Landsat to account for inter-annual variability: a method to map Ash trees (*Fraxinus* spp.) using remotely sensed imagery: **B N Isaacson**, A Singh, S P Serbin, P A Townsend

1340h **B43C-0397 POSTER** A Geospatial Approach to Mapping Bioenergy Potential of Perennial Crops in North American Tallgrass Prairie: **S Wang**, F B Fritsch, G Stacy

1340h **B43C-0398 POSTER** Patterns in the Spring Phenology of High Elevation Western United States National Parks from 2000 to 2009: **A Hudson Dunn**, K de Beurs

1340h **B43C-0399 POSTER** Assessing the Moment Distance Metric as an Indicator of Spring Green-up Using MODIS NBAR Data and Lilac/Honeysuckle Bloom Dates: **E L Salas**, M D Schwartz, G M Henebry

1340h **B43C-0400 POSTER** Towards a Phenological Assessment of California: Integrating Multiple Data Sources and the Implications for Statewide Analyses: **K L Roth**, B P Haggerty, E S Bradley, M P Toomey, S J Mazer, D Roberts

B43D Moscone South: Poster Hall Thursday 1340h
Use of Optical Properties Measurements for Understanding
Environmental Processes II Posters (joint with H)

Presiding: **G Aiken**, US Geological Survey

1340h **B43D-0401 POSTER** Enhanced Measurements of Chromophoric Dissolved Organic Matter (CDOM) for Water Quality Analysis using a New Simultaneous Absorbance and Fluorescence Instrument: **A M Gilmore**

1340h **B43D-0402 POSTER** Results of the 2008 dissolved organic matter fluorescence intercalibration study: K R Murphy, K Butler, R G Spencer, J Boehme, **G Aiken**

1340h **B43D-0403 POSTER** Fluorescence spectroscopy: considerations for highly absorbing dissolved organic matter samples: **B E Simone**, M Miller, D M McKnight

1340h **B43D-0404 POSTER** Effects of aerosol collection and extraction procedures on the optical properties of water-soluble organic compounds: **N Mladenov**, L Alados-Arboledas, F J Olmo Reyes, I Reche

1340h **B43D-0405 POSTER** 3D Fluorescence Quenching of Dissolved Organic Matter Applying PARAFAC Treatment: **H A Zhao**, C Garnier, R Redon, S Mounier

1340h **B43D-0406 POSTER** The Use of Excitation and Emission Matrix Fluorescence for Monitoring Ecological Health in Urban Waters: A Baker, I Thornhill, E Carstea, G Robinson, **D M Reynolds**

1340h **B43D-0407 POSTER** Real-time monitoring of river water quality using in-line continuous acquisition of fluorescence excitation and emission matrices: E Carstea, A Baker, R Johnson, **D M Reynolds**

1340h **B43D-0408 POSTER** Application of Absorption Spectrophotometry to Study the Seasonal Dynamics of Dissolved Organic Matter in Arctic Streams: **E B Bulygina**, A G Bunn, S Chandra, A Davydova, K E Frey, L Russell-Roy, J D Schade, W V Sobczak, V V Spektor, S A Zimov, R Holmes

1340h **B43D-0409 POSTER** A comparison of in situ and laboratory optical measurements of dissolved organic matter (DOM) in the Yukon River, Alaska: **M Dornblaser**, G Aiken, R G Striegl, K Butler, R G Spencer, D E Butman, P F Schuster

1340h **B43D-0410 POSTER** Utilizing chromophoric dissolved organic matter measurements to derive export and reactivity of dissolved organic carbon exported to the Arctic Ocean: A case study of the Yukon River, Alaska: **P J Hernes**, R Spencer, G Aiken, K Butler, M Dornblaser, R Striegl

1340h **B43D-0411 POSTER** Ultraviolet-visible absorption spectra of chromophoric dissolved organic matter (CDOM) in waters throughout the Kolyma River basin, East Siberia: **K E Frey**, E B Bulygina, A G Bunn, S Chandra, S Davydov, R M Holmes, J D Schade, W V Sobczak, V V Spektor, S A Zimov

1340h **B43D-0412 POSTER** Correlating Fluorescence and Absorption Properties of Dissolved Organic Matter in Northern Peatland Soil Porewaters with Molecular Composition Information: **M M tfail**, J D'Andrilli, J Corbett, J Chanton, W T Cooper
 1340h **B43D-0413 POSTER** Production and excitation-emission fluorescence properties of colored dissolved organic matter from marine tropical species: **W G Mendoza**, R G Zika
 1340h **B43D-0414 POSTER** Temporal controls on dissolved organic matter and lignin biogeochemistry in a pristine tropical river: **R Spencer**, P J Hernes, A Baker, R Y Dyda, J W Six

B43E Moscone West: 3016 Thursday 1340h
Carbon and Water Cycles: Interpreting and Assimilating From Leaf and Soil Column to Globe I (*joint with H*)

Presiding: P C Stoy, University of Edinburgh; D Papale, University of Tuscia

1340h **B43E-01** Breathing of the Biosphere: How Physics sets the Limits, and Biology Does the Work (*Invited*): **D D Baldocchi**
 1355h **B43E-02** Scaling short-term effects of soil wetness on soil respiration to long-term soil carbon storage (*Invited*): **E A Davidson**
 1410h **B43E-03** Relationships between water status, temperature, and photosynthesis in *Quercus douglasii* in a California Mediterranean savanna from gas-exchange and eddy-covariance data: **J L Osuna**, D D Baldocchi, T E Dawson
 1425h **B43E-04** On the Complementary Relationship Between Nitrogen and Water Use Efficiencies Among *Pinus taeda* L. Leaves Grown Under Ambient and Enriched CO₂ Environments: **S Palmroth**, G G Katul, C Maier, E Ward, S Manzoni, G Vico, R Oren
 1440h **B43E-05** Carbon and water use efficiencies vary across time scales in a mature broadleaf forest: **A C Oishi**, R Oren, H Kim, S Palmroth, K V Schafer, K A Novick, G G Katul
 1455h **B43E-06** Moisture Controls on Soil Respiration Sources in a Pine Forest on Santa Cruz Island, CA: **M S Carbone**, A Ambrose, C M Boot, T E Dawson, S M Schaeffer, J Schimel, C J Still, P Williams
 1510h **B43E-07** Carbon loss on the other side of drought: excess wet season precipitation and cloudiness during La Niña suppresses Amazon forest photosynthesis: **N Restrepo-Coupe**, B Christoffersen, D F Amaral, P B Camargo, S R Saleska
 1525h **B43E-08** Determining the sensitivity of New Mexico biomes to predicted climate change scenarios of the Southwest: **M E Litvak**, K Anderson-Teixeira

B43F Moscone West: 3018 Thursday 1340h
High-Latitude Climate Feedbacks and Their Interactions II (*joint with GC, C*)

Presiding: P Camill, Bowdoin College; B P Bond-Lamberty, DOE Pacific Northwest Lab

1340h **B43F-01** Assessing the Potential Effects of Northern High Latitude Terrestrial Ecosystems on the Climate System (*Invited*): **A D McGuire**, E S Euskirchen, D J Hayes, M S Balshi, Q Zhuang, D W Kicklighter, J M Melillo
 1400h **B43F-02** The influence, implications and feedbacks of an intensifying fire regime in Alaska's boreal forest: **P S Beck**, S J Goetz, M C Mack, H D Alexander, J T Randerson, M M Loranty, Y Jin
 1415h **B43F-03** Post-fire albedo change and the associated radiative forcing in northern and southern Canadian boreal forest: **Y Jin**, J T Randerson, M L Goulden
 1430h **B43F-04** Impacts of permafrost degradation on the riverine delivery of organic matter, inorganic nutrients, and major ions to the Arctic Ocean (*Invited*): **K E Frey**

1445h **B43F-05** Modeling interactions between permafrost, snow, and wetland distribution in an Earth System model (*Invited*): **D M Lawrence**, A G Slater, S C Swenson
 1505h **B43F-06** Positive and negative feedbacks to climate change associated with methane emissions from arctic permafrost systems (*Invited*): **K M Walter Anthony**, G Grosse, B M Jones
 1525h **B43F-07** Nitrous Oxide Emissions from Bare Peat Surfaces on Permafrost Peatlands: **M E Repo**, A Pitkämäki, C Biasi, M Seppälä, P J Martikainen

Cryosphere

C43A Moscone South: Poster Hall Thursday 1340h
East Antarctica: Climate, Glaciology, and Geoscience in Earth's Farthest Frontier I Posters (*joint with EP, G, NS*)

Presiding: M R Albert, Dartmouth College

1340h **C43A-0484 POSTER** Investigating subglacial landscapes and crustal structure of the Gamburtsev Province in East Antarctica with the aid of new airborne gravity data: T A Jordan, **F Ferraccioli**, M Studinger, R E Bell, D Damaske, S Elieff, C Finn, D A Braaten, H Corr
 1340h **C43A-0485 POSTER** Recent aerogeophysical exploration under the East Antarctic Ice Sheet in Wilkes Land: E Bozzo, **F Ferraccioli**, E Armadillo, T A Jordan, H Corr, D J Hill
 1340h **C43A-0486 POSTER** Preliminary Analysis of the Gamburtsev Subglacial Mountains Morphology from AGAP Airborne Radar Data: **M Wolovick**, N Frearson, A E Block, R E Bell, M Studinger, F Ferraccioli, D A Braaten, D Damaske
 1340h **C43A-0487 POSTER** How stable is the East Antarctic Craton? Clues from the Aurora, Concordia and Adventure Trenches: **P Cianfarra**, F Salvini
 1340h **C43A-0488 POSTER** The Impact of Data Density on Interpolation Methods Used to Develop a Digital Elevation Model of the Gamburtsev Subglacial Mountains in East Antarctica: **D A Braaten**, R LaBrie, D McDermott, P S Gogineni, R E Bell, M Studinger, N Frearson, D Damaske, F Ferraccioli
 1340h **C43A-0489 POSTER** Initial results from a Bayesian calibration of a 3D glacial systems model for Antarctic deglaciation: **R Briggs**, D Pollard, L Tarasoff
 1340h **C43A-0490 POSTER** Change detection of meltwater lakes and glacial lobes in Taylor Valley, Antarctica using remote sensing: A 50-year comparison: **S Niebuhr**, P J Morin, M LaRue
 1340h **C43A-0491 POSTER** Seasonal features of chemical compositions in surface snow on the Dome Fuji route, East Antarctica: **T Kuramoto**, M Hirabayashi, H Motoyama
 1340h **C43A-0492 POSTER** ICESat accuracy along the 2008-09 Norway-USA Traverse: validation with ground-based GPS: **J Kohler**, T Neumann, S Tronstad, G Melland
 1340h **C43A-0493 POSTER** High time-resolution analysis of dust in the Dome Fuji ice core, East Antarctica: a comparison of differential climate stages during the last glacial period: **T Miyake**, Y Iizuka, K Sano, T Tatenuma, R Uemura, T Hondoh, Y Fujii
 1340h **C43A-0494 POSTER** Ice Elevation Changes in the Shackleton Range, Weddell Sea Embayment, Antarctica: **A S Hein**, C J Fogwill, D Sugden
 1340h **C43A-0495 POSTER** Geodetic and Seismological Research at the new Princess Elisabeth Station, Queen Maud Land, East Antarctica: **D Lombardi**, T Camelbeeck, G Rapagnani, M J Van Camp, N Bergeot, C Bruyninx, O Francis, T M van Dam
 1340h **C43A-0496 POSTER** Holocene environmental and climate history of Rauer Group, East Antarctica: **S Berg**, B Wagner

C43B Moscone South: Poster Hall Thursday 1340h
Observatories, Instruments, and Autonomous Systems in Polar Regions I Posters (joint with A, B, G, GP, OS, NS, H, S, EP)

Presiding: L Lembke-Jene; A E Behar, NASA/JPL; R Azzolini, ESF; A K Brown, The Ohio State University

1340h **C43B-0497 POSTER** A Lightweight Vertical Rosette for Deployment in Ice Covered Water: **W M Smethie**, D N Chayes, R S Perry, P Schlosser

1340h **C43B-0498 POSTER** CO₂ flux monitoring using Continuous Timeseries-Forced Diffusion (CT-FD): Development, Validation: **G S McArthur**, D A Risk, N R Nickerson, C A Creelman, H Beltrami

1340h **C43B-0499 POSTER** Spectral Absorption By Particulate Impurities in Snow Determined By Photometric Analysis Of Filters: T C Grenfell, **S J Doherty**, A D Clarke

1340h **C43B-0500 POSTER** Year Round Operation of Autonomous, Low Power Geophysical Stations in Antarctica: **B C Beaudoin**, S White, B Bonnett, T Parker, B Johns, K R Anderson

1340h **C43B-0501 POSTER** The midnight sun interrupted: ground-based measurements of atmospheric ozone and NO₂ during the August 1, 2008 solar eclipse in the Canadian Arctic: **C Adams**, C McLinden, K Strong, V Umlenski

1340h **C43B-0502 POSTER** Springtime Atmospheric Ozone, NO₂ and BrO at 80N from 2007-2009, Measured by Ground-Based UV-Visible Spectrometers and Compared with ACE, OMI, and OSIRIS Satellite Data: K Strong, **C Adams**, J Park, A C Fraser, K A Walker, D A Degenstein, C McLinden, T P Kurosu, K Chance, G L Manney, W Daffer

1340h **C43B-0503 POSTER** geoPebble: Combined Seismic, Acoustic, and GPS Sensor with Wireless Communications for Glaciological Applications: S Anandakrishnan, **P G Burkett**, B Long

1340h **C43B-0504 POSTER** UAV Observations of an Antarctic Polynya During Winter: **J Cassano**, J A Maslanik, S Knuth

1340h **C43B-0505 POSTER** Optimized Autonomous Space In-situ Sensorweb: **W Song**, B A Shirazi, R LaHusen, S Kedar, S Chien, F Webb

1340h **C43B-0506 POSTER** E-tracers: A New Technique for Wireless Sensing Under Ice Sheets: **S Burrow**, J L Wadham, M Salter, R Barnes

1340h **C43B-0507 WITHDRAWN**

1340h **C43B-0508 POSTER** Development of Melting Device for Measurement of Traceable Proxies in Ice Core: **S Hong**, H Hwang, K Lee, S Hur, S Hong, J Chung, A Yoon, H Yoon

1340h **C43B-0509 POSTER** A Seasonal Comparison of GPR and Resistivity Data Quality for Permafrost Mapping: **B N Astley**, S W Campbell

C43C Moscone South: Poster Hall Thursday 1340h
The International Polar Year I Posters (joint with H, OS)

Presiding: D J Carlson, IPY Int'l Programme Office

1340h **C43C-0510 POSTER** The ice-layer in Antarctica : preliminary results from seismology: **J Leveque**, G Wittlinger, A Maggi

1340h **C43C-0511 POSTER** Seismological constraints on ice properties at Dome C, Antarctica, from H/V measurements: A Souriau, **J Leveque**, A Maggi

1340h **C43C-0512 POSTER** Investigating basal conditions and thermal regime on Vestfonna Ice Cap, Svalbard -A IPY-KINNVKA project: **R Pettersson**, P Christoffersen, A Hubbard, V A Pohjola, J A Dowdeswell

1340h **C43C-0513 POSTER** The Extreme Ice Survey: Capturing and Conveying Glacial Processes Through Time-Lapse Imagery and Narration: J D Balog, **J E Box**, T Pfeffer, M S McCaffrey, D B Fagre

1340h **C43C-0514 POSTER** Subglacial Morphology And Sediment Discharge Of The Storfjorden And Kveithola Palaeo-Ice Streams (NW Barents Sea) During The Last Deglaciation: **A Camerlenghi**, M Rebesco, K Andreassen, M Pedrosa Gonzalez, R G Lucchi, M C Winsborrow, J Laberg, A Caburlotto, B De Mol, R Urgeles

1340h **C43C-0515 POSTER** IPY-KINNVKA - Arctic Warming and Impact Research at 80° N: **P Kankaanpää**, V A Pohjola

1340h **C43C-0516 POSTER** US Southern Ocean CTD/Hydrographic/Carbon/Tracer Meridional Transects Contributing to the IPY: **J H Swift**, T Dittmar, S C Doney, G C Johnson, A H Orsi, B Sloyan, K G Speer, R H Wanninkhof, A P Wong

1340h **C43C-0517 POSTER** Assessing the effect of Ross Sea source water mass variability on bottom waters offshore: **C L Wiederwohl**, A H Orsi, G C Johnson, S G Purkey

1340h **C43C-0518 POSTER** Recent mapping of Turbulent Mixing in the Weddell-Scotia Confluence: **Y Kim**, A H Orsi

1340h **C43C-0519 POSTER** Arctic freshwater export variability: A detailed model study: **A Jahn**, B Tremblay, R Newton, M M Holland, L A Mysak

1340h **C43C-0520 POSTER** Virtually Shaping the Future of Polar Research: **J L Baeseman**, N V Koldunov, K Jochum

C43D Moscone West: 3014 Thursday 1340h
Remote Sensing of the Cryosphere I

Presiding: M Tedesco; T H Painter, Snow Optics Laboratory

1340h **C43D-01** CryoSat: ready to launch (again): **R Francis**, D Wingham, R Cullen

1355h **C43D-02** Validation Experiments supporting the CryoSat-2 mission: **R Cullen**, M Davidson, D Wingham

1410h **C43D-03** CoReH2O - A Satellite Mission Dedicated to the Monitoring of Snow and Ice Properties: **C R Duguay**, H Rott, D W Cline, R Essery, P Etchevers, I Hajnsek, M Kern, G Macelloni, E Malnes, J T Pulliainen, S H Yueh

1425h **C43D-04** Single-photon, Dual-color, Polarimetric Laser Altimeter Measurements of Lake Ice Freeboard, Roughness and Scattering Properties: **D J Harding**, P Dabney, S Valett, C A Shuman

1440h **C43D-05** Recent Changes in the Periphery of the Greenland Ice Sheet from NASA's Airborne Topographic Mapper: **J G Sonntag**, W B Krabill

1455h **C43D-06** Characterization of Fram Strait Sea Ice Conditions Using the NASA SIERRA Unmanned Aircraft System: J A Maslanik, **R I Crocker**, K Wegrzyn, C Fowler, U C Herzfeld, D Long, R Kwok, M M Fladeland, P Bui

1510h **C43D-07** Glacier Velocities and Elevation Change of the Northern Patagonian Icefields, Chile: S Bernstein, **M J Willis**, A K Melkonian, M E Pritchard

1525h **C43D-08** Application of synthetic aperture techniques to radar echo soundings of the Pine Island Glacier, Antarctica: **T Newman**, D Wingham, D Vaughan

Education and Human Resources

ED43A Moscone South: Poster Hall Thursday 1340h
BRIGHT STaRS: Bright Students Training as Research Scientists Posters

Presiding: I L Cifuentes, AGU

1340h **ED43A-0556 POSTER** Buffer Layers May Reduce Recombination in Solid State Dye-Sensitized Solar Cells (Invited): **J Proctor**, T Brennan, J Bakke, S Bent

1340h **ED43A-0557 POSTER** Runoff Water from Grass and Artificial Turf Soccer Fields: Which Is Better for the Soccer Player, the City and the Environment?: **C Dworsky**, A Paytan, J Metzner

1340h **ED43A-0558 POSTER** The Effects of Predator Arrival Timing on Adaptive Radiation (*Invited*): **J Borden**, M L Knope, T Fukami

1340h **ED43A-0559 POSTER** X-Ray Diffraction and Raman Spectroscopy Analysis of Siderite FeCO₃ Under High Pressure (*Invited*): **K Mu**, N B Filipovitch, W L Mao

1340h **ED43A-0560** WITHDRAWN

1340h **ED43A-0561 POSTER** Yeast identification in floral nectar of *Mimulus aurantiacus* (*Invited*): **C Kyauk**, M Belisle, T Fukami

1340h **ED43A-0562 POSTER** Patagonian Andean evolution from Miocene foreland basin detrital zircon geochronology (*Invited*): **S Lo**, J C Fosdick

1340h **ED43A-0563 POSTER** Sustainable Seas Student Intertidal Monitoring Project at Duxbury Reef in Bolinas, CA (*Invited*): **K Soave**, A Dean, K Darakananda, O Ball, C Butti, G Yang, M Vetter, Z Grimaldi

1340h **ED43A-0564 POSTER** Using Corals to Reconstruct Past Ocean Environments and Changes in Circulation (*Invited*): **E Johnston**, M C Osborne

1340h **ED43A-0565 POSTER** Particulate Matter Concentration Levels in South Central Richmond, California (*Invited*): **B Bonner**, C Byias, K E Cuff, J Diaz, K Love, T Marks-Block, F McLane, Z Mollique, E Montes, R Ross, B Washington

1340h **ED43A-0566 POSTER** Role of adsorbed arsenic and structural aluminum on Fe(II) retention and transformation of ferrihydrite (*Invited*): **R Sharma**, Y Masue-Slowey, S E Fendorf

1340h **ED43A-0567 POSTER** Indoor and Outdoor Air Quality In and Around a High School in the Fruitvale District of Oakland, California (*Invited*): **J Urzua**, B Barcenas, I Guerra, T Marks-Block, L Martinez, S Peña, K Searle

1340h **ED43A-0568 POSTER** Examining and Comparing Earthquake Readiness in East San Francisco Bay Area Communities (*Invited*): **N Ramirez**, V Bul, A Chavez, W Chin, K E Cuff, C Girton, D Haynes, G Kelly, G Leon, J Ramirez, R Ramirez, F Rodriguez, D Ruiz, J Torres

1340h **ED43A-0569 POSTER** Creating and destroying mountain belts in a sandbox (*Invited*): **M Hernandez**

1340h **ED43A-0570 POSTER** Foraminifera size evolution through the Phanerozoic (*Invited*): **K Ingram**, N Tachiki, R Cummins, A B Jost, J Payne

1340h **ED43A-0571 POSTER** Calibration of a Noble Gas Mass Spectrometer with an Atmospheric Argon Standard (*Invited*): **V Prasad**, M Grove

1340h **ED43A-0572 POSTER** Determining correlation between *Emerita analoga* recruitment and coastal upwelling (*Invited*): **K Wong**, E Godoy, A Dean, R Johnson

ED43B Moscone South: Poster Hall Thursday 1340h
Teacher Professional Development Programs Promoting Authentic Scientific Research in the Classroom III Posters

Presiding: **S M Pompea**, Natl Optical Astronomy Obs

1340h **ED43B-0573 POSTER** Education Outreach: Applications From the Field to the Classroom: **M Sutton**

1340h **ED43B-0574 POSTER** Conducting Original, Hands-On Astronomical Research in the Classroom: **M J Corneau**

1340h **ED43B-0575 POSTER** Researcher and Educator Long Term Collaboration with NOAA ESRL Regarding Atmospheric Ozone Changes at the South Pole Through the NSF PolarTREC Program: **E H Bergholz**, D J Hofmann, B J Johnson

1340h **ED43B-0576 POSTER** Authentic Research Experiences for Pre- and In-service Teachers: UNH's Transforming Earth System Science Education (TESSE) Program: **R K Varner**, K Graham, J G Bryce, L Finkel, E Froborg, S Hale, J E Johnson, K Von Damm

1340h **ED43B-0577 POSTER** Airborne Research Experience for Educators: **V B Costa**, R Albertson, S Smith, S A Stockman

1340h **ED43B-0578 POSTER** Academic Partnerships in Teacher Training and Promoting Authentic Scientific Research in the Secondary Classroom: **J M Danch**

1340h **ED43B-0579 POSTER** USC Undergraduate Team Research, Geological Field Experience and Outdoor Education in the Tuolumne Batholith and Kings Canyon, High Sierra Nevada: **K N Culbert**, J L Anderson, W Cao, J Chang, P Ehret, M Enriquez, M B Gross, L B Gelbach, J Hardy, S R Paterson, A Ianno, M Iannone, V Memeti, M Morris, J Lodewyk, J Davis, R Stanley, E Van Guilder, A S Whitesides, T ZHANG

1340h **ED43B-0580 POSTER** Developing a Project-Based Secondary School Science Academy: **J Adkins**

1340h **ED43B-0581 POSTER** Exploring Astrobiology: Future and In-Service Teacher Research Experiences: **J Cola**, L D Williams, T Snell, E Gaucher, B Harris, M C Usselman, R S Millman

1340h **ED43B-0582 POSTER** Professional Development Workshops for K-8 Teachers at the Planetary Science Institute: **L A Lebofsky**, L F Bleamaster, T L Caniso, S K Croft, D A Crown, E Pierazzo

1340h **ED43B-0583 POSTER** A Research-Based Science Teacher Education Program for a Competitive Tomorrow: **R M Clary**, B Hamil, D J Beard, D Chevalier, J Dunne, S Saebo

1340h **ED43B-0584 POSTER** Teachers participate in the School of Rock research experience on board the JOIDES Resolution: **L Peart**, S K Cooper, J Collins

1340h **ED43B-0585 POSTER** Integrating long-term science projects into K-12 curriculum: Fostering teacher-student engagement in urban environmental research through an NSF UCLA GK-12 program: **T S Hogue**, M Moldwin, P Nonacs, J Daniel, R Shope

1340h **ED43B-0586 POSTER** A Radio Astronomy Science Education Partnership – GAVRT and Radio JOVE: **C A Higgins**, J R Thieman, K Bunnell, G Soholt

1340h **ED43B-0587 POSTER** Expedition Earth and Beyond: Using NASA data resources and integrated educational strategies to promote authentic research in the classroom: **P V Graff**, W Stefanov, K Willis, S Runco

ED43C Moscone West: 3020 Thursday 1340h
Connecting Science and Literacy in the Classroom: Using Space and Earth Science to Support Language Arts I

Presiding: **E A Cobabe-Ammann**, Emily A. CoBabe & Assoc.; **A Wessen**, JPL

1340h **ED43C-01** Uniting Science and Literacy: A Win for All (*Invited*): **E A Cobabe-Ammann**

1355h **ED43C-02** Cosmic Times: Engaging Students in Science through History and Journalism: **J C Lochner**, B J Mattson

1410h **ED43C-03** Language Preservation: the Language of Science as a bridge to the Native American Community: **C J Alexander**, M Martin, G Grant

1425h **ED43C-04** Integrating Literacy and Space Science: Three Proven Curricula for the Early Grades: **R Paglierani**, S Feldman

ED43D Moscone West: 3020 Thursday 1440h
International Year of Astronomy 2009: Impacts in Education and Public Outreach and Plans Beyond I (*joint with P*)

Presiding: C E Walker, National Optical Astronomy Observatory;
E K DeVore, SETI Institute

1440h **ED43D-01** The U.S. Program for the International Year of Astronomy 2009 (IYA2009): Outcomes, Lessons Learned, and Legacy Projects (*Invited*): **D Isbell**

1455h **ED43D-02** NASA International Year of Astronomy 2009 Programs: Impacts and Future Plans (*Invited*): **H Hasan**, D Smith, S A Stockman

1510h **ED43D-03** Galileo Teacher Training Program and Other IYA Projects: Status and Future Strategies from the Astronomical Society of the Pacific: **J G Manning**, G Schultz, A Fraknoi

1525h **ED43D-04** Worldwide Impact: International Year of Astronomy Dark Skies Awareness Programs: **C E Walker**, S M Pompea, D Isbell

Earth and Planetary Surface Processes

EP43A Moscone South: Poster Hall Thursday 1340h
Coastal Geomorphology and Morphodynamics IV Posters
(*joint with NG, OS*)

Presiding: D McNamara, UNC Wilmington; H F Stockdon

1340h **EP43A-0635** POSTER GEOLOGICAL AND ENVIRONMENTAL CONSTRAINTS ON THE NEGATIVE POWER LAW SCALING OF ROCKFALLS, YORKSHIRE, UK: **J Barlow**, N Rosser, D N Petley

1340h **EP43A-0636** POSTER Hudson Canyon Offshore New York and New Jersey: Active Circular Depressions, Fans, Ravines, Methane Discharge and Water Masses: **P A Rona**, V Guida, M I Scranton, D Gong, S Haag, L Macelloni, A Simonetti, J James, A Diercks, V L Asper

1340h **EP43A-0637** POSTER Burial and Exhumation of Inner Shelf Bedrock Reefs due to Winter Storms: **C D Storlazzi**, T Fregoso, N Golden, D P Finlayson

1340h **EP43A-0638** POSTER An application of vessel-based LiDAR to quantify coastal retreat in Southern Monterey Bay, CA: **S Quan**, R Kvitek, D P Smith

1340h **EP43A-0639** POSTER Extreme along-beach variations in morphodynamics attributed to nearshore bathymetry and underlying geology over the short-term, Onslow Beach, North Carolina: **E J Theuerkauf**, A B Rodriguez, S R Fegley, J V Fleming, J E McNinch, H M Wadman

1340h **EP43A-0640** POSTER The Role of Backbarrier Filling in the Evolution of a Barrier Island System: **C J Hein**, D M FitzGerald, B D Stone, E Carruthers, A M Gontz

1340h **EP43A-0641** POSTER Modeling the Response of Human Altered Natural Barrier Island Dynamics Along Assateague Island National Seashore to Climate Change: **A Carroll**, D McNamara, C Schupp

1340h **EP43A-0642** POSTER Unexpected emergent behavior in a coupled economic and coastline model for stabilized shorelines: **E Lazarus**, D McNamara, A B Murray

1340h **EP43A-0643** POSTER Investigating the Influence of Wave Climate on Beach Morphodynamics at Matanzas Inlet, Florida Atlantic Coast: **K K Malone**, P N Adams

1340h **EP43A-0644** POSTER Exploring the Interplay of Wave Climate and Terrestrial Sediment Supply in the Geomorphic Evolution of Sandy Coasts with a Numerical Model: **J L Lovering**, P N Adams

1340h **EP43A-0645** POSTER Wave Overtopping of a Barrier Beach: **E B Thornton**, N Laudier, J H MacMahan

1340h **EP43A-0646** POSTER Improving Short Wave Breaking Behavior In Surfbeat Models: **J Roelvink**, C Daly, A R Vandongeren, J Van Thiel de Vries, R McCall

1340h **EP43A-0647** POSTER Beach morphodynamics of the mixed grain-size delta of the dammed Elwha River, Washington: **J A Warrick**, G R Gelfenbaum, D A George, P Ruggiero, G M Kaminsky, M Beirne, I M Miller

1340h **EP43A-0648** POSTER Cross-shore sediment transport measurements at the beach of Sète, Gulf of Lion: **E Brambilla**, F Bouchette, R Certain, N Robin, P Ferrer, G Sylaios

1340h **EP43A-0649** POSTER Grain Size and Morphological Variability: **E L Gallagher**, A J Reniers, J H MacMahan, E B Thornton

1340h **EP43A-0650** POSTER Prediction of the Dynamic Behaviour and Migration Rates of Sand Waves in the Monterey Canyon System of California: **C Innocenti**, A Taramelli, G Besio, F C Pascoletti, L Disperati, I W Aiello

1340h **EP43A-0651** POSTER Tidal bedform characteristics in the Jade and Weser tidal inlet channels, German North Sea coast: **H S Feng**, C Winter, C Svenson, C Maushake

1340h **EP43A-0652** POSTER MAPPING AND MONITORING OF SALT MARSH VEGETATION AND TIDAL CHANNEL NETWORK FROM HIGH RESOLUTION IMAGERY (1975-2006). EXAMPLE OF THE MONT-SAINT-MICHEL BAY (FRANCE): **A P Puissant**, D Kellerer, L Gluard, F Levoy

1340h **EP43A-0653** POSTER A macro-micro model of sedimentary delta growth that accounts for biological processes: **J Lorenzo-Trueba**, G O Holm, A Bevington, R Twilley, V R Voller, C Paola

1340h **EP43A-0654** POSTER Reconstruction of sediment transport pathways in modern microtidal sand flat by multiple classification analysis: **S Yamashita**, T Nakajo, H Naruse

1340h **EP43A-0655** POSTER Anthropogenic Impacts on the Evolution of Estuarine Fringe-marsh Shorelines: Implications of Coastal Setting on Marsh Sustainability: **C R Mattheus**, A B Rodriguez, B A McKee, C Currin

1340h **EP43A-0656** POSTER How sea level rise affects sedimentation, plant growth, and carbon accumulation on coastal salt marshes: **S M Mudd**, S M Howell, J T Morris

EP43B Moscone South: Poster Hall Thursday 1340h
Coastal Geomorphology and Morphodynamics V: Arctic Coasts at Risk Posters (*joint with NG, OS, PA*)

Presiding: B M Richmond, US Geological Survey; S M Solomon, Bedford Institute of Oceanography; I Overeem, University of Colorado

1340h **EP43B-0657** POSTER Estimating Frequency-Of-Occurrence Of Extreme Water Levels In Kotzebue Sound And Norton Sound From A Storm Surge Model For 51 Years Between 1954 And 2004: **S Kim**, R S Chapman, D J Mark

1340h **EP43B-0658** POSTER Quantifying Sea-Ice Loss as a Driver of Arctic Coastal Erosion: **I Overeem**, C W Wobus, R S Anderson, G D Clow, F E Urban, T P Stanton

1340h **EP43B-0659** POSTER Failure modes of thawing permafrost bluffs on the Chukchi Sea coast, Alaska: **B D Collins**, L H Erikson, T Reiss

- 1340h **EP43B-0660** *POSTER* Linking process-based measurements and observations with bluff recession estimates and inferred bluff erosion mechanisms on the Chukchi coast, North Slope, Alaska: **L H Erikson**, C D Storlazzi, B D Collins
- 1340h **EP43B-0661** *POSTER* A Comprehensive Regional Shoreline Change Assessment of Alaska's North Slope: 1947-2007: **E L Harden**, A Gibbs, B M Richmond
- 1340h **EP43B-0662** *POSTER* Classification of northern Alaska coastal morphology from high-resolution oblique photography: **B M Richmond**, A Gibbs, A Konopczak
- 1340h **EP43B-0663** *POSTER* Understanding Nearshore Processes Of a Large Arctic Delta Using Combined Seabed Mapping, In Situ Observations, Remote Sensing and Modeling: **S M Solomon**, N J Couture, D L Forbes, A Hoque, K A Jenner, G Lintern, R P Mulligan, W A Perrie, C W Stevens, B Toulany, D Whalen

EP43C Moscone South: Poster Hall Thursday 1340h
Computational Modeling of Landscapes and Seascapes:
Models, Data Sets, and Applications III Posters (*joint with A, AE, B*)

- Presiding:* **J P Syvitski**, CSDMS; **B (Jagers)**, Deltares; **G E Tucker**, University of Colorado; **R L Slingerland**, The Pennsylvania State University
- 1340h **EP43C-0664** *POSTER* New Topographic Attributes Derived Using Enhanced Terrain Analysis: **T K Tesfa**, D G Tarboton, M E Baker, K Schreuders
- 1340h **EP43C-0665** *POSTER* Hypsometric analysis and numerical modeling to investigate the effect of glaciations on the landscape: **P Sternai**, M Fox, F Herman, S Castelltort
- 1340h **EP43C-0666** *POSTER* Are rock-uplift rates in the Olympic Mountains of Washington State balanced by glacial erosion? A quantitative test of the ablation/plucking glacial erosion model: **J H Tomkin**, J Hellwig, A M Anders
- 1340h **EP43C-0667** *POSTER* Interplay between isostasy, erosion and lithospheric rheology inferred from numerical modeling of post-orogenic deformation: R Cattin, **P Steer**, J Lavé, V Godard
- 1340h **EP43C-0668** *POSTER* Testing Predictions of a Landscape Evolution Model Using the Dragon's Back Pressure Ridge as a Natural Experiment: **M C Perignon**, G E Tucker, G E Hilley, R Arrowsmith
- 1340h **EP43C-0669** *POSTER* Numerical modelling of river rearrangement along strike-slip faults: G Y Brocard, **T Simon-Labric**, P Van Der Beek, C Teyssier
- 1340h **EP43C-0670** *POSTER* A drainage basin scale model for earthflow-prone landscapes over geomorphic timescales: **A M Booth**, J J Roering
- 1340h **EP43C-0671** *POSTER* Twenty-first century discharge and sediment yield predictions in a small high arctic watershed: **T Lewis**, S F Lamoureux

EP43D Moscone South: Poster Hall Thursday 1340h
Computational Modeling of Landscapes and Seascapes:
Models, Data Sets, and Applications II Posters (*joint with A, AE, B*)

- Presiding:* **J P Syvitski**, CSDMS; **B (Jagers)**, Deltares; **G E Tucker**, University of Colorado; **R L Slingerland**, The Pennsylvania State University
- 1340h **EP43D-0672** *POSTER* Flow Dynamics and Sediment Entrainment in Natural Turbidity Currents Inferred from Numerical Modeling: **M M Traer**, G E Hilley, A Fildani

- 1340h **EP43D-0673** *POSTER* Self-Organization of Coral Atolls and Their Response to Rising Sea Level and Ocean Acidification: **E D Gutmann**, R S Anderson, G E Tucker
- 1340h **EP43D-0674** *POSTER* Concepts on tracking the impact of tropical cyclones through the coastal zone: **J P Syvitski**, M T Hannon, A J Kettner, S Bachman
- 1340h **EP43D-0675** *POSTER* Critical perspectives on the validation of complex numerical models of estuary hydrodynamics and sediment transport: **J French**, L Cea Gómez
- 1340h **EP43D-0676** *POSTER* SedBerg and SedPlume Models: Simulating Sediment Delivery from Tidewater Glaciers to the Marine Environment: **R I Mugford**, J A Dowdeswell
- 1340h **EP43D-0677** *POSTER* Integrating a 1D Thermal Lake Model into a Global and Regional Climate Model: Model Evaluation and Regional Climate Simulation: **Z M Subin**, W J Riley
- 1340h **EP43D-0678** *POSTER* Interaction of Atmospheric Winds and Subsurface CO₂ Migration at Mammoth Mountain, CA: **D Crandall**, E Ogretim, D D Gray, G S Bromhal
- 1340h **EP43D-0679** *POSTER* Southern Alaska Coastal Relief Model: **E Lim**, B Eakins, R Wigley

EP43E Moscone South: Poster Hall Thursday 1340h
Landscape Evolution: Quantifying Interactions Between Biological, Physical, and Anthropogenic Forcings II Posters (*joint with PA, GC*)

- Presiding:* **J M Kaste**, College of William and Mary; **A West**, University of Oxford
- 1340h **EP43E-0680** *POSTER* Carbon Corn: Development of a sustainable agroecosystem: **K M Wacha**, T Papanicolaou
- 1340h **EP43E-0681** *POSTER* Platinum group element incorporation into human bones resulting from increased anthropogenic utilization: **T H Darrah**, R E Hannigan, E Campbell, J Prutsman-Pfeiffer
- 1340h **EP43E-0682** *POSTER* Human Transformation of the Terrestrial Biosphere: Form, Extent, Duration, and Intensity: **E C Ellis**, K Klein Goldewijk, S Siebert, D Lightman, N Ramankutty
- 1340h **EP43E-0683** *POSTER* Dynamics in Protected Areas and Domesticated Landscapes Caused by Climate Change and Anthropogenic Use: **J Hartter**, S Ryan, M Stampone, C Chapman
- 1340h **EP43E-0684** *POSTER* Canopy Composition and Topographic Controls on Root Cohesion in Landslide-Prone Terrain: **T C Hales**, C R Ford, T Hwang, J Vose, L E Band
- 1340h **EP43E-0685** *POSTER* Satellite and ground-based study on the spatial characteristic of grazing step terracettes in semiarid grassland of Mongolia: **H Kato**, Y Onda, Y Tanaka
- 1340h **EP43E-0686** *POSTER* Characterization of submerged macrophytes in a shallow lake using a combined approach of hyperspectral and LiDAR data: E Valentini, M Bresciani, **C Giardino**, C Innocenti, A Taramelli
- 1340h **EP43E-0687** *POSTER* Disturbance and Recovery in the Anthropocene: Examining Sedimentation and Coastal Progradation on Lana'i, Hawai'i: **A S Kolker**, J Douglas, B E Rosenheim
- 1340h **EP43E-0688** *POSTER* Higher Order Loess Terracettes and Related Ungulate Activities in Western Pottawattamie County, Iowa: **B J Weihs**
- 1340h **EP43E-0689** *POSTER* Holocene soil erosion and sediment storage in a meso-scale catchment in Germany: A quantitative approach: **M Fuchs**
- 1340h **EP43E-0690** *POSTER* Are expansive North American marshes a relict of historical land use change?: **M Kirwan**, A B Murray, J Donnelly

1340h **EP43E-0691** *POSTER* Erosion-driven environmental degradation in Tigray, Ethiopia: **N Strong**, J Willenbring, V J Terwilliger

EP43F Moscone West: 2008 Thursday 1340h
Dynamics and Processes of Deltas, Fans, and Their
Distributary Channels II (*joint with H*)

Presiding: **D J Jerolmack**, University of Pennsylvania; **B A Sheets**, University of Washington; **D C Mohrig**; **D Edmonds**, University of Minnesota

1340h **EP43F-01** Alluvial fan response to climatic change: Insights from numerical modeling (*Invited*): **J D Pelletier**

1355h **EP43F-02** Morphodynamic And Stratigraphic Evolution Of Self-Channelized Subaqueous Fans Emplaced By Turbidity Currents And Dilute Mudflows (*Invited*): **A Cantelli**, C Pirmez, R Fernandez, G Parker

1410h **EP43F-03** HYDRODYNAMIC THEORY FOR THE FORMATION OF MISSISSIPPI BIRDSFOOT AND TIE CHANNELS: **F Falcini**, D J Jerolmack

1425h **EP43F-04** Morphodynamics of a Bifurcation on the Wax Lake Delta, LA: **R L Slingerland**, J Best, D R Parsons, D A Edmonds

1440h **EP43F-05** The Great Diversion: Danube Delta under Human Control (*Invited*): **L Giosan**

1455h **EP43F-06** Mass Balance: The Key to Delta Dynamics (*Invited*): **M A Wolinsky**

1510h **EP43F-07** Simulation of the constitution of delta distributary networks: **N Geleynse**, J Storms, M Stive, B (Jagers, D Walstra, A van der Spek

1525h **EP43F-08** Organization, preservation, and fossilized distributary channel geometry from weakly cohesive experimental deltas: **D Novak**, M Danilkin, J M Martin

Geodesy

G43A Moscone South: Poster Hall Thursday 1340h
Geodesy to Investigate the Climate System II Posters (*joint with A, C, GC, NH, OS, H*)

Presiding: **E J Rignot**, University California Irvine; **O de Viron**, Université Denis Diderot & IGP

1340h **G43A-0712** *POSTER* On the representation of Southern Ocean mass variability in GRACE-derived ocean bottom pressure anomalies: **C Boening**, S Daniliv, A Macrandar, J Schroeter, R Timmermann, V Zlotnicki

1340h **G43A-0713** *POSTER* Observation of solid precipitation using satellite gravity: **K Seo**, D E Waliser, D Ryu, B Tian, B Kim

1340h **G43A-0714** *POSTER* Seasonal variation of vertical crustal deformation possibly related to water mass storage in southeast Alaska: **M Akatsuka**, S Miura, Y Ohta, T Sato, J T Freymueller

1340h **G43A-0715** *POSTER* Seasonal and inter-annual gravity changes in the Siberian permafrost region from GRACE: **R Ogawa**, B F Chao, K Heki

1340h **G43A-0716** *POSTER* The hydrological budget over Pan-Arctic river basins from GRACE and re-analysis: variability, trends and uncertainties from 2003-2009: **F W Landerer**, J O Dickey, V Zlotnicki

1340h **G43A-0717** *POSTER* Annual water storage variability in Southwest Niger: confrontation of absolute gravimetric measurements and magnetic resonance soundings surveys with hydrological observations: **J Pfeffer**, M Boucher, J Hinderer, G Favreau, J Boy, C de Linage, B Luck, M Oi

1340h **G43A-0718** *POSTER* Using GRACE total water storage data to constrain the dynamics of surface flow in the Community Land Model in the Amazon and Orinoco basins: **C de Linage**, M Lo, J S Famiglietti

1340h **G43A-0719** *POSTER* An interpretation of large-scale GRACE observations of terrestrial water storage over the Amazon: **S Han**, I Yeo, M Rodell, D Alsdorf, H KIM, T Oki, J Boy

1340h **G43A-0720** *POSTER* Analysis of GRACE Processing for Increased Reliability on Basin-Scale Water Storage Variations: Application to the High Plains Aquifer, USA: **L Longuevergne**, B R Scanlon, C R Wilson

1340h **G43A-0721** *POSTER* Hydrological variations in Australia recovered by GRACE high-resolution mascons solutions: **C C Carabajal**, J Boy, S B Luthcke, D D Rowlands, F G Lemoine, T J Sabaka

1340h **G43A-0722** *POSTER* Application of a frequency-domain terrestrial water balance using GRACE: **J T Reager**, J S Famiglietti

1340h **G43A-0723** *POSTER* High precision gravimetric time series in comparison with global and local hydrology models: **H Wziontek**, H Wilmes, B Creutzfeldt, A Güntner

1340h **G43A-0724** *POSTER* GNSS water vapor tomography utilizing the German GNSS networks: **M Bender**, G Dick, R Stosius, J Wickert, A Raabe

1340h **G43A-0725** *POSTER* A new local GPS water vapor tomography imaging technique using spectral functions w.r.t space and time: initial tests and results for the Tahiti Island case (French Polynesia): **L Sichoix**, J Barriot, A Fadil, P Ortega

G43B Moscone South: Poster Hall Thursday 1340h
Satellite Gravity Missions: GRACE, GOCE, and Beyond II
Posters (*joint with OS, C, H, PA*)

Presiding: **S V Bettadpur**, The University of Texas at Austin; **M R Drinkwater**, European Space Agency

1340h **G43B-0726** *POSTER* Improved estimates of Antarctica seasonal and inter-annual ice mass variability from GRACE: **K Pangaluru**, I Velicogna, S C Swenson

1340h **G43B-0727** *POSTER* Estimating Antarctica land topography from GRACE gravity and ICESat altimetry data: **I Wu**, B F Chao, Y Chen

1340h **G43B-0728** *POSTER* Greenland GPS Network: Crustal Oscillations and Seasonal Ice Mass Fluctuations: **M G Bevis**, E C Kendrick, A K Brown, S A Khan, P Knudsen, F Madsen, J M Wahr, M J Willis

1340h **G43B-0729** *POSTER* Co-seismic and post-seismic gravity change due to the 2004 Sumatra-Andaman earthquake: EOF study: Y Li, **B F Chao**

1340h **G43B-0730** *POSTER* A localized analysis of the global gravity field for lateral variations of density and viscosity structure of the Earth: **C Lee**, S Han

1340h **G43B-0731** *POSTER* Variation of the Antarctic Coastal Current in the vicinity of Lützw-Holm Bay, East Antarctica derived by GRACE and in-situ bottom pressure measurements: **H Hayakawa**, K Shibuya, K Doi, Y Aoyama, Y Nogi

1340h **G43B-0732** *POSTER* Arctic Ocean Tides from GRACE Satellite Accelerations: **B Killett**, J M Wahr, S D Desai, D Yuan, M M Watkins

1340h **G43B-0733** *POSTER* High Frequency Variations of Arctic Ocean Bottom Pressure and Their Relation to Atmospheric Pressure: **A C Peralta Ferriz**, J Morison, R Kwok

1340h **G43B-0734 POSTER** GRACE mass concentration blocks (mascons) and hydrological modeling combined to determine temporal mass fluxes in large river basins of Southern Africa: **P E Krogh**, O B Andersen, D D Rowlands, S B Luthcke, D S Chinn, C Michailovsky, P Bauer-Gottwein

1340h **G43B-0735 POSTER** Assessing the suitability of Mascon and CNES high temporal resolution GRACE solutions for Australian hydrological studies: **K M Fleming**, J Awange, I Anjasmara, M Kuhn, W E Featherstone, B Heck, M Sharifi

1340h **G43B-0736 POSTER** Assimilating GRACE terrestrial water storage data into a conceptual hydrology model for the River Rhine: E Widiastuti, **S C Steele-Dunne**, B Gunter, A Weerts, N Van De Giesen

1340h **G43B-0737 POSTER** Study of landwater variation over Chao Phraya river basin using GRACE, satellite altimetry and in situ data: **K Yamamoto**, Y Fukuda, T Nakaegawa, M Taniguchi

1340h **G43B-0738 POSTER** High frequency hydrological signals in GRACE time-variable gravity solutions: **J A Bonin**, S V Bettadpur

1340h **G43B-0739 POSTER** Intercomparison of GRACE data releases from four current processing standards: **S Castle**, C de Linage, M Lo, J T Reager, J S Famiglietti

1340h **G43B-0740 POSTER** Analysis of the GRACE Dual One-Way Ranging Measurements: **J Kim**

1340h **G43B-0741 POSTER** An Atlas of Earth Gravity Model 2008: **P J Melvin**

1340h **G43B-0742 POSTER** Multiscale Feature Extraction of Potential Fields Using Poisson Wavelets: **M Hayn**, I PANET, M Holschneider, M Diamant

1340h **G43B-0743 POSTER** GRACE-derived surface water mass anomalies by energy balance approach: **G Ramillien**, R Biancale, S Gratton, X Vasseur, S Bourgoigne

1340h **G43B-0744 POSTER** Full Resolution Geoid from GOCE Gradients for Ocean Modeling: **P Knudsen**, M Herceg

1340h **G43B-0745 POSTER** Error Characterization and Regularization for GRACE gravity solutions: **H V Save**, S V Bettadpur, J A Bonin

1340h **G43B-0746 WITHDRAWN**

1340h **G43B-0747 POSTER** Regional and Global Time-Variable Gravity Recovery from GRACE: **F G Lemoine**, D D Rowlands, T J Sabaka, S B Luthcke, J Boy, D S Chinn, J McCarthy, R D Ray, C C Carabajal

1340h **G43B-0748 POSTER** Separation of GRACE geoid time-variations using Independent Component Analysis: F Frappart, **G Ramillien**, P Maisongrande, M Bonnet

1340h **G43B-0749 POSTER** Quick-Look Gravity Fields from GRACE: **S V Bettadpur**

1340h **G43B-0750 POSTER** THE IMPACT ON A COMBINED GLOBAL GRAVITY FIELD MODEL USING GOCE DATA: **H Goiginger**, R Pail

1340h **G43B-0751 POSTER** Satellite Altimeter Data for GOCE Gravity Gradient Validation: **J Bouman**, W Bosch

1340h **G43B-0752 POSTER** Dual GRACE-type Mission Architectures for Temporal Gravity Recovery: **D N Wiese**, R Nerem

G43C Moscone West: 3022 Thursday 1340h
Volcano Geodesy: Monitoring and Modeling II (joint with S, V, NH, IN)

Presiding: **M Battaglia**, Sapienza - University of Rome;
T Masterlark, University of Alabama

1340h **G43C-01** Deformation Associated with 1995, 2005 and 2009 Eruptions at Fernandina Volcano, Galápagos, Observed by Satellite Radar Interferometry: **M Bagnardi**, F Amelung, S Baker

1355h **G43C-02** Using finite element modeling (FEM) to investigate a complex inter-eruptive deformation pattern observed at Hekla volcano, Iceland: **R Pedersen**, T Masterlark, F Sigmundsson, B Ofeigsson

1410h **G43C-03** Using StaMPS to process RADARSAT images of Askja caldera: **E de Zeeuw-van Dalfsen**, A J Hooper, F Sigmundsson, R Pedersen, C P Jaupart

1425h **G43C-04** InSAR analysis of ALOS, Envisat, and TerraSAR-X observations of Kilauea volcano: **P Lundgren**, E M Gurrola, M P Poland

1440h **G43C-05** Geodetic Measurements and Mechanical Models of Cyclic Deformation at Okmok Volcano, Alaska: **K Feigl**, T Masterlark, Z Lu, S J Ohlendorf, C H Thurber, F Sigmundsson

1455h **G43C-06** Study of ongoing inflation at Uturuncu Volcano in Bolivia, 2003-2009: **M Motagh**, A J Hooper, T R Walter, J Anderssohn

1510h **G43C-07** The 2009 Magmatic Intrusion and Faulting in Harrat Al-Shaqah (Lunayyir), western Saudi Arabia, Observed by Satellite Radar Interferometry (InSAR) (*Invited*): **S Jonsson**, Z Lu, S El-Hadidy, H Zahran

1525h **G43C-08** Magma intrusions, chambers and eruptions fed from sources below the brittle-ductile transition: The limitation of magma flow rate? (*Invited*): **F Sigmundsson**, A J Hooper, E C Sturkell, R Pedersen, H Geirsson, B Ofeigsson, P Einarsson

Global Environmental Change

GC43A Moscone South: Poster Hall Thursday 1340h
SI-Traceable Climate Measurements From Space: Requirements, Methods, and Information Content of Proposed CLARREO Measurements I Posters

Presiding: **S S Leroy**, Harvard University; **D F Young**, NASA Langley Research Center

1340h **GC43A-0777 POSTER** Solar Intensity Distributing and Convolving Optic (SIDCO) concept for the CLARREO Visible-Near Infra-Red (VNIR): **G Matthews**

1340h **GC43A-0778 POSTER** Applicability of UV and Blue High-Flux Light Emitting Diodes as In-Flight Radiometric Sources for CLARREO: **M Helmlinger**, B Miller, J Barter, L Iwaki, M Frink

1340h **GC43A-0779 POSTER** Calibration Lessons Learned from Hyperion Experience: **S Casement**, K Ho, S Sandor-Leahy, S Biggar, J Czapla-Myers, J McCorkel, K Thome

1340h **GC43A-0780 POSTER** Modeling The Reflected Solar Spectrum For CLARREO: **Z Jin**, C Lukashin, B A Wielicki

1340h **GC43A-0781 POSTER** Evaluating the Variability of Earth-reflected Hyperspectral Data Using Principal Component Analysis: **Y Roberts**, P Pilewskie, B C Kindel, G Kopp, Z Jin

1340h **GC43A-0782 POSTER** Applicability of Spectral Longwave Radiative Kernels at Monthly/Daily Spatial Scale and Global/Zonal Temporal Scale: F G Rose, **S Kato**, X Liu

1340h **GC43A-0783 POSTER** Simulation of a retrieval process of atmospheric changes from spatially and temporally averaged nadir view spectral changes: **D P Kratz**, S Kato, F G Rose, X Liu

1340h **GC43A-0784 POSTER** Using the multiangle polarimetric measuring capabilities of the 2010 NASA/Glory mission to separate atmospheric scattering contributions from radiances emerging from open oceans in the visible part of the spectrum: **J Chowdhary**, B Cairns, M I Mishchenko, B E Carlson

1340h **GC43A-0785 POSTER** Sampling Errors for the CLARREO GNSS Radio Occultation Instrument: **S S Leroy**, J Anderson

1340h **GC43A-0786 POSTER** Assessment and Mitigation of Ionospheric Residual Errors in GPS Radio Occultation Retrievals: **C O Ao**, A Mannucci, X Pi, B A Iijima

1340h **GC43A-0787 POSTER** Design of a High Accuracy Blackbody for CLARREO: **H M Latvakoski**, D K Scott, M Watson, M D Wojcik, T S Topham, G E Bingham

1340h **GC43A-0788 POSTER** Application of Phase Change Cells as Temperature Reference for Blackbody Thermometry: **T S Topham**, G E Bingham, D K Scott, D Ahlstrom

1340h **GC43A-0789 POSTER** A New Class of Advanced Accuracy Satellite Instrumentation (AASI) for the CLARREO Mission: Interferometer Test-bed Tradestudies and Selection: **J K Taylor**, H E Revercomb, F J Grandmont, H Buijs, P J Gero, F A Best, D C Tobin, R O Knuteson, D D LaPorte

1340h **GC43A-0790 POSTER** On-Orbit Absolute Temperature Calibration Using Multiple Phase Change Materials: **F A Best**, D P Adler, C Pettersen, H E Revercomb, J H Perepezko

1340h **GC43A-0791 POSTER** High-Performance Quantum Detector Option for CLARREO Far-IR Interferometer: **H H Hogue**, M G Mlynchak, N Abedin, S A Masterjohn, M S Muzilla

1340h **GC43A-0792 POSTER** On-orbit Traceable Blackbody Emissivity Measurement using the Heated Halo Method: **P J Gero**, J K Taylor, F A Best, H E Revercomb, R O Knuteson, D C Tobin, D P Adler, N N Ciganovich, S Dutcher, R K Garcia

1340h **GC43A-0793 POSTER** Establishing a New NIST Facility for the Primary Realization of both Spectral Radiance and Reflectance in the Mid-and Far-Infrared: **S Mekhontsev**, V Khromchenko, A Prokhorov, B Wilthan, L Hanssen

1340h **GC43A-0794 POSTER** Monte-Carlo Modeling of BB Emissivity and Its Monitoring Techniques in Support of the CLARREO Mission: **L M Hanssen**, A Prokhorov, B Wilthan, S Mekhontsev, V Khromchenko, J Zeng

1340h **GC43A-0795 POSTER** CLARREO Observation Modes and Their Impact on Orbit Definition and On-Orbit Operations: **P W Speth**, C Roithmayr, D MacDonnell

1340h **GC43A-0796 POSTER** Atmospheric Infrared Sounder (AIRS) High Spectral Resolution Radiance Climate-Quality Dataset for Validating Climate Analyses: **M Goldberg**, L Zhou, X Liu, Z Cheng

1340h **GC43A-0797 POSTER** Using CLARREO for spectral calibration of NOAA operational satellite sensors: Lessons learned from studies with AIRS and IASI: **L Wang**, C Cao

1340h **GC43A-0798 POSTER** Trends And Inter-Annual Variability Of Outgoing Spectrally Resolved Infrared Emission In High, Middle, And Tropical Latitude Zones: Use Of Recent AIRS And IASI Data Sets For CLARREO Mission Formulation: **R O Knuteson**, F A Best, S Dutcher, R K Garcia, P J Gero, R Holz, H E Revercomb, J K Taylor, D C Tobin

1340h **GC43A-0799 POSTER** Information Content Analysis of CLARREO Far-IR and Mid-IR Spectral Regions: **X Liu**, B Wielicki, D F Young, M G Mlynchak, D G Johnson, S Kato, D P Kratz

1340h **GC43A-0800 WITHDRAWN**

1340h **GC43A-0801 POSTER** Climate Signal Detection from Multiple Satellite Measurements: **Y Jiang**, H Aumann, Y L Yung, K Li

1340h **GC43A-0802 POSTER** Comparison of anomalies and trends of OLR as observed by CERES and computed from geophysical parameters derived from analysis of AIRS/AMSU data: **J Susskind**, G I Molnar

GC43B Moscone West: 3001 Thursday 1340h
Environmental, Socioeconomic, and Climatic Changes in Northern Eurasia and Their Feedbacks to the Global Earth System: How Far Have We Advanced in Our Ability to Describe Them? II (*joint with C, H, PP, B, PA*)

Presiding: **P Y Groisman**, UCAR at NOAA NCDC; **V E Romanovsky**, University of Alaska Fairbanks

1340h **GC43B-01** Northern Eurasia Earth Science Partnership Initiative (NEESPI) in 2009: An Overview of the Current Status: **P Y Groisman**, V Kattsov, R G Lawford

1345h **GC43B-02** Land-Cover and Land-Use Change (LCLUC) Interactions with Climate in the Eurasian Arctic: Past and new projects in the NASA LCLUC program: **G Gutman**

1400h **GC43B-03** Impacts of Climate Changes in Ukraine on Hydrological Regime and Water Resources: Assessment and Measures of Adaptation: **V Manukalo**

1410h **GC43B-04** Changes of Ecosystems and Societies on the Mongolian Plateau: Coupled Regulations of Land Use and Changing Climate (*Invited*): **J Chen**, R John, N Lu, B Wilske, C Shao, L Li, L Zhen

1425h **GC43B-05** Tropospheric methane and carbon dioxide over West Siberia: observation data analysis, surface flux inventories and transport modeling (*Invited*): **S S Maksyutov**, T Machida, M Sasakawa, Y Koyama, T Saeki, K Shimoyama, M Glagolev, H Kim, G Inoue, N Fedoseev, M Arshinov, D Davidov, A Fofonov, O Krasnov, B D Belan

1440h **GC43B-06** Recent and Future Changes in Eurasian Permafrost: Observations, Modeling, Possible Consequences (*Invited*): **V E Romanovsky**, S S Marchenko, A L Kholodov, D S Drozdov, N G Oberman, G Grosse, R R Muskett

1455h **GC43B-07** Geographic Assessment Of Permafrost Bearing Capacity In Siberia Under Warming Climate: **N I Shiklomanov**, D Streletsky

1510h **GC43B-08** Circumpolar Arctic greening: Relationships to summer sea-ice concentrations, land temperatures and disturbance regimes: **D A Walker**, U S Bhatt, H E Epstein, M K Raynolds, G V Frost, M O Leibman, A Khomutov, G Jia, J C Comiso, J E Pinzon, C J Tucker, P J Webber, C E Tweedie

1525h **GC43B-09** Changes of Snow Cover in North Eurasia: Tendencies and Consequences (*Invited*): **A B Shmakin**, V V Popova, D V Turkov, A V Borzenkova

Geomagnetism and Paleomagnetism

GP43A Moscone South: Poster Hall Thursday 1340h
Geologic Insights From Magnetic Properties II Posters (*joint with PP, V*)

Presiding: **J G Rosenbaum**, U.S. Geological Survey; **I Lascu**, University of Minnesota

1340h **GP43A-0832 POSTER** Magnetochronology of early humans in China: **C Deng**, R Zhu, Y Pan

1340h **GP43A-0833 POSTER** Magnetic signature of plutons and implications for emplacement conditions: examples from N. Greece: **D Kondopoulou**, I Zananiri, S Dimitriadis

1340h **GP43A-0834 POSTER** Remagnetization of Variscan massifs and reconstruction of the Triassic paleosurface in Europe: **C Franke**, M Thiry, M Jelenska, M Kodzialko-Hofmohl, F Lagroix, D Parcerisa, A Szuszkiewicz, K Turniak

1340h **GP43A-0835** *POSTER* Studying the basement structure of the Ramså field on Andøya, northern Norway: **M Broenner**, O Olesen, J Koziel, J Gellein, P Midbøe, T Henningsen

1340h **GP43A-0836** *POSTER* Magnetic Properties from the East Rift Zone of Kilauea: Implications for the Sources of Aeromagnetic Anomalies over Hawaiian Volcanoes: **J G Rosenbaum**, R L Reynolds, F Trusdell, J P Kauahikaua

1340h **GP43A-0837** *POSTER* Magma Flow Pattern Inferred from Magnetic Fabrics in a 100 km-long Dolerite Dike, Karoo LIP, South Africa: **C K Ranaweera**, E C Ferre, S Polteau, M C Marsh, L P Mare, J Marsh, S M Maes, J W Geissman

1340h **GP43A-0838** *POSTER* AMS Constraints on Initial Magma Flow in Sills: An Icelandic Analog For Crustal Accretion At Mid-Ocean Ridges: **A J Horst**, R J Varga, J A Karson, J S Gee

1340h **GP43A-0839** *POSTER* Magnetic fabric as a strain marker in polydeformed granulites? An example from the Mt. Hay block, central Australia: **C L Waters-Tormey**, P R Kelso, R J White, K Wepasnick

1340h **GP43A-0840** *POSTER* Influence of flow shear-stress and bed aggradation rate on grain-fabric formation: **H Naruse**

1340h **GP43A-0841** *POSTER* Magnetic fabric and inclination shallowing studies: depositional and post-depositional processes in hematite- and magnetite-bearing rocks: **D Bilardello**, K P Kodama

1340h **GP43A-0842** *POSTER* Magnetic Fabrics and Rock Magnetism of Sedimentary Rocks from Itajai Basin (Santa Catarina State), Southern Brazil: **M B Raposo**, C O Dukas, M A Basei

1340h **GP43A-0843** *POSTER* Magnetic evaluation of sediment provenance in the southern shelf of Korea (East China Sea) using Fuzzy c-means cluster analysis: **J Oh**, W Kim, S Doh, Y Yu, J Shin

1340h **GP43A-0844** *POSTER* Quantifying the Ferrimagnetic Component of Sediments Using Magnetic Parameters: **I Lascu**

1340h **GP43A-0845** *POSTER* Insights into Time Scales of Formation of Exsolved Magnetic Inclusions from Fe Diffusion Experiments: **J L Till**, B M Moskowitz, J M Feinberg

1340h **GP43A-0846** *POSTER* Low-temperature magnetometry of synthetic Fe-Ti oxide assemblages: **D Lattard**, A M Kontny, R Engelmann, M Burchard

GP43B Moscone South: Poster Hall Thursday 1340h
Linking Mechanisms Between Rock-Magnetic Parameters and Paleoclimate II Posters (*joint with GC, MR, PP*)

Presiding: **J Nie**, UT Austin; **C E Geiss**, Trinity College; **R Egli**, Ludwig-Maximilians University

1340h **GP43B-0847** *POSTER* Environmental magnetic study of a Xeralf chronosequence in northwestern Spain: indications for pedogenesis: **Q Liu**, P Hu, J Torrent, V Barrón, X Zhao, Z Jiang

1340h **GP43B-0848** *POSTER* Environmental magnetic sequences of the terrestrial Late Cretaceous Qingshankou Formation of CCSD-SK-I south borehole in Songliao Basin, Northeast China and their paleoclimate implications: **H Li**, S Zhang, K Zhao, H Wu, Q Zhao, T Wang

1340h **GP43B-0849** *POSTER* MAGNETIC PARAMETER VARIATION OF THE CHAONA LOESS/PALEOSOL SEQUENCES IN CENTRAL CHINESE LOESS PLATEAU AND ITS SIGNIFICANCE FOR MIDDLE PLEISTOCENE CLIMATE TRANSITION: **Y Song**, J W King, X Fang, J Nie, I Naoto

1340h **GP43B-0850** *POSTER* Non-Magnetic Factors Affecting Magnetic Susceptibility of the Loess-Paleosol Sequences in the Chinese Loess Plateau: **H Wang**, Z Feng

1340h **GP43B-0851** *POSTER* Can magnetic properties be used as tracers for discriminating the Changjiang and Huanghe river sediments?: **C Li**, S Yang, W Zhang

1340h **GP43B-0852** *POSTER* The magnetic properties of sediments from the West Philippine Sea and its paleoenvironmental significance: **Q Meng**, A Li, T Li, F Jiang

1340h **GP43B-0853** *POSTER* Magnetic Signature of Moisture Availability in Ancient Subtropical Soils: a Pilot Rock Magnetic Study of Neogene Paleosols in Pakistan: **A Abrajewitch**, K Kodama, K Behrensmeier, C Badgley

1340h **GP43B-0854** *POSTER* Milankovitch orbital cycles encoded by diagenetic iron sulfides in Neogene sediments, Stirone River section, Northern Apennines, Italy: **K L Gunderson**, K P Kodama, D J Anastasio, F J Pazzaglia

1340h **GP43B-0855** *POSTER* Magnetic Enhancement of Loessic Soils Along a Toposequence at Badger Ridge-Hitchcock Nature Area, Iowa, U.S.A: **C Munroe**, C E Geiss, L D Urbano

1340h **GP43B-0856** *POSTER* Sediment Magnetic Proxies Reflect Post-Glacial Climate Change for East-Central New Hampshire: **B M Payton**, G Lopez, L Doner, B K Fowler, C E Geiss

1340h **GP43B-0857** *POSTER* Lake Hovsgol Magnetoclimate Record During the Past 20,000 Years: **Y Park**, E Shin, D Cheong, S Doh

1340h **GP43B-0858** *POSTER* Environmental magnetism of Pleistocene sediments in the North Pacific and Ontong-Java Plateau: Temporal variations of detrital and biogenic components: **T Yamazaki**

1340h **GP43B-0859** *POSTER* Environmental magnetic analysis of a Texan vertisol reveals a record of the Younger Dryas: **A K Lindquist**, J M Feinberg, M R Waters

1340h **GP43B-0860** *POSTER* Frequency-dependent susceptibility and magnetic granulometry of rocks, soils and environmental materials: modelling multi-frequency case: **L Vejmelek**, **F Hrouda**, M Chadima

1340h **GP43B-0861** *POSTER* Magnetic characterization of the late Paleocene-early Eocene Cicogna section (NE Italy): climate forcing on sedimentation: **E Dallanave**, L Tauxe, G Muttoni, R Domenico

1340h **GP43B-0862** *POSTER* Spatial Variability in Magnetic Properties of Sands on Cedar Beach, Western Lake Erie, Ontario, Canada: **S Zhang**, M T Cioppa, S Zhang

1340h **GP43B-0863** *POSTER* Reconstructing Holocene Regional Environmental Variability from North Atlantic Deep-Sea Sediments using Environmental Magnetic Properties: **S E Strano**, J S Stoner, P F Almasi, G Bond

GP43C Moscone West: 2002 Thursday 1340h
Electromagnetic Induction Studies From Land, Ocean, and Space II (*joint with DI*)

Presiding: **S Constable**, Scripps Inst. Oceanography; **M Nair**, University of Colorado

1340h **GP43C-01** IMAGING CSEM DATA IN THE PRESENCE OF ELECTRICAL ANISOTROPY (*Invited*): **G A Newman**, M Commer, J J Carazzone

1355h **GP43C-02** Improving external source models for mantle conductivity studies with observatory and satellite data (*Invited*): **G D Egbert**

1410h **GP43C-03** Tsunami-induced electromagnetic fields at the seafloor caused by earthquakes on both sides of the Kuril trench: **H Toh**, Y Hamano, T Goto

1425h **GP43C-04** Feasibility study of marine CSEM survey for exploration of submarine massive sulphides deposit: **T Goto**, N Tada, J Takekawa, H Mikada

1440h **GP43C-05** Imaging Hydration and Dehydration of the Costa Rican Subduction Zone based on an amphibious Magnetotelluric Profile: **T W Worzewski**, M D Jegen, L Muetschard, H Brasse, H Kopp, W Taylor

1455h **GP43C-06** Prediction of DC current flow between the Otjiwarongo and Katima Mulilo regions, using 3D DC resistivity forward modelling and magnetotelluric and audio-magnetotelluric data recorded during SAMTEX: **P Share**, A G Jones, M R Muller, M P Miensopust, D T Khoza, S Fourie, S J Webb, H Thunehed

1510h **GP43C-07** Simulation of Satellite Observations of Induced Magnetic Fields using Scripted Finite Element Methods: **J T Ribaud**, C Constable, R L Parker

1525h **GP43C-08** First Results from the Scarborough Marine EM Survey: **S Constable**, K W Key, D G Myer

Hydrology

H43A Moscone South: Poster Hall Thursday 1340h
Detecting and Attributing Change in Coupled Human-Hydrologic Systems: Foundations for Successful Prediction and Adaptation I Posters (*joint with B, IN, GC, NH, EP, V, PA*)

Presiding: **C M Hermans**, City University of New York; **J S Arrigo**, East Carolina University; **B A Pellerin**, US Geological Survey

1340h **H43A-0993 POSTER** Coupling Socioeconomic and Hydrologic Models to Improve Understanding of Human-Natural Systems Linkages in a Water-Rich Environment: **C M Hermans**, A Parolari, A J Wreschnig, C M Ruffing, S M McCormack, T Urbanova, J Linton, C J Vorosmarty

1340h **H43A-0994 POSTER** Detecting impact of land use change on river flow, sediment and nutrient through distributed hydrological simulation: **T Lihua**, D Yang

1340h **H43A-0995 WITHDRAWN**

1340h **H43A-0996 POSTER** Urban Watershed Modeling Across Landscape Scales: **A S Bhaskar**, C Welty, R M Maxwell

1340h **H43A-0997 POSTER** Constructing the natural hydrograph in order to assess the ecological integrity of Walker River: **J P Prancevic**, M Liquori

1340h **H43A-0998 POSTER** Hysteretic behavior of stage-discharge relationships in urban streams: **A J Miller**, G A Lindner

1340h **H43A-0999 POSTER** Simulating Forest Cover and Climate Change Impacts on Historic New England Runoff: **L E Adams**, M B Green, T L Allen, J S Arrigo, D J Bain, N R Aloysius, T Urbanova, E N Bray

1340h **H43A-1000 POSTER** Analyzing the impacts of forest disturbance and regrowth on watershed hydrology: A case study from the Homochitto Watershed, Mississippi: **I Yeo**, A Islam, C Huang

1340h **H43A-1001 POSTER** The impact of major volcanic eruptions on both the climate and dissemination of scientific information within northeastern United States during 1800 - 1920: **T L Allen**, K M Schlichting, J S Arrigo

1340h **H43A-1002 POSTER** Spatial patterns of hydro-social metrics in the Northeastern United States from the Colonial Era through the Industrial Revolution (1600-1920): **B B Witherell**, D J Bain, N Salant, N R Aloysius

1340h **H43A-1003 POSTER** Nineteenth-century Northeastern United States water law and policy: explorations in incorporating changes over time and space into assessments of water availability: **L J Powell**, M B Green, B B Witherell, L E Adams

1340h **H43A-1004 POSTER** Exploring the History of Time in an Integrated System: the Ramifications for Water: **M B Green**, L E Adams, T L Allen, J S Arrigo, D J Bain, E N Bray, J M Duncan, C M Hermans, C Pastore, C A Schlosser, C J Vorosmarty, B B Witherell, W M Wollheim, A J Wreschnig

1340h **H43A-1005 POSTER** Water Use by Texas Oil and Gas Industry: A Look towards the Future: **J Nicot**, S M Ritter, A K Hebel

1340h **H43A-1006 POSTER** Impact of Thermal Perturbations from Urban Runoff During Summer Storms on Stream and Wetland Temperatures: **E T Hester**

1340h **H43A-1007 POSTER** Economic Efficiency and Equity in Dams Removal: Case studies in Northeastern Massachusetts Doina Oglavie, Ellen Douglas, David Terkla: **D R Oglavie**, E M Douglas, D Terkla

1340h **H43A-1008 POSTER** Assessment of Groundwater Resources of Dauphin Island and its Connection to Urban Sprawl and Economic Growth: **K S Petty**

1340h **H43A-1009 POSTER** Water-Balance Model to Simulate Historical Lake Levels for Lake Merced, California: **M P Maley**, S Onsoy, J Debroux, B Eagon

1340h **H53H-06 POSTER** Anthropogenic Effects on Total Water Storage from GRACE on Large South American Watersheds: **L Xavier**, M Becker, A A Cazenave, A Güntner, O Rotunno

H43B Moscone South: Poster Hall Thursday 1340h
Fate of Nanoparticles and Colloids in the Environment III Posters (*joint with B*)

Presiding: **G V Lowry**, Carnegie Mellon University; **A A Keller**, UCSB; **D M O'Carroll**, University of Western Ontario; **Y Li**, University of Nebraska - Lincoln

1340h **H43B-1010 POSTER** Metals and Colloids in the Hyporheic Zone of an Acid Mine Drainage-Contaminated Stream: **A S Norvell**, J N Ryan, D M McKnight, J Ren

1340h **H43B-1011 POSTER** Anion-Dependent Aggregate Formation and Charge Behavior of Colloidal Fullerenes (n-C60): **B Mukherjee**, J W Weaver

1340h **H43B-1012 POSTER** Polymeric coatings eliminate the bactericidal effects of Nanoscale zero-valent iron to Escherichia coli: **G V Lowry**, K Gregory, Z Li

1340h **H43B-1013 POSTER** Colloid Transport in Porous Medium: Impact of High Salinity Solutions: N Weisbrod, **E Magal**, Y Yechieli, A Yakirevich

1340h **H43B-1014 POSTER** Transport and Retention of Metal Oxide Nanoparticles in Saturated Porous Media: T Ben Moshe, **I Dror**, B Berkowitz

1340h **H43B-1015 POSTER** Opening the black box: imaging nanoparticle transport with MRI: **V Phoenix**, W M Holmes

1340h **H43B-1016 POSTER** Dynamic Transport and Retention of Fullerene Nanoparticles in Unsaturated Porous Media: **L Chen**, D A Sabatini, T C Kibbey

1340h **H43B-1017 POSTER** Transport and Retention of CdTe Nanoparticles in Saturated Porous Media: **S Torkzaban**, J Wan, T K Tokunaga

1340h **H43B-1018 POSTER** Simulating the reactive transport of organic solutes and zero valent iron nano particles in 1-D column experiments: **A Taghavy**, J Costanza, K D Pennell, L Abriola

1340h **H43B-1019 POSTER** Remediation of hydrophobic, persistent pollutants using a magnetic permanently confined micelle array (Mag-PCMA): **K K Clark**, A A Keller

1340h **H43B-1020 POSTER** In Situ Measurement of Deposit Morphology in Porous Media by Static Light Scattering: **D C Mays**, O T Cannon, A W Kanold, K J Harris, T C Lei, B Gilbert

1340h **H43B-1021 WITHDRAWN**

1340h **H43B-1022 POSTER** Fractal aggregation of ZnO nanoparticles under different aqueous solution chemistries: **D Zhou**, A A Keller

1340h **H43B-1023 POSTER** Hemispheres-in-Cell Geometry to Predict Colloidal Deposition in Porous Media: **H Ma**, W P Johnson

1340h **H43B-1024 POSTER** Investigating Attachment Behaviors of *Cryptosporidium Parvum* Oocysts Using Collision Efficiency in Laboratory Column Experiments: **Y Park**, L Hou, R Atwill, A I Packman, T Harter

1340h **H43B-1025 POSTER** Influence of Motility and Chemotaxis on Transport Properties for Swimming Bacteria in Porous Media under Static and Flow Conditions: **J Liu**, T Long, R M Ford

1340h **H43B-1026 POSTER** Structural Basis of Uranium Incorporation In Natural Iron (Oxyhydr)oxides: **F M Michel**, M S Massey, J S Lezama-Pacheco, G E Brown, S E Fendorf, J Bargar

1340h **H43B-1027 WITHDRAWN**

1340h **H43B-1028 POSTER** Use of an Intermediate-Scale Tank to Study Strategies for Modified NZVI Emplacement for Effective Treatment of DNAPL Source Zones: **T H Illangasekare**, M Mittal, T Phenrat, F Fagerlund, H Kim, A Cihan, G V Lowry

1340h **H43B-1029 POSTER** Characterization of Carbon Onion Nanomaterials for Environmental Remediation: **Y Li**, C Su, A Bailes, Y Lu

1340h **H43B-1030 WITHDRAWN**

H43C Moscone South: Poster Hall Thursday 1340h
Innovative Field and Theoretical Methods for Hydrogeophysical Characterization of Aquifers I Posters (*joint with NS, B, OS*)

Presiding: **B Malama**, Montana Tech of the University of Montana; **M Fitzgerald**, Penn State University; **A Ramsburg**, Tufts University; **N Ecmis**, Izmir Institute of Technology

1340h **H43C-1031 POSTER** Sensitivity to Prior and Reliability Measurements for Value of Geophysical Information: **W J Trainor**, J Caers, T Mukerji

1340h **H43C-1032 POSTER** Improving interpretation of geoelectrical signatures arising from biomineralization process in porous media: Low-frequency dielectric spectroscopy measurements on *Desulfovibrio vulgaris* cell suspensions: **C Zhang**, C Prodan, L D Slater, C Bot, D Ntarlagiannis

1340h **H43C-1033 POSTER** INFLUENCE OF CONSOLIDATION CHARACTERISTICS ON CONE PENETRATION RESISTANCE AND LIQUEFACTION RESISTANCE IN SILTY SOILS: **N Ecmis**, S Thevanayagam

1340h **H43C-1034 POSTER** Using Direct-Push for characterization of hydraulic conductivity distributions: **C Leven**, P Dietrich

1340h **H43C-1035 POSTER** DEPTH CONTINUOUS HYDRAULIC CONDUCTIVITY PROFILING USING AN ACTIVE SOURCE PENETROMETER: **M Fitzgerald**, D Elsworth

1340h **H43C-1036 POSTER** Evaluation of Direct Push methods for the hydraulic and compositional characterization of a highly heterogeneous aquifer – a case study: **T Vienken**, P Dietrich, C Leven

1340h **H43C-1037 POSTER** DETERMINATION OF VERTICAL HYDRAULIC CONDUCTIVITY OF AN ALLUVIAL AQUIFER USING DIRECT-PUSH METHODS: **X Chen**

1340h **H43C-1038 POSTER** Geostatistical Simulation of Centimeter-Scale Hydraulic Conductivity Estimates from Direct-Push Logging at the MADE Site: **G Bohling**, G Liu, J J Butler, E C Reboulet, T Vienken, U Schneidewind

1340h **H43C-1039 POSTER** Imaging Hyporheic Zone Solute Transport Using Electrical Resistivity: **A S Ward**, M N Gooseff, K Singha

1340h **H43C-1040 POSTER** The Synthetic Convection Log – geophysical detection and identification of density-driven convection in monitoring wells and boreholes: **S Berthold**

1340h **H43C-1041 POSTER** Upscaling of Heterogeneous Porous Rocks Using High Resolution Hydrogeophysical Scanning Measurements: **G Y Bussod**, D Svyatskiy, G Zvyolowski, G N Boitnott, P C Lichtner, J D Moulton

1340h **H43C-1042 POSTER** Complex conductivity signatures of CaCO₃ precipitation and its mixture with FeS: **Y Wu**, S S Hubbard, K H Williams, J B Ajo Franklin

1340h **H43C-1043 POSTER** Estimation of Deep Aquifer Hydraulic Conductivity Values Through Baseflow Hydrograph Rising Limb Analysis: **V R Pauwels**, P A Troch

1340h **H43C-1044 POSTER** Improved solution for saturated-unsaturated flow to a partially penetrating well in a compressible unconfined aquifer: **P K Mishra**, S P Neuman

1340h **H43C-1045 POSTER** Integration of Geologic and Geophysical Data to Model Hydrostratigraphy Under a Recharge Pond for Aquifer Storage and Recovery: **V Mitchell**, A Pidlisecky, R J Knight, S Jenni, R Will, J Lear

1340h **H43C-1046 POSTER** Aquifer characterization using transient streaming potentials generated by flow during pumping tests - New developments: **B Malama**, K L Kuhlman, A Revil

1340h **H43C-1047 POSTER** Analytical Solution for Flow to a Partially Penetrating Well with Storage in a Confined Aquifer: **V V Vesselinov**, P K Mishra, S P Neuman

1340h **H43C-1048 POSTER** Geophysical Methods for Locating Karst Conduits in Cane Run Watershed, Central Kentucky: **J Zhu**, R Paylor, J C Currens, J S Dinger

1340h **H43C-1049 WITHDRAWN**

1340h **H43C-1050 POSTER** A field assessment of high resolution aquifer characterization: Coupling of hydraulic travel time and hydraulic attenuation tomography: **R Brauchler**, R Hu, P Dietrich, M Sauter

1340h **H43C-1051 POSTER** Hydrostratigraphic Analysis of the MADE Site Using Full-resolution 3D GPR and Direct-Push K Data: **M DOGAN**, D W Hyndman, R L Van Dam, J J Butler

1340h **H43C-1052 POSTER** Hydraulic Anisotropy of Unconsolidated Granular Packs: **L Akanji**, X Garcia, M J Blunt

1340h **H43C-1054 POSTER** Some issues of multilevel slug tests when hydraulic conductivity mildly varies with depth: **C Chen**

1340h **H43C-1055 POSTER** Modeling slug tests in unconfined aquifers with both oscillatory and overdamped responses, and with low-K and high-K skin effects: **M J Thoma**, B Malama, W Barrash, G Bohling, J J Butler

H43D Moscone South: Poster Hall Thursday 1340h
Landscapes in Semiarid and Arid Environments: A Hydrological and Ecological Perspective Posters

Presiding: **J Zhu**, Desert Research Institute; **D Sun**, University of Houston, Clear Lake; **M Young**

1340h **H43D-1056 POSTER** Multiple-scale patterns of semi-arid ecohydrology: Interactions between landscape position and vegetation community (*Invited*): **D G Jenerette**, R L Scott, G Barron-Gafford, A R Huete, T E Huxman

1340h **H43D-1057 POSTER** Response of vegetation cover to drought and fire in arid and semiarid environments (*Invited*): **G S Okin**

1340h **H43D-1058 POSTER** Land degradation in dryland regions: An ecohydrological framework (*Invited*): **K K Caylor**

1340h **H43D-1059 POSTER** Evapotranspiration of Mixed Shrub Communities in Phreatophytic Zones of the Great Basin D.A. Devitt¹, L.K. Fenstermaker², M. Young², B. Conrad¹ and B. Bird¹
¹ School of Life Sciences, University of Nevada Las Vegas, Las Vegas, NV ² Desert Research Institute, Las Vegas, NV: **D A Devitt**, L K Fenstermaker, M Young, B Conrad, B Bird

1340h **H43D-1060 POSTER** Positive Feedback between Shrub Encroachment and Nocturnal Air Temperature over the Northern Chihuahuan Desert: **Y He**, P D'Odorico, S De Wekker, J D Fuentes, M E Litvak

1340h **H43D-1061 POSTER** On the Observed Ecohydrologic Dynamics of a Semiarid Catchment with Topographic Induced Microclimatic Controls: **H A Gutierrez-Jurado**, E R Vivoni, R L Bras, C Cikoski, B Harrison, E Istanbuluoglu

1340h **H43D-1062 WITHDRAWN**

1340h **H43D-1063 POSTER** EFFECT OF CANOPY PATTERNS ON LARGE SCALE WATER BUDGETS IN ARID ENVIRONMENTS: **D Sun**, J Zhu, M Young, T G Caldwell, E McDonald

1340h **H43D-1064 POSTER** Effects of Anthropogenic Emissions on the Nitrogen Cycle in the Desert Creosote Scrub Ecosystem: **J Scanlan**, J Simunek

H43E Moscone South: Poster Hall Thursday 1340h
Non-Darcian and Non-Richards Flow in Porous Media II Posters

Presiding: **J R Nimmo**, USGS; **B A Ebel**, US Geological Survey; **H Zhan**, Texas A&M University; **W B Shoemaker**, U.S. Geological Survey

1340h **H43E-1065 POSTER** Pipe Dreams: Turbulence and Non-Darcian Flow in Porous Media: **M C Sukop**

1340h **H43E-1066 POSTER** Examining the Influence of Solid Morphology for Non-Darcy Porous Medium Flows: **J E McClure**, W G Gray, C T Miller

1340h **H43E-1067 POSTER** Estimates of equivalent permeability for non-Newtonian fluid flow in heterogeneous porous media: **V Di Federico**, M Pinelli, R Ugarelli

1340h **H43E-1068 POSTER** A transient hybrid model for karst aquifer characterization: **T Reimann**, R Liedl, L Lankenau, T Geyer, M Sauter, N Dörfliger

1340h **H43E-1069 POSTER** A Primer on Inertial Flows in Porous Media: **B D Wood**

1340h **H43E-1070 POSTER** Effects of Turbulent Ground-Water Flow on Hydraulic Heads and Parameter Sensitivities in Preferential Groundwater Flow Layers within the Biscayne Aquifer in Southeastern Florida: **W B Shoemaker**

1340h **H43E-1071 WITHDRAWN**

1340h **H43E-1072 POSTER** On the Applicability of Linearization Method of Vapor Flow in Porous Media: **J Li**, H Zhan, G Huang

1340h **H43E-1073 POSTER** Source-Responsive Model for Unsaturated Flow Under High-Flux or Rapid-Change Conditions: **J R Nimmo**

1340h **H43E-1074 POSTER** Capillary-inertial jumps and dissipation at imbibition and drainage fronts – on the difference between transient and steady unsaturated flows: **D Or**, F Möbius

1340h **H43E-1075 POSTER** A phase-field model of unsaturated flow: **R Juanes**, L Cueto-Felgueroso

1340h **H43E-1076 POSTER** The influence of wettability variations on dynamic effects in capillary pressure: K G Mumford, **D M O'Carroll**, L Abriola, J Gerhard

1340h **H43E-1077 WITHDRAWN**

1340h **H43E-1078 POSTER** Homogenization and upscaling of flow through vegetation: **C E Kees**, M W Farthing, C N Dawson, S Mattis

H43F Moscone South: Poster Hall Thursday 1340h
Uncertainty Analysis and Risk Assessment in Groundwater Modeling I Posters

Presiding: **M Ye**, Florida State University; **D M Tartakovsky**, Univ California San Diego

1340h **H43F-1079 WITHDRAWN**

1340h **H43F-1080 POSTER** Is it possible to use different data types and scales to reduce flow and transport uncertainty in natural heterogeneous formations? The experimental setup of the Settolo aquifer (Italy): **M Camporese**, P Salandin, G Darvini, R Durigon, P Pizzai

1340h **H43F-1081 POSTER** Significance of Site-Specific Hydrogeologic Parameters in the Analysis of Radionuclide Transport at New Nuclear Reactor Sites: **N D Tiruneh**, T J Nicholson, R Raione, H Ahn, J Giacinto, D Barnhurst, M McBride

1340h **H43F-1082 POSTER** Three-dimensional Characterization of A High-K Aquifer at the Hanford 300 Area and Retrospective Analysis of Experimental Designs: **H Murakami**, X Chen, M S Hahn, Y Liu, M L Rockhold, V Vermeul, Y Rubin

1340h **H43F-1083 POSTER** Demonstration of a Model Averaging Capability in FRAMES: **P D Meyer**, K J Castleton

1340h **H43F-1084 POSTER** Comparison of vadose zone flow simulations based on hydraulic parameters derived from lab data, pedotransfer functions, Bayesian updating and inverse modeling: **Z Fang**, M G Schaap, S P Neuman

1340h **H43F-1085 POSTER** PROBABILISTIC RISK ANALYSIS OF REMEDIATION EFFORTS IN NAPL SITES: **D Fernandez-Garcia**, L de Vries, M Pool, G Sapriza, X Sanchez-Vila, D Bolster, D M Tartakovsky

1340h **H43F-1086 POSTER** PROBABILISTIC RISK ANALYSIS OF RADIOACTIVE WASTE DISPOSALS – a case study: **P Trinchero**, A Delos, D M Tartakovsky, D Fernandez-Garcia, D Bolster, M Dentz, X Sanchez-Vila, J Molinero

1340h **H43F-1087 POSTER** Probabilistic Risk Analysis of Groundwater Related Problems in Subterranean Excavation Sites: X Sanchez-Vila, **A Jurado**, F De Gaspari, V Vilarrasa, D Bolster, D Fernandez-Garcia, D M Tartakovsky

1340h **H43F-1088 POSTER** A simple Bayesian method to combine lithofacies data with drawdown measurements when calibrating a groundwater flow model: **M Komatsu**, C C Frippiat, T Sakaki, T H Illangasekare

1340h **H43F-1089 POSTER** 3-D heterogeneous field data versus 2-D simulations. How can it be accomplished in a sedimentary porous formation?: **G Darvini**, P Salandin

1340h **H43F-1090 POSTER** Large-Scale Inverse Modeling with an Application in Hydraulic Tomography: **X Liu**, P K Kitanidis

1340h **H43F-1091 WITHDRAWN**

1340h **H43F-1092** POSTER Stochastic Simulation of Hydraulic Conductivity Fields using non-Gaussian Dependence: **J Li**, A Bárdossy

1340h **H43F-1093** POSTER Effects of Non-Gaussian Spatial Dependence of Hydraulic Conductivity on Hydrodynamic Macrodispersion: **C P Haslauer**, P Guthke, A Bárdossy, E A Sudicky

1340h **H43F-1094** POSTER Application of Singular Value Decomposition and Regularization Techniques for Optimization of a Highly Parameterized FEFLOW Model: R G Andrachek, D Abbey, **S C James**, B Zhang, C Gabriel, P Martin, B W Arnold, W W Woessner

1340h **H43F-1095** POSTER Integrating Tracer Test Data into Geostatistical Aquifer Characterization at the Hanford 300 Area: **X Chen**, H Murakami, M S Hahn, M L Rockhold, V Vermeul, Y Rubin

1340h **H43F-1096** POSTER Many-objective Groundwater Monitoring Network Design Using Bias-Aware Ensemble Kalman Filtering and Evolutionary Optimization: **J B Kollat**, P M Reed

1340h **H43F-1097** POSTER Modeling Nitrate in Texas Groundwater at Regional and Aquifer Scales: **D Dwivedi**, B P Mohanty

1340h **H43F-1098** POSTER Maximum Likelihood Bayesian Averaging Of Air Flow Models In Unsaturated Fractured Tuff Using Occam And Variance Windows: **E Morales-Casique**, S P Neuman, V V Vesselinov

1340h **H41F-0949** POSTER The Direct Sampling: a new way of performing multiple-points simulations: **G Mariethoz**, P Renard, J Straubhaar

H43G Moscone West: 3009 Thursday 1340h
Meandering Rivers: Advances in Research II (*joint with EP*)

Presiding: **J Hooke**, University of Liverpool; **J D Abad**, University of Pittsburgh

1340h **H43G-01** The fluid dynamics of confluent meander bends and some implications for their planform stability: **S N Lane**, J Best, M Roberts

1355h **H43G-02** Morphodynamic length scale and long term river meandering dynamics: **S Lanzoni**, A Frascati

1410h **H43G-03** Three-Dimensional Flow Structure And Morphodynamics Of Meander Bends With Recirculation At The Outer Bank: **D R Parsons**

1425h **H43G-04** When Groundwater, Geology and Surface Water Team Up: Analysis of the Rapid Development of a Meander Cutoff in Southeastern Nebraska: **D T Pederson**

1440h **H43G-05** Numerical Simulation of Meandering Evolution: **J G Duan**, P Julien

1455h **H43G-06** The Fate of Failed Bank Material and Implications for Lateral Retreat: Lake Tahoe Basin: **A Simon**, R E Thomas

1510h **H43G-07** Secondary flow in meandering channels: a comparison of rivers and channels in the deep sea created by turbidity currents (*Invited*): **G Parker**, J D Abad, O E Sequeiros, B Spinewine, M H Garcia, C Pirmez

H2I-O1 Moscone West: 3007 Thursday 1340h
Multimodeling: Consideration of Alternative Conceptual Models of Groundwater and Surface Water Systems II

Presiding: **M C Hill**, US Geological Survey; **Y A Pachepsky**, USDA-ARS; **F Pan**, USDA-ARS

1340h **H43H-01** Some Views on Multi-Modeling and Uncertainty (*Invited*): **H V Gupta**

1355h **H43H-02** Dealing Explicitly with Complexity: Evaluation of Hydrogeologic Framework Models in Capturing Subsurface Flow and Solute Transport in an Experimental Stratigraphy (*Invited*): **Y Zhang**, C W Gable

1410h **H43H-03** Multi-model analysis of different recharge representations in a coupled hydrological/hydrogeological model: **L Foglia**, M C Hill, S Mehl

1425h **H43H-04** Use of Multi-modelling Approaches to Diagnose Model Weaknesses: **M P Clark**, D Kavetski, H K McMillan

1440h **H43H-05** On Model Selection Criteria and Model Complexity: **M Ye**, L Dan

1455h **H43H-06** Evaluation of Hydrologic Models under Uncertainty (*Invited*): **T Wagener**

1510h **H43H-07** Multi-modelling, multi-scenarios, hypothesis rejection and model diagnostics – challenges and bottlenecks for uncertainty analysis frameworks. (*Invited*): **J E Freer**

1525h **H43H-08** Multi-scale, multi-physics, ensemble hydrological modeling, data assimilation and uncertainty estimation with the NASA Land Information System (LIS): **S Kumar**, C D Peters-Lidard, K Harrison, S Yatheendradas, J A Santanello

H43I Moscone West: 3005 Thursday 1340h
Uncertainty Analysis Approaches in Hydrologic Modeling II

Presiding: **C S Pathak**, South Florida Water Management; **S U Senarath**, SFWMD; **R S Teegavarapu**, Florida Atlantic University

1340h **H43I-01** Global Uncertainty and Sensitivity Analysis of Spatially Distributed Hydrological Model, Regional Simulation Model (RSM), to spatially distributed factors: **Z B Zajac**, R Munoz-Carpena, K Vanderlinden

1355h **H43I-02** Designing hydrologic monitoring networks to maximize predictability of hydrologic conditions in a data assimilation system: a case study from South Florida, U.S.A: **A N Flores**, C S Pathak, S U Senarath, R L Bras

1410h **H43I-03** Nonstationary Scaling of Annual Maximum Floods using Hierarchical Bayesian Modeling and large Scale Climate Information: **C H Lima**, U Lall

1425h **H43I-04** A Bayesian Hierarchical Modeling Approach to Predicting Flow in Ungauged Basins: **A Gronewold**, I Alameddine, R M Anderson

1440h **H43I-05** A New Approach in Multi-Model Hydrologic Forecasting: Merging The Data Assimilation With Bayesian Model Averaging: **M Parrish**, H Moradkhani, T T Meskele

1455h **H43I-06** Uncertainty in the frequency distribution of water quality parameters: a Bayesian Model Averaging approach: **T Krueger**, K M Hiscock

1510h **H43I-07** Using data assimilation innovations to improve model output accuracy for the highly regulated Lake Taupo catchment, New Zealand: **D H Maxwell**, B M Jackson, J McGregor

1525h **H43I-08** Hydrologic ensemble forecasting in the National Weather Service: Status, plans and challenges: **D Seo**, G M Bonnin, J Roe, P J Restrepo

H43J Moscone West: 3011 Thursday 1340h
Understanding Land-Atmosphere Interactions With Models and Observations II

Presiding: **S Basu**, Texas Tech University; **P H Gowda**, USDA-ARS-CPRL

1340h **H43J-01** ANALYSIS OF WATER AND ENERGY FLUXES USING SATELLITE, ENERGY BALANCE MODELING AND OBSERVATIONS (*Invited*): **A Irmak**

1400h **H43J-02** Spatial Observation and Models for Crop Water Use in Australia (*Invited*): **M M Hafeez**, Y Chemin, U Rabbani

1420h **H43J-03** A framework to quantify the role of land-atmosphere feedbacks on surface evaporation: **C van Heerwaarden**, J Vila-Guerau Arellano, B Holtslag, A Moene

1435h **H43J-04** Stable Boundary Layers with Low-Level Jets: What did we Learn from the LES Intercomparison within GABLS?: **S Basu**, F C Bosveld, B Holtslag

1455h **H43J-05** Influence of incoming radiation errors in a land-atmosphere coupled model: consequences on land-surface data assimilation schemes: **G Pierre**, D Entekhabi, J Polcher

1510h **H43J-06** Effect of Scintillometer Height on Structure Parameter of the Refractive Index of Air Measurements: **P H Gowda**, T A Howell, O Hartogensis, S Basu, B R Scanlon

1525h **H43J-07** Partitioning of Terrestrial ET Variability in the CAM4/CLM4 Climate Model, Contributions to Trends over the Last Two Decades, and Sensitivity to Parameterization Changes: **Y Sun**, R E Dickinson

Earth and Space Science Informatics

IN43A Moscone South: Poster Hall Thursday 1340h
Geovisualization With Virtual Globes IV Posters (*joint with A, B, C, ED, OS, H, GC, G, P, NH, EP, V, S, PA*)

Presiding: **J E Bailey**, University of Alaska Fairbanks; **R Treves**, University of Southampton

1340h **IN43A-1130 POSTER** Volcano Monitoring Using Google Earth: W Cameron, **J Dehn**, J E Bailey, P Webley

1340h **IN43A-1131 POSTER** Visualization of Coastal Data Through KML: **T Damsma**, F Baart, G De Boer, M Van Koningsveld, A Bruens

1340h **IN43A-1132 POSTER** Discovery of Marine Datasets and Geospatial Metadata Visualization: **K D Schwehr**, R T Brennan, J Sellars, S Smith

1340h **IN43A-1133 POSTER** Distributed Visualization of Dust Storm in Virtual Globes: **J Li**, C Yang, H Wu, Q Huang, D Wong

1340h **IN43A-1134 POSTER** Using KML to Visualize 4-D Atmospheric Carbon Monitoring Data: **T A Erickson**

1340h **IN43A-1135 POSTER** Spatial Data Access Tool: Enable visualization and access of geospatial data using OGC services and Google Earth: **Y Wei**, S Santhana Vannan, R B Cook, B E Wilson, T Beaty

1340h **IN43A-1136 POSTER** A Web Portal-Based Time-Aware KML Animation Tool for Exploring Spatiotemporal Dynamics of Hydrological Events: X Bao, X Cai, **Y Liu**

1340h **IN43A-1137 POSTER** New Frontiers in Fault Model Visualization and Interaction: **J Van Aalsburg**, M B Yikilmaz, O Kreylos, L H Kellogg, J B Rundle

1340h **IN43A-1138 POSTER** Getting Beneath the Surface with the OpenEarth Framework (OEF) Virtual Globe: **D R Nadeau**, J L Moreland, C Baru, C J Crosby

1340h **IN43A-1139 POSTER** JEarth | Analytical Remote Sensing Imagery Application for Researchers and Practitioners: **L Prashad**, P R Christensen, S Anwar, S Dickensied, E Engle, D Noss

1340h **IN43A-1140 POSTER** DAGIK: A data-showcase system of geoscience in KML: D Yoshida, **A Saito**

1340h **IN43A-1141 POSTER** Using Virtual Globes to Analyze Population Exposed to Natural Hazards: **G Yetman**, J Schumacher, R S Chen

1340h **IN43A-1142 POSTER** Improvement of Visualization of NASA A-Train Data using Google Earth: **A Chen**, G Leptoukh, S J Kempler

1340h **IN43A-1143 POSTER** Visualizing the hazard of volcanic ash encounters with the aviation community using Virtual Globes: special cases from Mt. Galunggung and Mt. Redoubt: **P Webley**, K G Dean

1340h **IN43A-1144 POSTER** Connecting Mobile Data Collection with Virtual Globes: **M Marks**

IN43B Moscone South: Poster Hall Thursday 1340h
Making Earth Science Data Records III Posters (*joint with A, B, C, G, V, OS, H*)

Presiding: **L Tsaoussi**, NASA; **H K Ramapriyan**, NASA

1340h **IN43B-1145 POSTER** Sustained, Coordinated Processing of Environmental Satellite Data for Climate Monitoring (SCOPE-CM): **J J Bates**, L Schuller

1340h **IN43B-1146 POSTER** Improvement of the NVAP Global Water Vapor Data Set for Climate Hydrological and Weather Studies: **J L Bytheway**, J M Forsythe, T H Vonder Haar

1340h **IN43B-1147 POSTER** The Comparison of AIRS and MODIS Effective Cloud Fraction, Cloud Top Temperature, and Radiative Consistency: **H T Dang**, S L Nasiri, B H Kahn, M M Schreier, E Fetzer, R Frey

1340h **IN43B-1148 POSTER** Global OZone Chemistry And Related trace gas Data records for the Stratosphere (GOZCARDS): **L Froidevaux**, R Fuller, M L Santee, M J Schwartz, G L Manney, N J Livesey, J Anderson, H Wang, D Cunnold, P F Bernath, K A Walker, R J Salawitch, T P Canty, I Fiorucci, G Muscare, G E Nedoluha, B J Connor, S Pawson

1340h **IN43B-1149 POSTER** Consistent Long-Term Aerosol Data Records over Land and Ocean from SeaWiFS: **N C Hsu**, C Bettenhausen, M Jeong, C E Salustro

1340h **IN43B-1150 POSTER** A Long Term Data Record of the Ozone Vertical Distribution: **R D McPeters**, S M Frith, V Soika

1340h **IN43B-1151 POSTER** Reprocessing MSU/AMSU/SSU long-term satellite instruments for climate monitoring and reanalyses: **C Zou**

1340h **IN43B-1152 POSTER** AN APPLIED ONTOLOGY TO THE MID-ATLANTIC CABLE: HISTORICAL TO MODERN INFORMATICS CONSIDERATION FROM A MATH PERSPECTIVE KAIEM L. FRINK ELIZABETH CITY STATE UNIVERSITY(ECSU) KAIEM_FRINK@HOTMAIL.COM, DR. DEWAYNE B. BRANCH ECSU, DR. ROB RASKIN JET PROPULSIONS LABORATORY GLENDA THOMAS ECSU, KENNETH JONES ECSU: **K Frink**, B D Branch, R Raskin

1340h **IN43B-1153 POSTER** The GSFC Earth Science Data and Information Services Center (GES DISC) Approach to Managing MeaSURES Data: B Vollmer, **S J Kempler**, H K Ramapriyan

1340h **IN43B-1154 POSTER** Earth Science Data Records Sharing Supported by the MEaSURES Spatial Web Portal: **L Miao**, P Houser, C Yang, H Wu

1340h **IN43B-1155 POSTER** Experimental approach to create airborne ESDRs: **G Chen**, M M Kleb, C C Brown, A A Aknian

1340h **IN43B-1156 POSTER** Towards Producing a 40 Year Earth Science Data Record of IR Radiances: **P T Nguyen**, D R Chapman, M Halem

1340h **IN43B-1157 POSTER** The Intercalibration of the Night Lights Dataset: **D C Ziskin**, C Elvidge, K Baugh, B Tuttle, T Ghosh

IN43C Moscone South: Poster Hall Thursday 1340h
Making Earth Science Data Records IV Posters (*joint with A, B, C, G, V, OS, H*)

Presiding: **M E Maiden**, NASA HQ; **M Gregg**, NOAA NODC

1340h **IN43C-1158 POSTER** Long term simulations of global lakes using the Variable Infiltration Capacity model: **H Gao**, T J Bohn, M Vliet, E Clark, D P Lettenmaier

1340h **IN43C-1159 POSTER** Developing Evapotranspiration Data Records for the Global Terrestrial Water Cycle: **R K Vinukollu**, J Sheffield, C R Ferguson, M Pan, E F Wood

1340h **IN43C-1160 POSTER** Global Mapping of Landscape Freeze-Thaw Status Using Spaceborne Microwave Remote Sensing: **Y Kim**, J S Kimball, K C McDonald, J Glassy

1340h **IN43C-1161 POSTER** Earth System Data Record of Vegetation Leaf Area Index from Multiple Satellite-Borne Sensors: Evaluation and Validation: **S Ganguly**, A Samanta, M A Schull, C Milesi, R R Nemani, Y Knyazikhin, R B Myneni

1340h **IN43C-1162 POSTER** Enabling New Research with Free Landsat Data: **R Headley**

1340h **IN43C-1163 POSTER** Towards Developing Earth Science Data Records of Global Forest Cover Change: J Townshend, **C Huang**, J Masek, M C Hansen

1340h **IN43C-1164 POSTER** The North American ASTER Land Surface Emissivity Database (NAALSED) V2.0: **G C Hulley**, S J Hook

1340h **IN43C-1165 POSTER** Case Study for EOSDIS Support to MEaSUREs: the Vegetation Index and Vegetation Phenology ESDRs: **C Jenkinson**, D Meyer, K Didan

1340h **IN43C-1166 POSTER** Web-enabled Landsat Data (WELD): Demonstration of MODIS-Landsat Data Fusion to Provide a Consistent, Long-term, Large-area Data Record for the Terrestrial User Community: D Roy, J Ju, E F Vermote, C Zhang, A Egorov, **V Kovalsky**, T R Loveland, M C Hansen, P L Scaramuzza, K Kline, J Yeom, I Kommadreddy

1340h **IN43C-1167 POSTER** Validation of High-Resolution, Multi-Satellite Sea Surface Temperature: **T M Chin**, J Vazquez, E M Armstrong

1340h **IN43C-1168 POSTER** Integrated Multi-Mission Altimeter Data for Climate Research: **B D Beckley**, R D Ray, F G Lemoine, N P Zelensky, S A Holmes, S D Desai, S Brown, S Jacob, G T Mitchum, R Nerem

1340h **IN43C-1169 POSTER** Lessons Learned from 10 Years of Delivering Quality Microwave Data to Scientists: **D K Smith**, F J Wentz, K A Hilburn, C L Gentemann

IN43D Moscone South: Poster Hall Thursday 1340h
Open-Source Remote Sensing Software and Applications for Earth and Environmental Science I Posters (*joint with B, C, GC, EP, V, OS, H*)

Presiding: **A N Pilant**, US EPA R&D; **P A Fox**, Rensselaer Polytechnic Inst.

1340h **IN43D-1170 POSTER** Development of an Unmanned Aircraft System and Cyberinfrastructure for Environmental Science Research: **J J Brady**, C E Tweedie, I J Escapita

1340h **IN43D-1171 POSTER** Earth Surface Monitoring with COSI-Corr, Techniques and Applications: **S Leprince**, F Ayoub, J Avouac

1340h **IN43D-1172 POSTER** WCPS: An Open Geospatial Consortium Standard Applied to Flight Hardware/Software: **P G Cappelaere**, D Mandl, J Stanley, S Frye, P Baumann

1340h **IN43D-1173 POSTER** Leveraging Open Source GIS Libraries and Tools to Archive and Share Spatial Metadata: **W E Baskin**, J M Kusterer

1340h **IN43D-1174 POSTER** EPA Remote Sensing Information Gateway: H K Paulsen, J J Szykman, **T Plessel**, M Freeman, F Dimmick

1340h **IN43D-1175 POSTER** Harness That S.O.B.: Distributing Remote Sensing Analysis in a Small Office/Business: **J Kramer**, J Combe, T B McCord

1340h **IN43D-1176 POSTER** Software Architectures Expressly Designed to Promote Open Source Development: Using the Hyrax Data Server as a Case Study: **J Gallagher**, P West, N Potter, M Johnson

IN43E Moscone South: I02 Thursday 1340h
Earth and Space Science Informatics General Contributions II
(*joint with A, B, C, ED, H, GC, GP, G, MR, NH, EP, V, T, DI, SM, SH, SA, S, PA, PP, OS, NG, NS*)

Presiding: **K Moe**, NASA; **P A Fox**, Rensselaer Polytechnic Inst.

1340h **IN43E-01 X-Informatics: Practical Semantic Science:** **K D Borne**

1355h **IN43E-02 Teaching and Training in Geoinformatics: Experiences from the Cyberinfrastructure Summer Institute for Geoscientists (CSIG):** M Smeeckens, **C Baru**, G R Keller, R Arrowsmith, C J Crosby

1410h **IN43E-03 The Heliophysics Integrated Observatory:** **A Csilaghy**, R D Bentley

1425h **IN43E-04 A Novel Approach to Discovery and Image Access in the Petabyte Age:** **D Mueller**, G Dimitoglou, A Alexanderian, J Garcia Ortiz, L Schmidt, V K Hughitt, J Ireland, B Fleck

1440h **IN43E-05 Towards a global data network for the geosciences:** **M L Allison**, L C Gundersen, I Jackson, J Hubbard, S M Richard

1455h **IN43E-06 VAPOR: A desktop tool for visualization aided analysis of earth sciences CFD data:** **J Clyne**, A Norton

1510h **IN43E-07 Technology Challenges for Data Systems in the Decadal Survey Era:** **K Moe**

1525h **IN43E-08 Interoperability in an Atmospheric Composition Portal:** **F Lindsay**, C Lynnes, G Leptoukh, S R Falke, E M Robinson, B Hildenbrand, O Goussev, P Sommer

Nonlinear Geophysics

NG43A Moscone South: Poster Hall Thursday 1340h
The Many Facets of Solar Wind MHD Turbulence II Posters
(*joint with SH, SM*)

Presiding: **B Dasgupta**, CSPAR; **O P Verkhoglyadova**, Jet Propulsion Laboratory

1340h **NG43A-1197 POSTER** Universality in solar flares, magnetic storms, earthquakes and pre-seismic electromagnetic emissions by means of nonextensivity: K A Eftaxias, **G Balasis**, C Papadimitriou, M Manda

1340h **NG43A-1198 POSTER** The Lyapunov exponent as a measure of chaos in the magnetotail: **D L Holland**, R Rappa, R F Martin, H Matsuoka

1340h **NG43A-1199 POSTER** Uncertainty exponents for chaotic particle scattering in the magnetotail: **M Presley**, D L Holland, R F Martin, H Matsuoka

1340h **NG43A-1200 POSTER** A DNLS Model of Alfvén Wave Damping and Multi-Soliton Dynamics: **R Hamilton**, R Thompson, S Whitehill

1340h **NG43A-1201 POSTER** Properties of current sheets in the solar wind: B Peng, **G Li**

1340h **NG43A-1202 POSTER** Multiple Magnetic Correlation Scales in the Solar Wind: J M Weygand, **M G Kivelson**, W H Matthaeus, S Dasso

1340h **NG43A-1203** POSTER Alfvén Simple Waves: **G M Webb**, G P Zank, R Burrows
 1340h **NG43A-1204** POSTER Particle energization by a time-dependent chaotic magnetic field: **G Li**, B Dasgupta, A K Ram
 1340h **NG43A-1205** POSTER Steady State Chaotic Magnetic Fields and Particle Dynamics Cross-field Transport of Particles in Chaotic Magnetic Fields: **B Dasgupta**, A Ram
 1340h **NG43A-1206** POSTER Minimum Dissipative Processes in Laboratory and Astrophysical Plasmas: M S Janaki, **B Dasgupta**, Q Hu, D Shaikh, G P Zank, G A Gary
 1340h **NG43A-1207** POSTER The Interactions of Alfvén Waves with Perpendicular Shocks: **Q Lu**, Q Hu, G P Zank
 1340h **NG43A-1208** POSTER Electron Whistler Mode Turbulence in the Solar Wind Plasma: **P Shukla**, D Shaikh

NG43B Moscone South: Poster Hall Thursday 1340h
Nonlinear Pattern Formation and Emergent Phenomena in the Earth Sciences II Posters (*joint with H, B*)

Presiding: **J A Neufeld**, Institute of Theoretical Geophysics

1340h **NG43B-1209** POSTER Shoreline Dynamics: Measurement, Analysis, and Forecasting: **C C Barton**, S F Tebbens, J R Smigelski, W A Birkemeier
 1340h **NG43B-1210** POSTER Parallel Drainage Patterns and the Origin of Scaling in River Networks: **G M Poore**, S W Kieffer
 1340h **NG43B-1211** POSTER Observed vegetation patterns in tidal environments: neutral vs. non-neutral explanations: **E Belluco**, T Zillio, S Silvestri, A Maritan, M Marani
 1340h **NG43B-1212** POSTER Parallel Vegetation Stripe Formation Through Hydrologic Interactions: **Y Cheng**, M Stieglitz, V Engel, G Turk
 1340h **NG43B-1213** POSTER Spatial organization of vegetation arising from non-local excitation with local inhibition in forests: **S E Thompson**, G G Katul, J Terborgh, P Alvarez-Loayza
 1340h **NG43B-1214** POSTER Directed random-walk model for boulder clustering in step-pool streams: **R Martin**, D J Jerolmack
 1340h **NG43B-1215** POSTER Giant aeolian dune size determined by the average depth of the atmospheric boundary layer: P Claudin, A Fourrière, **B Andreotti**, A B Murray
 1340h **NG43B-1216** POSTER An Analysis of the Internal Structure of Gouge Layers Under Shear Stresses and a Trial for Prediction of Slips: **N Yoshioka**
 1340h **NG43B-1217** POSTER THREE DIMENSIONAL GEOMETRY OF THE SOUTHERN DEATH VALLEY FAULT ZONE: A CONSTRAIN ON STRUCTURAL STYLE WITHIN SOUTHERN DEATH VALLEY: **B E Eslick**, L F Serpa, D I Doser
 1340h **NG43B-1218** POSTER Fault zone sand pile model earthquakes simulation: **C Huang**, Y Chang
 1340h **NG43B-1219** POSTER Memories in clay paste of vibration and flow: their visualization as crack patterns: **A Nakahara**, Y Matsuo
 1340h **NG43B-1220** POSTER Contraction fracture: From 90° to 120° crack intersections: V Lazarus, **G Gauthier**, L Pauchard
 1340h **NG43B-1221** POSTER Pattern formation during fracture dissolution: **P Szymczak**, T Ladd
 1340h **NG43B-1222** POSTER Pattern Formation in Fluid Injection into Granular Media: **H Huang**, F Zhang
 1340h **NG43B-1223** POSTER Pattern formation in multiphase flow through porous media: continuum models and phase diagrams: **L Cueto-Felgueroso**, R Juanes

1340h **NG43B-1224** POSTER Experimental Characterization of Immiscible Viscous Fingering in a Hele-Shaw Cell: **C W MacMinn**, M Szulczewski, L Cueto-Felgueroso, R Juanes
 1340h **NG43B-1225** POSTER Pattern formation in magma dynamics: The oscillatory instability: **M A Hesse**, A Schiemenz, Y Liang, E Parmentier
 1340h **NG43B-1226** POSTER On the Morphology of Icicles: **A Chen**, S W Morris
 1340h **NG43B-1227** POSTER Signal shredding by autogenic processes in sedimentary systems: **D J Jerolmack**, C Paola, R Martin
 1340h **NG43B-1228** WITHDRAWN

NG43C Moscone South: 309 Thursday 1340h
Serendipitous Correlations and Synchronized Chaos in Nonlinear Geophysics II (*joint with SH, SM, OS, GC, S, A, H*)

Presiding: **G S Duane**, University of Colorado; **J B Weiss**, University of Colorado

1340h **NG43C-01** Synchronization Analysis: Are such Nonlinear Techniques Useful for Earth Sciences? (*Invited*): **J Kurths**
 1400h **NG43C-02** Dynamical State and Parameter Estimation (*Invited*): **H D Abarbanel**
 1420h **NG43C-03** A new dynamical mechanism for major climate shifts (*Invited*): **A Tsonis**, K L Swanson
 1445h **NG43C-04** Synchronizing Two AGCMs via Ocean-Atmosphere Coupling (*Invited*): **B P Kirtman**
 1500h **NG43C-05** Correlations and Synchronization in Earthquake Physics (*Invited*): **J B Rundle**, J D Gran, J R Holliday, D L Turcotte, W Klein, K F Tiampo
 1520h **NG43C-06** Scale-specific phase synchronization between solar/geomagnetic activity and climate variability (*Invited*): **M Palus**

Natural Hazards

NH43A Moscone South: Poster Hall Thursday 1340h
Extreme Natural Hazards: Risk Assessment, Forecasting, and Decision Support I Posters (*joint with A, B, IN, P, OS, NG, H, G, S, V*)

Presiding: **H Plag**; **B D Malamud**, King's College London; **I Zaliapin**, University of Nevada; **A Ismail-Zadeh**, Karlsruhe University; **E Szein**, National Academy of Sciences; **J A Orcutt**, Scripps Institution of Oceanography; **K T Johnson**

1340h **NH43A-1277** POSTER Natural Hazard Mitigation thru Water Augmentation Strategies to Provide Additional Snow Pack for Water Supply and Hydropower Generation in Drought Stressed Alps/Mountains: **D Matthews**, M Brilly
 1340h **NH43A-1278** POSTER Cartographic Design in Flood Risk Mapping – A Challenge for Communication and Stakeholder Involvement: **S Fuchs**, K Serrhini, W Dorner
 1340h **NH43A-1279** POSTER Floodplain Management Strategies for Flood Attenuation in the River Po: **A Brath**, A Castellarin, G Di Baldassarre
 1340h **NH43A-1280** POSTER Climate Change and Famine: Implications for Remote Sensing Applications to Enhance Food Security: **L W Underwood**, M E Brown, K W Ross
 1340h **NH43A-1281** POSTER A 2000 year flood record from annually laminated sediments of Lake Mondsee (European Alps, Upper Austria): **T Swierczynski**, S Lauterbach, A Brauer, B Merz
 1340h **NH43A-1282** POSTER High Variability in Coseismic Slip and Extreme Local Tsunami Runup: **E L Geist**

1340h **NH43A-1283** POSTER Using Landslide Movement to Differentiate Landslide Hazard and Risk: **G D Dellow**

1340h **NH43A-1284** POSTER Validation of Volcanic Ash Forecasting Performed by the Washington Volcanic Ash Advisory Center: **A Salemi**, J Hanna

1340h **NH43A-1285** POSTER Uniting Mandelbrot's Noah and Joseph Effects in Toy Models of Natural Hazard Time Series: D Credgington, **N W Watkins**, S C Chapman, S J Rosenberg, R Sanchez

1340h **NH43A-1286** POSTER Numerical Modeling to Support Floodplain Mapping in Coastal Areas: **K Cydzik**, P L Shrestha, D Hamilton, M Rezakhani, N Scheffner, R Lenaburg

1340h **NH43A-1287** POSTER Land Fire impacts assessment on the Rice Watershed, California. 2007: **A Zahraei**, B Imam, S Sorooshian

1340h **NH43A-1288** POSTER Future flood risk estimation in the Rhine basin: **A H Linde**, P Bubeck, H D Moel

1340h **NH43A-1289** POSTER A new scoring method for evaluating the performance of earthquake forecasts and predictions: **J Zhuang**

1340h **NH43A-1290** POSTER Flood risk management by flooding currents using satellite image in the Nakdong basin, Korea: **Y KWAK**, J Park, A Kondoh

1340h **NH43A-1291** POSTER How Robust are Science-Based Disaster Preparedness Strategies? Lessons from Western Sumatra (Invited): **R Shannon**, J McCloskey, S McDowell

1340h **NH43A-1292** POSTER Experimental Study of the Effect of the Initial Spectrum Width on the Statistics of Random Wave Groups: **L Shemer**, A Sergeeva

1340h **NH43A-1293** POSTER Observing Natural Hazards: Tsunami, Hurricane, and El Niño Observations from the NDBC Ocean Observing System of Systems: **K O'Neil**, R Bouchard, W H Burnett, C Aldrich

1340h **NH43A-1294** POSTER A 450 year history of extreme floods in annually laminated sediment from pre-alpine Lake Ammersee (Southern Germany): **M Czymzik**, A Brauer, B Plessen, P Dulski, U von Grafenstein

1340h **NH43A-1295** POSTER GEOELECTRICAL TOMOGRAPHY AS AN OPERATIVE TOOL FOR THE EMERGENCY MANAGEMENT OF LANDSLIDE: AN APPLICATION IN BASILICATA REGION, ITALY: **C Gerardo**, V Lapenna, A Loperte, A Perrone

1340h **NH43A-1296** POSTER Radon and Helium as productive tools for earthquake precursory and fault delineation studies in NW Himalayas, India: An overview: **B Bajwa**, S Mahajan, V Walia, A Kumar, S Singh, T F Yang

1340h **NH43A-1297** POSTER Development of web-based services for a novel ensemble flood forecasting and risk assessment system: Y He, **D Y Manful**, H L Cloke, F Wetterhall, Z Li, H Bao, F Pappenberger, S Wesner, L Schubert, L Yang, Y Hu

1340h **NH43A-1298** POSTER Ice jam flooding: a location prediction model: **H A Collins**

1340h **NH43A-1299** POSTER Analysis of Prediction Uncertainty of Vs30 in Southern California: **M Thompson**, J N Louie, M S Dhar, A Pancha, S Pullammanappallil, A K Yong

1340h **NH43A-1300** POSTER Climate Change and Sea Level Rise: A Challenge to Science and Society: **H Plag**

1340h **NH43A-1301** POSTER Does Tropical Cyclone Modification Make Sense? A Decision-Analytic Assessment: **K Klima**, M G Morgan, I Grossmann

1340h **NH43A-1302** POSTER The Role of Earth Science in Oregon's Tsunami Preparedness (Invited): **G R Priest**

1340h **NH43A-1303** WITHDRAWN

1340h **NH43A-1304** POSTER TOWARDS AN INTEGRATED APPROACH FOR REDUCTION OF SEISMIC LOSS: **A Askan**, B Ugurhan, M A Erberik, S Yucemen

1340h **NH43A-1305** POSTER ARkStorm: A West Coast Storm Scenario: **D A Cox**, L M Jones, F M Ralph, M D Dettinger, K Porter, S C Perry, P L Barnard, D Hoover, C J Wills, J D Stock, W Croyle, J C Ferris, G S Plumlee, C N Alpers, M Miller, A Wein, A Rose, J Done, K Topping

1340h **NH43A-1306** POSTER Hazard Science in Support of Community Resiliency: The Response of the Multi Hazards Demonstration Project to the 2009 Station Fire in Los Angeles County: **L M Jones**, G W Bawden, J Bowers, S Cannon, D A Cox, R Fisher, J Keeley, S C Perry, G S Plumlee, N J Wood

NH43B Moscone South: Poster Hall Thursday 1340h
Natural Hazards General Contributions Posters (joint with H, G, T, P, OS, A, S, V)

Presiding: C W Kreemer, University of Nevada, Reno

1340h **NH43B-1307** POSTER Natural hazard losses and acceptable risk criteria: **M Khaleghy Rad**, S G Evans, F Nadim, S Lacasse

1340h **NH43B-1308** POSTER Risk Perception in Flood-Prone Lands of Costa Brava, Spain: **A Serra Llobet**, G M Kondolf

1340h **NH43B-1309** POSTER Reconstruction of Flooding Events for the Central Valley, California from Instrumental and Documentary Weather Records: **S F Dodds**, C J Mock

1340h **NH43B-1310** POSTER Evidence of hurricane-induced mudflows and their characteristics near the West Delta, Gulf of Mexico: **M D Levey**, A Garcia-Garcia, D Orange

1340h **NH43B-1311** POSTER Can Foraminifera be used to Identify Storm Deposits in Shallow-Water Tropical Reef Settings?: Examining the Impact of Cyclone Hamish on the Foraminiferal Assemblages of Heron Island, Great Barrier Reef, Australia: **L C Strotz**, B L Mamo

1340h **NH43B-1312** POSTER Modeling the erosion of tropical volcanic ocean islands : The Tahiti island case (French Polynesia): **F YE**, L Sichoix, J Barriot, P Dumas

1340h **NH43B-1313** POSTER Slope Stability Analysis Under Precipitation at High Landslide Potential area, Ping Ding Village, Taiwan: Y Kao, **Z Lee**, J Wen

1340h **NH43B-1314** POSTER Dynamic Landslide Deformation Monitoring with Fiber Bragg Grating Sensors: **J R Moore**, V Gisichig, E Button, S Loew

1340h **NH43B-1315** POSTER Earthquake-induced Rockfall and Tsunami in Southern Chile: **S E Barrientos**, C Vigny, S N Ward, K D Bataille

1340h **NH43B-1316** POSTER Failure Caused by Breaching in Subaqueous Sand: **Y You**, P B Flemings, D C Mohrig

1340h **NH43B-1317** POSTER Spatio-temporal vulnerability of forest fire to climate change in Korea: **H Kwak**, W Lee, S Lee, M Lee, K Koo, M Won

1340h **NH43B-1318** POSTER Characterization of Geotechnical Parameters Affecting Stability of Unconsolidated Materials from Electrical Measurements: **F Boadu**, F Owusu-Nimo

1340h **NH43B-1319** POSTER Recurrent giant earthquakes in South-Central Chile revealed by lacustrine sedimentary records: **J Moernaut**, M A De Batist, K Heirman, M Van Daele, R Brummer, M Pino, R Urrutia, C Wolff, A Brauer, S Roberts, R Kilian

1340h **NH43B-1320** POSTER GEOLOGICAL-GEOMORPHOLOGICAL ANALYSIS OF THE REGION OF GUADALAJARA, MEXICO AND ITS RELATION WITH SUBSIDENCE HAZARDS: **C Suarez-Plascencia**, L A Delgado-Argote, F J Nunez-Cornu

1340h **NH43B-1321** POSTER FOCUSING SEISMIC ENERGY ALONG FAULTS THROUGH TIME-VARIABLE RUPTURE MODES: WENCHUAN EARTHQUAKE, CHINA: **T Kusky**, A Ghulam, L Wang

1340h **NH43B-1322** POSTER Liquefaction Probability Curves for Surficial Geologic Units: **T L Holzer**, T E Noce, M J Bennett

1340h **NH43B-1323** POSTER Lascar pumice flows and the levée-channel-lobe morphology: **D Jessop**, P Labazuy, K Kelfoun, R Marc, A Mangeney, O Roche, G Thibault, J Tillier, M Trouillet

1340h **NH43B-1324** POSTER Fractal Analysis of magnetic data measured at Popocatepetl volcano: **L E Flores-Marquez**, G Galvez, J Marquez, A Ramírez-Rojas, G Cifuentes-Nava

1340h **NH43B-1325** POSTER Numerical Simulation of Tornado like Vortices in Two and Three Dimensions around Complex Geometries: **F Drullion**

1340h **NH43B-1326** POSTER On-line continuous monitoring of groundwater radon levels at L'Aquila fault, Italy: **C Tsabaris**, A Lampousis

1340h **NH43B-1327** POSTER Groundwater contamination with arsenic, Selenium and other trace elements in Quetta Valley, Pakistan: **S D Khan**, Y Xiong, K Mahmood, A S Khan, M Sultan

1340h **NH43B-1328** POSTER Occurrence and Mineralogical Characteristics of Tremolite Asbestos Occurred in Boryeong area, Chungnam, South Korea: **K Yoon**, J Hwang, J Oh, H Lee

1340h **NH43B-1329** POSTER SANITARY VULNERABILITY OF A TERRITORIAL SYSTEM IN HIGH SEISMIC AREAS: **A Teramo**, D Termini, D De Domenico, A Marino, A Marullo, C Saccà, M Teramo

1340h **NH43B-1330** POSTER GLOBAL ELECTROMAGNETIC RADIATION POLLUTION: RISK ASSESSMENT FROM FIELD MEASUREMENTS AND ANIMAL EXPERIMENTS: **A F Fragkopoulou**, L H Margaritis

NH43C Moscone South: Poster Hall Thursday 1340h
Remote Sensing of Natural Hazards III Posters (joint with NH, A, C, ED, S, PA, H, GC, T, OS, V)

Presiding: **H M El-Askary**, Chapman Univ; **Z Lu**, U.S. Geological Survey

1340h **NH43C-1331** POSTER Integration of remote sensing techniques for the evaluation of the landslide hazard: **F Calò**, **V Singhroy**, M Parise, M Ramondini

1340h **NH43C-1332** POSTER A multi-temporal image correlation method to characterize landslide displacements with a terrestrial camera: **J Travelletti**, J Malet, J Schmittbuhl, R Toussaint, C Delacourt, B van Dam, M Bastard

1340h **NH43C-1333** POSTER Modeling of Natural Hazards Related to the Los Angeles Basin, Southern California: **M T Glasscoe**, J W Parker, A Donnellan, G A Lyzenga, C D Norton

1340h **NH43C-1334** POSTER Monitoring terrain stability using radar interferometry in Lebanon: C Abdallah, **F G Gomez**, D V Manjunath

1340h **NH43C-1335** POSTER Case Studies for Investigating the Detectability of Land-surface Deformations Associated with Earthquakes from a Satellite-borne Microwave Radiometer Data: **T Maeda**, T Takano

1340h **NH43C-1336** POSTER Satellite Monitoring of Accumulation of Strain in the Earth's Crust Related to Seismic and Volcanic Activity: **A A Arellano-Baeza**

1340h **NH43C-1337** POSTER Minimization of Basis Risk in Parametric Earthquake Cat Bonds: **G Franco**

1340h **NH43C-1338** POSTER Hazards of Gulf Coast Subsidence: Crustal Loading, Geodesy, InSAR and UAVSAR Observations: **R G Blom**, B D Chapman, R K Dokka, E J Fielding, S Hensley, E R Ivins, R B Lohman

1340h **NH43C-1339** POSTER Land area change and fractional water maps in the Chenier Plain, Louisiana, following hurricane Rita: **M Palaseanu-Lovejoy**, C Kranenburg, J C Brock

1340h **NH43C-1340** POSTER SETTLEMENT AREA MAPPING USING OPTICAL AND SYNTHETIC APERTURE RADAR (SAR) REMOTE SENSING IMAGERY TO SUPPORT TSUNAMI RISK ASSESSMENT: **R Khomarudin**, G Strunz, R Ludwig, J Post, K Zosseder, T Esch, A Indrajit, R Khomarudin

1340h **NH43C-1341** POSTER Screening of Earthen Levees Using Synthetic Aperture Radar: **J V Aanstoos**, C O'Hara, S Prasad, L Dabbiru, R Nobrega, M Lee

1340h **NH43C-1342** POSTER Use of Synthetic Aperture Radar in Cold Climate Flood Response: **L D Yarbrough**

1340h **NH43C-1343** POSTER Flood detection and monitoring around Lena river in Siberia with SPOT-VGT: **T Sakai**, T Sasai, N Kobayashi, T Hiyama, K Yamamoto, Y Yamaguchi, G Inoue

1340h **NH43C-1344** POSTER Spectral effects on morphometric analysis in a coastal study using a combined approach of hyperspectral and LiDAR data: **A Taramelli**, S Cappucci, M Conti, E Valentini, E Pallottini, L Rossi, D Scarcella

1340h **NH43C-1345** POSTER Validation of the Global NASA Satellite-based Flood Detection System in Bangladesh: **C B Moffitt**

1340h **NH43C-1346** POSTER APPLICATION OF REMOTE SENSING TECHNIQUES TO DETERMINE POSSIBLE FLOOD AREAS IN THE CITY OF VILLAHERMOSA, TABASCO, MÉXICO: **L O Rosique**, R Prol-Ledesma, M A Bonome

1340h **NH43C-1347** POSTER Is There a Tectonic Component On The Subsidence Process In Morelia, Mexico?: **E Cabral-Cano**, A Arciniega-Ceballos, O Diaz-Molina, V Garduno-Monroy, J Avila-Olivera, V Hernández-Madrigal, E Hernández-Quintero

1340h **NH43C-1348** POSTER Remote sensing measurements of land subsidence in Kerman Valley, Iran, 2003-2009: M Esmaili, **M Motagh**

1340h **NH43C-1349** POSTER Documenting Liquefaction Failures Using Satellite Remote Sensing and Artificial Intelligence Algorithms: **T Oommen**, L G Baise, R Gens, A Prakash, R P Gupta

1340h **NH43C-1350** POSTER Controls on the spatial distribution of landslide hazards triggered by the 2008 Wenchuan Earthquake, Sichuan Province, China: R N Parker, N J Rosser, **D N Petley**, A L Densmore

1340h **NH43C-1351** POSTER A 3D Microseismicity Map of the Bartlett Springs Fault System in Northern California: **J Brown**

1340h **NH43C-1352** POSTER Earthquakes & Tsunamis flirting with the Ionosphere: the Sumatra gossip !!: **G Occhipinti**, P Coisson, L M ROLLAND, P Lognonne

1340h **NH43C-1353** POSTER Can OTH Radar Help Tsunami Monitoring?: **P Coisson**, G Occhipinti, L M ROLLAND, P Lognonne

1340h **NH43C-1354** POSTER Application of Wavelet Methods for the Detection and Analysis of Ionospheric Disturbances in GNSS Network Data: **Y Yang**, J L Garrison, S Lee

1340h **NH43C-1355** POSTER Information Products Laboratory for Emergency Response - IPLER: **A Vodacek**, D L Boyd, J van Aardt, C S Renschler, D M McKeown, H Collins, S Duvvuri, A H Pillai

1340h **NH43C-1356** POSTER Siberian forest fires and soil moisture anomalies observed with C-band scatterometer: **A Bartsch**, H Balzter, C George

1340h **NH43C-1357 POSTER** Satellites and Human Health: Potential for Tracking Cholera Outbreaks: **A S Jutla**, A S Akanda, S Islam

1340h **NH43C-1358 POSTER** Contrasting Chlorophyll concentrations in the Arabian Sea Compared to the South China Sea: Impact of Dust Storms: **H Zhao**, D Tang, R P Singh

1340h **NH43C-1359 POSTER** Merging satellite-detected wildfire information with ground reports for improved fire and smoke modeling in emergency response: **S M Raffuse**, D Pryden, N K Larkin, T Strand, R Solomon, D Sullivan

1340h **NH43C-1360 WITHDRAWN**

1340h **NH43C-1361 POSTER** Using global land cover data to assess regional food production potential: **R Licker**, C J Kucharik, J A Foley, M Johnston, C Monfreda, N Ramankutty

1340h **NH43C-1362 POSTER** Combining Satellite-Based Precipitation and Vegetation Indices to Achieve a Mid-Summer Agricultural Forecast in Jamaica: **S Curtis**, T L Allen, D Gamble

1340h **NH43C-1363 POSTER** Application of satellite estimates of rainfall distribution to simulate the potential for malaria transmission in Africa: **T K Yamana**, E A Eltahir

1340h **NH43C-1364 POSTER** Monitoring Invasive Aquatic Vegetation in Lake Okeechobee, Florida, using NDVI Derived from MODIS Data: **K A Woods**, M Brozen, A Pelkie, S Malik

1340h **NH43C-1365 POSTER** Analysis of urban land use in the megacity of Dhaka, Bangladesh: Roof-top detection in the context of assessing solar photovoltaic potential: **J Jaegermeyr**, H Kabir, W Endlicher

NH43D Moscone West: 2006 Thursday 1340h
Landslide Prediction and Assessment: Mechanisms and Controls on Size Distribution II (*joint with G, NG, T*)

Presiding: **O Katz**, Rice University; **J K Morgan**, Rice University

1340h **NH43D-01** A General Landslide Distribution for Triggered Event Landslide Inventories from 100-10,000 Landslides (*Invited*): **B D Malamud**, F Guzzetti, D L Turcotte

1355h **NH43D-02** Landslide scaling and magnitude-frequency distribution (*Invited*): **C P Stark**, F Guzzetti

1410h **NH43D-03** Size distributions and failure initiation of submarine landslides (*Invited*): **U S Ten Brink**, R Barkan, B D Andrews, J D Chaytor

1425h **NH43D-04** Controls on Shallow Landslide Size, Location, Shape, and Frequency: **D Bellugi**, E Sudderth, B Kazian, W E Dietrich, J A McKean, J Perron

1440h **NH43D-05** Material Matters in Landslide Volume-Area Scaling: **I J Larsen**, D R Montgomery, O Korup

1455h **NH43D-06** Erosion effects on the size and mobility of granular avalanches and landslides: **A Mangeney**, O Roche, O Hungr, N Mangold, A Lucas

1510h **NH43D-07** The long runout of the Heart Mountain landslide: A chemo-thermo-poro-elastic mechanism: **L Goren**, E Aharonov, M H Anders

1525h **NH43D-08** Acoustic Emissions During Progressive Failure of Earth Materials – Can we “Hear” The Onset of a Landslide?: **G K Michlmayr**, D O Cohen, D Or

Ocean Sciences

OS43A Moscone South: Poster Hall Thursday 1340h
Improvements in Tsunami Risk Assessment, Warning, and Mitigation: Five Years After Sumatra IV Posters (*joint with NH, PA*)

Presiding: **N Wood**, USGS; **P K Dunbar**, National Geophysical Data Center; **V V Titov**, NOAA/PMEL

1340h **OS43A-1366 POSTER** TsuDig: NGDC Hazards Database Standalone GIS Software Based on uDig: **J Varner**, P K Dunbar

1340h **OS43A-1367 POSTER** A Methodology for Tsunami Wave Propagation Forecast in Real Time: **D Wang**, D Walsh, N C Becker, G J Fryer

1340h **OS43A-1368 POSTER** Tsunameter Network Design for the U.S. DART® Array: **M C Spillane**, E Gica, V V Titov

1340h **OS43A-1369 POSTER** Global Tsunami Database: Adding Geologic Deposits, Proxies, and Tools: **P K Dunbar**, H McCullough

1340h **OS43A-1370 POSTER** Development Of New Databases For Tsunami Hazard Analysis In California: **R I Wilson**, A Barberopoulou, J C Borrero, W A Bryant, L A Dengler, J D Goltz, M Legg, T McGuire, K M Miller, C R Real, C Synolakis, B Uslu

1340h **OS43A-1371 POSTER** Can Tsunami Run-up be Estimated From Sediment Extent?: **B A Weymer**, R Weiss

1340h **OS43A-1372 POSTER** Frequency of tsunami alert bulletins in California: **L A Dengler**

1340h **OS43A-1373 POSTER** Measuring Tsunami Current Velocities on California's North Coast: G B Crawford, **L A Dengler**, J Montoya

1340h **OS43A-1374 POSTER** Numerical Modeling of Tectonic and Submarine Landslide-Generated Tsunamis in Whittier, Alaska: **D J Nicolisky**, E N Suleimani, R A Hansen

1340h **OS43A-1375 POSTER** Analysis of friction effects on tsunami inundation: Application to the 2004 tsunami flooding in the Banda Aceh and Lhok Nga region (Sumatra, Indonesia): **A Loevenbruck**, S Allgeyer, H Hebert

1340h **OS43A-1376 POSTER** Five Years On: Tsunami Risk Mitigation and Disaster Management Initiatives in Sri Lanka: **J Jayasekera Wijetunge**

1340h **OS43A-1377 POSTER** Reconstruction of the effects of the 2004 Sumatra tsunami on the peculiar morphology of the Seychelles Islands: an application to the island of Praslin: **R Tonini**, S Tinti, G Pagnoni, S C Gallazzi, A Armigliato

1340h **OS43A-1378 POSTER** The Tsunami Triggered by the El Asnam (Algeria) Earthquake of 1980: a New Hypothesis of Generation: **J ROGER**, H Hebert, P Briole

1340h **OS43A-1379 POSTER** Evaluating Tsunami Hazard and Vulnerability Along the Gulf of Cadiz, North East Atlantic: **R Omira**, M Viana-Baptista, J M Miranda, C Catita, E Toto

1340h **OS43A-1380 POSTER** Testing of a Prototype Tsunami Early Warning System for the Coasts of Italy: **F Romano**, A Piatanesi, S Lorito

1340h **OS43A-1381 POSTER** Probabilistic Tsunami Hazard Analysis for Eastern Sicily (Italy): **S Lorito**, A Piatanesi, F Romano, R Basili, V Kastelic, M M Tiberti, G Valensise

1340h **OS43A-1382 POSTER** Wm : Application of a magnitude algorithm to a large dataset of W phases, 1991-2009: **D Reymond**, E Okal

1340h **OS43A-1383 POSTER** Initial waves from submarine landslides: **R Weiss**, C Synolakis

1340h **OS43A-1384 WITHDRAWN**

OS43B Moscone South: Poster Hall Thursday 1340h
Ocean Sciences General Contributions Posters

1340h **OS43B-1385** WITHDRAWN

1340h **OS43B-1386** *POSTER* Science at Sea: Meeting Future Oceanographic Goals with a Robust Academic Research Fleet: **D Glickson**, R Kiss, R Pittenger, F Chavez, M Edwards, R A Fine, N N Rabalais, E S Saltzman, J H Swift, W S Wilcock, D Yoerger

1340h **OS43B-1387** *POSTER* Identification of the Most Accurate Antarctic Bathymetric Compilation through Comparison of Publicly Available Datasets: What on earth is going on down there; and how off earth can we find out?: **D J Ellicott**, R Robertson

1340h **OS43B-1388** *POSTER* Location and Characterization of Underwater Ordnance using Resonance Scattered Sonar: **R Gritto**, V A Korneev

1340h **OS43B-1389** *POSTER* Under-Ice Acoustic Communications and Navigation for Gliders and AUVs: **L E Freitag**, A Morozov

1340h **OS43B-1390** *POSTER* A Study on the Analysis of Relationship between Coastal Buffer Zone and Natural Protected Area-Typical Example at Howmeiliao Coast: **Y Li**, Y Lan, T Hsu, W Shie

1340h **OS43B-1391** *POSTER* Geological Characteristics of the Coastal Environment of the East Coast of Korea: A Case Study at the Hujeong-ri Beach, Gyeongbuk, South Korea: **E Jeong**, J Park, S Lee, J Seo, C Kim, C Park

1340h **OS43B-1392** *POSTER* Application of remote sensing and GIS to monitoring of the surface sedimentary environments at a tidal flat in the West Coast of Korea: **J Choi**, J Ryu, H Yoo

1340h **OS43B-1393** *POSTER* Anthropogenic changes due to partial dike removal in the Honjo Area of Nakaumi Lagoon, Southwest Japan: **K Seto**, D L Dettman, K Kurata, K Yamaguchi, T Irizuki, H Takata

1340h **OS43B-1394** *POSTER* POSSIBLE GEOCHEMICAL IDENTIFICATION OF THE MESOADRIATIC VORTEX:

D Marconi, M Calcara

1340h **OS43B-1395** *POSTER* Morphologic Change Monitoring in an Erosional Coastal Environment Using a LiDAR System and Remote Sensing Data: A Case Study at the Hujeong-ri Beach, East Coast of South Korea: **J Park**, E Jeong, S Lee, J Ryu, C Park

1340h **OS43B-1396** *POSTER* Efficiency Tests of Terrestrial LiDAR System in a Variety of Physical Conditions: **S Lee**, J Park, E Jeong, C Park

1340h **OS43B-1397** *POSTER* Cal/Val Study for Geostationary Ocean Color Imager: **J Ryu**, J Moon, J Min, S Cho, Y Ahn

1340h **OS43B-1398** *POSTER* Pre-Launch Performance Assessment of the VIIRS Ocean Color Environmental Data Record: **J Ip**, B Hauss, H Agravante

1340h **OS43B-1399** *POSTER* The effect of river plume nutrient input on ocean chlorophyll levels: **G N graziano**, K Moore

1340h **OS43B-1400** *POSTER* Global distribution of Rrs band ratios and its potential impacts on chlorophyll algorithm: **S Shang**, Z Lee, P J Werdell, M Szeto, Y Li

1340h **OS43B-1401** *POSTER* Statistical teasing or response to global warming: Implications from a 11-year time series of bio-optical properties in the South Pacific gyre: **Z Lee**, S Shang, C Hu, M Lewis, R A Arnone, Y Li

1340h **OS43B-1402** *POSTER* A Model based Examination of Conditions for Ignition of Turbidity Currents on Slopes: A J Mehta, **G Krishna**

1340h **OS43B-1403** *POSTER* Development of an *In Situ* Raman Probe for Pore Water Geochemistry: **P M Walz**, X Zhang, K Hester, W J Kirkwood, W Ussler, E T Peltzer, P G Brewer

1340h **OS43B-1404** *POSTER* Reconstructing the isotopic composition of deep ocean nitrate using sedimentary porefluids from the South Pacific Gyre: **R S Robinson**, H N Schrum, A J Spivack, J Brockman, S L D'Hondt

1340h **OS43B-1405** *POSTER* Benthic foraminiferal records of natural and anthropogenic environmental change in a coastal estuary: Tomales Bay, CA: **S C Flores**, T M Hill, A D Russell, G Brooks

1340h **OS43B-1406** *POSTER* The abyssal SE - Atlantic: benthic foraminifers as oceanographic proxies: **W E Piller**, S Müllegger

1340h **OS43B-1407** *POSTER* Direct Determination of Deep Ocean Nitrate During the Last Glacial Maximum: **A J Spivack**, H Røy, B Brunner, D Graham, B Gribsholt, R W Murray, H N Schrum, S L D'Hondt

1340h **OS43B-1408** *POSTER* The Effect of Spectral Nudging on the Coupled Regional Model Simulation Skill: **E Yulaeva**, M Kanamitsu

1340h **OS43B-1409** *POSTER* Numerical Investigation of Ross Sea Ice Shelf Water in the 20th and 21st Centuries: **M Tonelli**, E Siegle

1340h **OS43B-1410** *POSTER* Hydrophysical Atlas of the Bering Sea Derived Through the Variational Data Assimilation: **D Nechaev**, G Panteleev, V Luchin, P Stabeno, T Kikuchi

1340h **OS43B-1411** *POSTER* Understanding geographical distribution of future sea level projections in a Model for Interdisciplinary Research on Climate version 3.2(MIROC3.2): **T Suzuki**

1340h **OS43B-1412** *POSTER* Effects of Interannual Variability on Multi-Decadal World Ocean Temperature Trends: **M L Carson**, D Harrison

1340h **OS43B-1413** *POSTER* Low-Frequency Response Following the Passage of Hurricane Andrew on the Texas-Louisiana Shelf: **S M Pearce**, D C Smith, S F Dimarco

1340h **OS43B-1414** *POSTER* Seasonal cycle of biogenic flux and associated upper ocean processes in the southern Bay of Bengal and equatorial Indian Ocean: **V Pottelkatt**, S Prasanna Kumar

1340h **OS43B-1415** *POSTER* Sensitivity of summer lake surface temperatures to meteorological forcing: **J A Austin**, J Allen

OS43C Moscone West: 3003 Thursday 1340h
Gas Hydrates: Results of Recent Field Investigations IV (*joint with PP*)

Presiding: **T S Collett**, US Geological Survey; **S Lee**

1340h **OS43C-01** Gas Hydrate Occurrence at the Northernmost Segment of the Mid-Atlantic Ridge: **S Bunz**, J Mienert

1355h **OS43C-02** 3D seismic velocity structure below mounds and pockmarks in the deep water southwest of the Sado Island: **T Saeki**, M Hayashi, T Furukawa, T Inamori, E Asakawa

1410h **OS43C-03** Assessing submarine gas hydrate at active seeps on the Hikurangi Margin, New Zealand, using controlled source electromagnetic data with constraints from seismic, geochemistry, and heatflow data: **K Schwalenberg**, M Haeckel, I A Pecher, S J Toulmin, L J Hamdan, G Netzeband, W Wood, J Poort, M D Jegen, R B Coffin

1425h **OS43C-04** A Large Body of Hydrate defined by 3D Seismic Tomography in a Chimney beneath the CNE03 Pockmark on the Vøring Plateau, offshore Norway: **G K Westbrook**, A Plaza-Faverola, S Ker, R Exley, A Gailler, T A Minshull, K Broto

1440h **OS43C-05** Seismic modelling of gas hydrate and free gas in sediments, from ocean-bottom seismometer data along the continental margin of Western Svalbard: **A Chabert**, T A Minshull, G K Westbrook, C Berndt

- 1455h **OS43C-06** Time scales of hydrate dissociation on the West Svalbard continental margin: **K E Thatcher**, G K Westbrook, A Beszczynska-Möller
- 1510h **OS43C-07** Large-Scale Simulation of Oceanic Gas Hydrate Dissociation in Response to Climate Change: **M T Reagan**, G J Moridis
- 1525h **OS43C-08** Evolution of Permafrost and Gas Hydrate across the Beaufort Sea, Arctic Ocean: **E B O'Donnell**, B A Buffett

Planetary Sciences

P43A Moscone South: Poster Hall Thursday 1340h **Planetary Missions and Instruments Posters**

Presiding: **K Zacny**, Honeybee Robotics

- 1340h **P43A-1416** POSTER Error budget on radioscience transponder on Mars for future mission: **M Mitrovic**, **V M Dehant**
- 1340h **P43A-1417** POSTER Mineralogical Capabilities of the CheMin XRD/XRF instrument on Mars Science Laboratory (MSL '11): **D F Blake**, D T Vaniman, A S Yen, C Chen, P Sarrazin, D L Bish, S Chipera, R V Morris
- 1340h **P43A-1418** POSTER Integrated Mars Sample Acquisition and Handling: **L R Shiraishi**, R Lindemann, P Backes, C L Collins, K Kriechbaum, N Hudson
- 1340h **P43A-1419** POSTER Low-Pressure Testing of the Mars Science Laboratory's Solid Sampling System: Test Methods and Preliminary Results: **S Mukherjee**, M von der Heydt, C Hanson, L Jandura
- 1340h **P43A-1420** POSTER Mars Science Laboratory Sample Acquisition, Sample Processing and Handling Subsystem: A Description of the Sampling Functionality: **L Jandura**, **K Burke**, B Kennedy, J Melko, A Okon, D Sunshine
- 1340h **P43A-1421** POSTER Micro-column Scanning Electron Microscope and X-ray Spectrometer (MSEMS) for Planetary Exploration: **B Ribaya**, D Niemann, J Makarewicz, H Clevenson, C McKenzie, C Nguyen, D F Blake
- 1340h **P43A-1422** POSTER New Operating Mode for the Quadrupole Mass Spectrometer: **D J Gershman**, B P Block, M Rubin, T Zurbuchen
- 1340h **P43A-1423** POSTER Mars and Lunar Vacuum Chamber Testing Facilities and Vacuum Rated Drill Systems: **K Zacny**, G Paulsen, J Craft, M Maksymuk, C Santoro, J Wilson
- 1340h **P43A-1424** POSTER Two Step Sample Return Mission of Martian Soil: **G Paulsen**, **K Zacny**, J Craft, P Chu, G Mungas
- 1340h **P43A-1425** POSTER A Space Mission Concept for Transit Spectroscopy of Exoplanets: **R Linfield**, D Ebbets, C Kartchner, M Kaplan
- 1340h **P43A-1426** POSTER Small Body Landers for Near Earth Object Missions: **K Klaus**, T S Cook, M Kaplan
- 1340h **P43A-1427** POSTER Low Cost Multiple Near Earth Object Missions: **D B Smith**, **K Klaus**, M Kaplan
- 1340h **P43A-1428** POSTER Outer Planet Science Missions enabled by Solar Power: **M Kaplan**, K Klaus, D B Smith
- 1340h **P43A-1429** POSTER Entry Probe Missions to the Giant Planets: **T R Spilker**, D H Atkinson, S K Atreya, A Colaprete, J N Cuzzi, L J Spilker, A Coustenis, E Venkatapathy, K Reh, R Frampton

P43B Moscone South: Poster Hall Thursday 1340h **Planetary Sciences General Contributions Posters**

Presiding: **W B Banerdt**, Jet Propulsion Laboratory

- 1340h **P43B-1430** POSTER A.I.K.E.F. - An adaptive hybrid model for planetary plasma environment studies: **J Mueller**, S Simon, U M Motschmann, K Glassmeier
- 1340h **P43B-1431** POSTER Strong interaction between Phobos and the solar wind: **Y Futaana**, S Barabash, M Holmstrom, H Nilsson, R Lundin
- 1340h **P43B-1432** POSTER Determining Distances and Motions of Stars in the TW Hydrae Association for Studying Planet Formation Conditions: **R E Rattray**, A Weinberger, G Anglada-Escude, A P Boss
- 1340h **P43B-1433** POSTER Planetesimal Accretion during Runaway Gas Growth of Giant Planets: **G D'Angelo**
- 1340h **P43B-1434** POSTER A numerical study on collisions of icy bodies using SPH method combined with GRAPE: **M Nakajima**, H Genda, S Ida
- 1340h **P43B-1435** POSTER "FRIED EGG": AN OCEANIC IMPACT CRATER IN THE MID-ATLANTIC?: **F C Dias**, N Lourenco, A Lobo, A Santos de Campos, M Pinto de Abreu
- 1340h **P43B-1436** POSTER Did Two Bolide Fragments Strike the Gulf of Carpentaria around 1500 Years Ago?: **D H Abbott**, S N Martos, H Elkinton, R Fleming, A Garcia, A R Chivas, D Breger, S Haslett, M R Kaplan
- 1340h **P43B-1437** POSTER Access to the Online Planetary Research Literature: **E A Henneken**, A Accomazzi, M J Kurtz, C S Grant, D Thompson, G Di Milia, E Bohlen, S S Murray
- 1340h **P43B-1438** POSTER Cooperative observation data center for planets: starting with the Mars 2009-2010 observation: **T Nakakushi**, M Okyudo, A Tomita

P43C Moscone South: Poster Hall Thursday 1340h **Potential Biomarkers on Mars: Detection, Characterization, and Earth Analogue Systems II Posters (joint with B)**

Presiding: **M A Mischna**, Jet Propulsion Laboratory

- 1340h **P43C-1439** POSTER On the Lifetime and Extent of Methane Plumes on Mars: **M A Mischna**, M Allen
- 1340h **P43C-1440** POSTER Microbial Fe cycling and mineralization in sediments of an acidic, hypersaline lake (Lake Tyrell, Victoria, Australia): **E E Roden**, **M Blöthe**, E Shelobolina
- 1340h **P43C-1441** POSTER Organic Analysis of Peridotite Rocks from the MAR: **M Bassez**, Y Takano, N Ohkouchi
- 1340h **P43C-1442** POSTER An AOTF-LDTOF Spectrometer Suite for In Situ Organic Detection and Characterization: **N Chanover**, D A Glenar, D Voelz, X Xiao, R Tawalbeh, P Boston, W B Brinckerhoff, P R Mahaffy, S Getty
- 1340h **P43C-1443** POSTER Acetate: A better astrobiological indicator of life than methane?: **I Kanik**, M J Russell, R P Hodyss, P V Johnson
- 1340h **P43C-1444** POSTER Gram-negative Biomass in Clay Minerals Analogs: Testing Habitability Potential for the 2011 Mars Science Laboratory Mission: **R Bonaccorsi**, C P McKay
- 1340h **P43C-1445** POSTER Constraining Habitable Environments on Mars by Quantifying Available Geochemical Energy: **L L Tierney**, B M Jakosky
- 1340h **P43C-1446** POSTER Stable Isotopes of CH₄ and H₂S as Potential Biomarkers in Clathrates: **H Carvajal-Ortiz**, L Pratt
- 1340h **P43C-1447** POSTER Shape Shifting Rovers and the Search for Biomarkers in an Icelandic Mars Analogue System: **S A Curtis**, C Y Cheung, J A Nuth, P E Clark, J Li, A Darrin, D E Clemons, G Sigurdsson
- 1340h **P43C-1448** POSTER Microbes in Pliocene paleosols in volcanic terrane on Earth correlated with similar exposures on Mars: **W C Mahaney**, J Dohm, R W Barendregt, K J Kim, M W Milner

1340h **P43C-1449 POSTER** Mineralogy and Organic Geochemistry of Acid Sulfate Environments from Valles Caldera, New Mexico: Habitability, Weathering and Biosignatures: **M B Vogel**, D J Des Marais, L L Jahnke, M Kubo

1340h **P43C-1450 POSTER** Universal RF-Powered Aqueous Extractor-on-a-Chip Instrument for Identification of Chemical Signatures of Life on Mars: **X Amashukeli**, H Manohara, G Chattopadhyay, E Urgiles, R Lin, A Peralta, A Fisher

1340h **P43C-1451 POSTER** Analysis of Organics in Clays with Laser Time of Flight Mass Spectrometry: **I L ten Kate**, S Getty, T Cornish, W B Brinckerhoff

1340h **P43C-1452 POSTER** Detection of Biosignatures in a Mars-Like Environment Using LIBS: **A M Ollila**, J G Blank, H E Newsom, P L King, D A Cremers

1340h **P43C-1453 POSTER** Automated Aqueous Sample Concentration Methods for *in situ* Astrobiological Instrumentation: **A D Aubrey**, F J Grunthaner

P43D Moscone South: Poster Hall Thursday 1340h
Recent Results in Planetary Science and Their Impact on Future Science and Mission Priorities I Posters (*joint with A, B, G, GP, SM, SA*)

Presiding: **D H Smith**, National Research Council

1340h **P43D-1454 POSTER** Liquid Water on the Surface of Mars Today: Present Gully Activity Observed by the Mars Reconnaissance Orbiter (MRO) and Mars Global Surveyor (MGS) and Direction for Future Missions: **T N Harrison**, M C Malin, K S Edgett

1340h **P43D-1455 POSTER** 100 New Impact Crater Sites Found on Mars: **M R Kennedy**, M C Malin

1340h **P43D-1456 POSTER** Rotation and interior of Mars from radioscience: **V M Dehant**, S Le Maistre, P Rosenblatt, M Mitrovic, D Orban, A Rivoldini, J Marty, T Van Hoolst

1340h **P43D-1457 POSTER** Sulfur concentrations of the Martian surface derived from orbital Mars Odyssey GRS and in-situ MER APXS measurements: implications on the selection of future landing sites: **J Brueckner**, S Karunatillake, D Hamara, W V Boynton

1340h **P43D-1458 POSTER** Rock Morphologies of the Mawrth Vallis Landing Site Region: **N K McKeown**, J L Bishop, J J Wray, M Parente, E A Silver

1340h **P43D-1459 POSTER** Geologic Mapping and Characterization of Gale Crater and Implications for its Potential as a Mars Science Laboratory Landing Site: **R B Anderson**, J F Bell

1340h **P43D-1460 POSTER** Representative Image Subsets in Soil Analysis Using the Mars Exploration Rover Microscopic Imager: **N A Cabrol**, K E Herkenhoff, E A Grin

1340h **P43D-1461 POSTER** The Extent and Significance of Opaline Silica Outcrops in Gusev Crater, Mars: **S W Ruff**

1340h **P43D-1462 POSTER** High resolution IR spectrometry and detection of atmospheric gravity waves in the upper atmosphere of Jupiter: **K I Matcheva**, D J Barrow, P Drossart

1340h **P43D-1463 POSTER** Observations of Rosetta Target (21) Lutetia with Keck and Gemini Adaptive Optics: **A R Conrad**, W J Merline, J Drummond, B Carry, P M Tamblyn, C R Chapman, C Dumas, H A Weaver

1340h **P43D-1464 POSTER** Solar Corona and plasma effects on Radio Frequency waves: C Nkono, **P Rosenblatt**, V M Dehant

1340h **P43D-1465 POSTER** Space Weathering Impact on Solar System Surfaces and Planetary Mission Science: **J F Cooper**, R E Hartle, E C Sittler, M A McGrath, C J Alexander, J B Dalton, D Pascu, C Paranicas, C Hibbitts, M E Hill, P D Cooper, R E Johnson, T A Cassidy, T M Orlando, L J Lanzerotti, N A Schwadron, K D Retherford, R I Kaiser, F Leblanc, S J Sturmer, R M Killen

1340h **P43D-1466 POSTER** Summer Surface Temperatures of the North Polar Region of Mars as Measured by THEMIS: **S Piqueux**, C S Edwards, P R Christensen

1340h **P43D-1467 POSTER** Simulations of Mars rotation radioscience observation and retrieval for a rover/lander on Mars: **S Le Maistre**, P Rosenblatt, V M Dehant, J Marty

1340h **P43D-1468 POSTER** MRO/CRISM Observations of Putative Paleolakes on Mars: Evidence of Water-related Activity: **T L Roush**, G Marzo, S Fonti, V Orofino, A Blanco

1340h **P43D-1469 POSTER** Future Io Exploration for 2013-2022 and Beyond: A White Paper submitted for the 2011 Planetary Science Decadal Survey: **D A Williams**, J Radebaugh, R M Lopes, I De Pater, N M Schneider, F Marchis, J I Moses, A G Davies, J Perry, J S Kargel, L P Keszthelyi, C Paranicas, A S McEwen, K Jessup, D Goldstein, M K Bunte, J A Rathbun, M A McGrath

1340h **P43D-1470 POSTER** Understanding cross sample talk as a result of triboelectric charging on future mars missions: **L W Beegle**, R C Anderson, G Fleming

1340h **P43D-1471 POSTER** Exploration Strategy for the Ice Dwarf Planets 2013-2022: **W M Grundy**, W B McKinnon

1340h **P43D-1472 POSTER** Recommended Exploration Strategy for the Outer Planets 2013-2022: Goals and Priorities: **W B McKinnon**, T V Johnson

1340h **P43D-1473 POSTER** ChemCam on MSL: Status and Initial Calibrations: R C Wiens, S Maurice, **S M Clegg**

1340h **P43D-1474 POSTER** Spacecraft Exploration of Titan and Enceladus: **D Matson**, A Coustenis, J I Lunine, J Lebreton, K Reh, P Beauchamp, C Erd

1340h **P43D-1475 POSTER** Cassini's Discoveries at Saturn and the Proposed Cassini Solstice Mission: **R T Pappalardo**, L J Spilker, R T Mitchell, J Cuzzi, T I Gombosi, A P Ingersoll, J I Lunine

P43E Moscone South: 307 Thursday 1340h
Planetary Magnetism, Core Dynamics, and Dynamo Mechanisms: Bridging the Gap Between Observations and Models, Revisited II (*joint with GP, DI*)

Presiding: **R Baker**, York University; **W Kuang**, NASA Goddard Space Flight Center

1340h **P43E-01** How to make an Earth-like geodynamo model (*Invited*): **U R Christensen**, J Aubert, G Hulot

1355h **P43E-02** The effects of the inner core size on planetary dynamos: **W Jiang**, W Kuang

1410h **P43E-03** Characteristics of low-viscosity models for planetary dynamos (*Invited*): **A Sakuraba**

1425h **P43E-04** A Dynamo Model for Axisymmetrizing Saturn's Internal Magnetic Field Using Thermal Winds in Stably Stratified Layers (*Invited*): **S Stanley**

1440h **P43E-05** Secular Change of the Jovian Magnetic Field: From Pioneer to Galileo: **A Z Yu**, H K Leinweber, C T Russell

1455h **P43E-06** Laboratory Models of Planetary Core Fluid Dynamics (*Invited*): **J M Aurnou**

1510h **P43E-07** Laboratory Model of a Tidal Source for the Ancient Martian Dynamo: **R Baker**, K D Aldridge

1525h **P43E-08** Rotating turbulence and precession in a laboratory model of the Earth's core: **D P Lathrop**

P43F Moscone South: I04 Thursday 1340h
Saturn's Family of Moons I (*joint with C, SM*)

Presiding: **A R Hendrix**, JPL/Caltech; **K K Khurana**, University of California at Los Angeles

1340h **P43F-01** Negative Ions in the Enceladus Plume (*Invited*): **A J Coates**, G H Jones, G Lewis, A Wellbrock, D T Young, F J Crary, R E Johnson, T W Hill

1355h **P43F-02** Titan and Enceladus Composition measured with Cassini INMS and CAPS: Implications for the formation and evolution of the Saturn system: **J H Waite**, J H Westlake, B A Magee, D T Young

1410h **P43F-03** A Search for Plumes on Mimas, Tethys, and Dione: **B J Buratti**, S Faulk, J Mosher, K H Baines, R H Brown, R N Clark, P Nicholson

1425h **P43F-04** Radar Backscatter from the Dark Side of Iapetus: **L C Wye**, H A Zebker

1440h **P43F-05** Compositional Mapping Saturn's Icy satellites with Cassini VIMS (*Invited*): **R N Clark**, D P Cruikshank, R Jaumann, R H Brown, T M Hoefen, K Stephan, C M Dalle Ore, J M Curchin, B J Buratti, G Filacchione, K H Baines, P Nicholson

1455h **P43F-06** Multi-Wavelength Photometry of the Icy Saturnian Satellites: **A R Hendrix**, B J Buratti

1510h **P43F-07** Is Titan Partially Differentiated?: **G Mitri**, R T Pappalardo, D J Stevenson

1525h **P43F-08** The Ganymede, Titan, Callisto, Iapetus Trend: Interpretation of Titan's Moment of Inertia: **I Mosqueira**, P R Estrada

Paleoceanography and Paleoclimatology

PP43A Moscone South: Poster Hall Thursday 1340h
Cenozoic Antarctic Evolution II Posters (*joint with C, GC, T*)

Presiding: **D M Harwood**, Univ. Nebraska-Lincoln; **F Florindo**

1340h **PP43A-1542 POSTER** Late Holocene Marine Sediment Record from the Bransfield Basin, Antarctic Peninsula: **A Barnard**, J S Wellner

1340h **PP43A-1543 POSTER** Holocene Temperature Record of the North Antarctic Peninsula: **V Willmott**, J Kim, E W Domack, J S Sinninghe Damsté, S Schouten

1340h **PP43A-1544 POSTER** Paleoproductivity changes off Lützow-Holm Bay in the Antarctic Ocean during the past 650 kys: **M Ikehara**, S Okamoto, B Khim, Y Suganuma, K Katsuki, T Itaki, H Miura

1340h **PP43A-1545 POSTER** Multi-millennial-scale climate variability in Antarctica during the past seven glacial periods: **K Kawamura**

1340h **PP43A-1546 POSTER** Late Quaternary relative sea level change in the South Shetland Islands, Antarctica: **E Watcham**, M Bentley, D Hodgson, S Roberts, P Fretwell, J Lloyd

1340h **PP43A-1547 POSTER** Reconstruction of Early Pleistocene climate in southern Australia, and implications for Southern Hemisphere atmospheric circulation: **K Sniderman**, N Porch

1340h **PP43A-1548 POSTER** Anomalous Calcareous Nannofossil Record at ca. 2.5 Ma. in ODP site 1090 (South Atlantic): **A Ballegeer**, J Flores, F J Sierro, R Gersonde

1340h **PP43A-1549 POSTER** Biostratigraphic constraints on the Plio-Pleistocene chronology of West Antarctic Ice Sheet grounding events in North Basin: **P J Bart**, C M Sjunneskog, J M Chow

1340h **PP43A-1550 POSTER** Sedimentological evidence for a deforming bed in a late Pleistocene glacial sequence from ANDRILL AND-1B, Ross Sea, Antarctica: **E A Cowan**, R D Powell

1340h **PP43A-1551 POSTER** Using Cyclic Variations Of Early Pliocene Diatom Assemblages To Determine Sediment Accumulation Rates In The ANDRILL AND-1B Core: M A Konfirst, **R P Scherer**, D Monien, G Kuhn, D Winter, C M Sjunneskog

1340h **PP43A-1552 POSTER** Application of ICP-SFMS, ICP-AES integrate method to the geochemical characterization of ANDRILL-MIS oceanic sediment samples: **F Rugi**, E Castellano, F Marino, C Ghedini, M Severi, S Becagli, R Traversi, R Udisti

1340h **PP43A-1553 POSTER** Transferring ANDRILL Research on Antarctic Cenozoic Climate Change into the Classroom: Teaching Exercises that build Student Skills and Content Knowledge: **K S Pound**, L A Krissek, M H Jones, R M Leckie, K St. John

1340h **PP43A-1554 POSTER** Sr Isotope Systematics of Aragonite Shell Fragments and Pore Waters from an ANDRILL Core, Southern McMurdo Sound, Antarctica: **M C Marciano**, T D Frank, S B Mukasa, K C Lohmann, C Stefano, M Taviani, A V Andronikov

1340h **PP43A-1555 POSTER** Geochemical provenance analyses on ANDRILL SMS (AND-2A) core: Evidence for Miocene ice-flow directions in the Ross embayment, Antarctica: **S Hoffmann**, H von Eynatten, G Kuhn

1340h **PP43A-1556 POSTER** Developing a High-Resolution Sequence Stratigraphic Framework for Upper Lower Miocene Strata (~ 18-16 Ma) From the ANDRILL AND-2A Drillcore, Southern McMurdo Sound Project, Antarctica: **H C Koss**, S F Pekar

1340h **PP43A-1557 POSTER** Subantarctic Pacific hiatuses as clues to periods of enhanced oceanic circulation during the late Neogene: **L M Waddell**, I L Hendy, T C Moore, M W Lyle

1340h **PP43A-1558 POSTER** MIDDLE EOCENE - EARLY OLIGOCENE PALEOCLIMATE VARIABILITY AT ODP SITE 738 (KERGUELEN PLATEAU) INFERRED BY COMBINED CALCAREOUS NANNOFOSSIL, STABLE ISOTOPE, AND PALEOMAGNETIC DATA: **G Villa**, C Fioroni, D Persico, F Florindo, S M Bohaty

1340h **PP43A-1559 POSTER** Late Eocene Antarctic climate variability during the transition to a full glacial state: **F Florindo**, S M Bohaty, B T Huber, L Jovane, D Persico, A P Roberts, G Villa, J C Zachos

1340h **PP43A-1560 POSTER** Deep Water Temperature, Ice Volume, and Sea-level Change Associated with the Eocene-Oligocene Transition: **A E Pusz**, R Thunell, K G Miller

1340h **PP43A-1561 POSTER** ANTscape: ANTARCTIC PALEOTOPOGRAPHIC MAPS FOR THE LAST 100 MILLION YEARS: P J Barrett, J Francis, K Gohl, A M Haywood, **C S Siddoway**, D S Wilson

1340h **PP43A-1562 POSTER** Evidence for Repeated Early Miocene Glaciation and the Cutting of Upper Taylor Valley from the Friis Hills, Antarctica: **A Lewis**, A C Ashworth, D R Marchant, S R Hemming

1340h **PP43A-1563 POSTER** Restoration of Early Miocene Paleotopography of Marie Byrd Land, Antarctica, using information from bedrock geology: **P Spector**, C S Siddoway, P J Morin

1340h **PP43A-1564 POSTER** Constraints on Neogene deformation in the southern Terror Rift from calcite twinning analyses of veins within the ANDRILL MIS core, Victoria Land Basin, Antarctica: **T S Paulsen**, C Demosthenous, T J Wilson, C Millan

1340h **PP43A-1565 POSTER** The upper lithostratigraphic unit of ANDRILL AND-2A core (Southern McMurdo Sound, Antarctica): local Pleistocene volcanic sources, paleoenvironmental implications and subsidence in the southern Victoria Land Basin: P Del Carlo, **K S Panter**, K N Bassett, L Bracciali, G Di Vincenzo, S Rocchi

1340h **PP43A-1566 POSTER** An Over-Sea-Ice Seismic Reflection Survey: Offshore New Harbor, Antarctica: **D A Sunwall**, M A Speece, S F Pekar, G S Wilson, K J Tinto

1340h **PP43A-1567 POSTER** ANDRILL Targets Coulman High, Ross Sea, Antarctica to Recover History of the West Antarctic Ice Sheet: **B P Luyendyk**, R H Levy, D S Wilson, C C Sorlien, S A Fischbein, L Bartek, A Pyne, T Falconer, F R Rack, A Science Committee

1340h **PP43A-1568 POSTER** An Over-Sea-Ice High Resolution Seismic Reflection Survey to Image Holocene Aged Pelagic Sediment, MacKay Sea Valley, Southern McMurdo Sound, Antarctica: **B P Williams**, M A Speece, R D Powell, R H Levy, D M Harwood

1340h **PP43A-2341 POSTER** Estimating Last Glacial Maximum Ice Thickness Using Porosity and Depth Relationships: Examples from AND-1B and AND-2A Cores, McMurdo Sound, Antarctica: **T G Hayden**, M A Kominz, D Magens, F Niessen

PP43B Moscone South: Poster Hall Thursday 1340h Reconstructing Warm Climates of the Early Eocene II Posters

Presiding: **B Thrasher**, Climate Central; **L J Shellito**, University of Northern Colorado; **K E Snell**, University of California Santa Cruz

1340h **PP43B-1569 POSTER** The role of methane during the Paleocene-Eocene thermal maximum: **D A Carozza**, L A Mysak

1340h **PP43B-1570 POSTER** Massive Methane Hydrate in Sediments to Cause the Paleocene/Eocene Thermal Maximum: **G Gu**, G R Dickens, G Bhatnagar, F S Colwell, W G Chapman, G J Hirasaki

1340h **PP43B-1571 POSTER** Eocene climate and Arctic paleobathymetry: A tectonic sensitivity study using GISS ModelE-R: **C D Roberts**, A N LeGrande, A K Tripathi

1340h **PP43B-1572 POSTER** Progress in understanding Eocene climate and implications for estimating climate sensitivity to greenhouse gas variation: **M Huber**

1340h **PP43B-1573 POSTER** Paleobotanical Evidence for Coupling of Temperature and $p\text{CO}_2$ during the Early Eocene Climatic Optimum: **R Y Smith**, D R Greenwood, J F Basinger

1340h **PP43B-1574 POSTER** Arctic Eocene isotopic anomaly: unusual temperature/rainfall isotope relationship and a stormy world: **L O Sternberg**, K Emanuel, M Huber, H Jahren, D C Noone

1340h **PP43B-1575 POSTER** Internal structure of multiple Eocene climatic warming events from Demerara Rise: **S E Kirtland**, P F Sexton, R D Norris, T Westerhold, U Roehl

1340h **PP43B-1576 POSTER** Micron-scale intra-ring analyses of $\delta^{13}\text{C}$ in early Eocene Arctic wood from Ellesmere Island: B Schubert, H Jahren, J Eberle, L Sternberg

1340h **PP43B-1577 POSTER** Seasonal variability in Arctic temperatures during the early Eocene: **J J Eberle**, H C Fricke, J Humphrey, L Hackett, M Newbrey, H Hutchison

1340h **PP43B-1578 POSTER** Paleocene to Eocene hydrologic cycle records within the Flagstaff Formation, central Utah: **J H VanDeVelde**, G J Bowen

1340h **PP43B-1579 POSTER** Resolving Low-Latitude EECO Paleotemperatures in a Marine-Shelf Setting Using Stable, Strontium, and Clumped Isotope Techniques: **C Keating-Bitonti**, L C Ivany, S D Samson, H P Affek

1340h **PP43B-1580 POSTER** The PETM in the mid-Atlantic Coastal Plain: A widespread record of unique climate signatures in shallow-shelf Marlboro Clay: **D S Powars**, L E Edwards, R E Kopp, J Self-Trail, A Schultz

1340h **PP43B-1581 POSTER** An Appalachian Amazon? Magnetofossil evidence for the development of a tropical river-like system in the mid-Atlantic United States during the Paleocene-Eocene Thermal Maximum: **R E Kopp**, D Schumann, T D Raub, D S Powars, L V Godfrey, N Swanson-Hysell, A C Maloof, H Vali

1340h **PP43B-1582 POSTER** Global Paleogeographic Uncertainty at the PETM: **T Raub**, R E Kopp

PP43C Moscone West: 2004 Thursday 1340h Cenozoic Greenhouse Climates and Carbon Cycle Dynamics II (joint with B, GC, OS)

Presiding: **J C Zachos**, Univ California Santa Cruz; **A Sluijs**, Utrecht University; **R E Zeebe**, University of Hawaii

1340h **PP43C-01** Sensitivity of ocean chemistry and atmospheric CO_2 to carbon perturbations over the Cenozoic: M F Stuecker, **R E Zeebe**

1355h **PP43C-02** Pliocene atmospheric CO_2 changes (*Invited*): **G L Bartoli**, B Hoenisch, R E Zeebe

1410h **PP43C-03** Warm Arctic terrestrial surface temperatures during the Pliocene: exploring potential feedback mechanisms: **A P Ballantyne**, A Z Csank, D R Greenwood, J S Sinninghe Damsté, B L Otto-Bliesner, J W White, J J Eberle, Y Axford, G H Miller, N Rychczynski

1425h **PP43C-04** Stepwise climate cooling during the “Monterey” carbon-isotope excursion (*Invited*): **A E Holbourn**, W Kuhnt, M Regenberg, M Schulz, A C Mix, N Andersen

1440h **PP43C-05** Export Productivity and Carbonate Accumulation in the Pacific Basin at the Transition from a Greenhouse to Icehouse Climate (Late Eocene to Early Oligocene): **A Paytan**, E M Griffith, M Calhoun, E Thomas, A M Erhardt, K Averyt, T J Bralower, M W Lyle, A Olivarez-Lyle

1455h **PP43C-06** The PACIFIC EQUATORIAL AGE TRANSECT (“PEAT”): New insights into the Cenozoic link between climate and calcium carbonate compensation. (*Invited*): **H Pälike**, H Nishi, M W Lyle, I Raffi, A Klaus, K Gamage

1510h **PP43C-07** Relation between the occurrence of major glaciations of Antarctica and Greenland and the atmospheric CO_2 : a modelling approach: S Bonelli, **G Ramstein**, Y Donnadieu, C Dumas, C Ritz, R Waldman

1525h **PP43C-08** A continental record of climatic change and carbon cycle dynamics during the Middle Eocene Climatic Optimum: **M T Hren**, A Mulch, C P Chamberlain

SPA - Aeronomy

SA43A Moscone South: Poster Hall Thursday 1340h Enabling Research to Operations in Space Weather II Posters (joint with A, IN, ED, PA, SM, SH)

Presiding: **T J Bogdan**, NOAA/NWS/NCEP; **D Baker**, University of Colorado

1340h **SA43A-1602 POSTER** Practical Transitions to Operations: Bridging the 6.1 to 6.7 Valley of Death: **P B Dandenault**, P Serengulian, C A Metzler, A C Nicholas

1340h **SA43A-1603 POSTER** A BASELINE SPACE WEATHER FORECAST CAPABILITY: **S L Young**, J C Johnston

1340h **SA43A-1604 POSTER** SWIFTER - Space Weather Informatics, Forecasting, and Technology through Enabling Research - and Research to Operations: **R K Schaefer**, L J Paxton, M Weiss, J M Holm, D Morrison, R J Barnes

1340h **SA43A-1605 POSTER** Accessing Space Weather Information: D Morrison, **M Weiss**, E A Immer, D Patrone, M Potter, R J Barnes, C Colclough, R Holder

1340h **SA43A-1606 POSTER** SuperMAG: Present and Future Capabilities: S W Hsieh, **J W Gjerloev**, R J Barnes

1340h **SA43A-1607 POSTER** Ionosphere Scientific Data Stewardship at NGDC: T W Bullett, **R J Redmon**, J Manley, R Konkright, E A Kihn, K Prendergast, P Elespuru, K Horan, J Schminky, W F Denig

1340h **SA43A-1608 POSTER** The Integrated Space Weather Analysis System: **M M Maddox**, R E Mullinix, P Jain, D Berrios, M Hesse, L Rastaetter, P J MacNeice, M M Kuznetsova, A Taktakishvili, J W Garneau, J Conti-Vock

1340h **SA43A-1609 POSTER** TOWARDS OPERATIONAL FORECASTING OF LOWER ATMOSPHERE EFFECTS ON THE UPPER ATMOSPHERE AND IONOSPHERE: INTEGRATED DYNAMICS IN EARTH'S ATMOSPHERE (IDEA): **R A Akmaev**, T J Fuller-Rowell, F Wu, H Wang, H Juang, S Moorthi, M Iredell

1340h **SA43A-1610 POSTER** Validation and Implementation of Neutral Density Models for Space Weather Forecast Laboratory: **J O Wise**, C S Lin, K L Tanyi, F A Marcos, C Y Huang, S H Delay

1340h **SA43A-1611 POSTER** Coronal Hole Analysis Tool (CAT) a New Addition to the Wang Sheeley Arge Model: **M Crown**, C N Arge

1340h **SA43A-1612 POSTER** CORHEL: A Modeling Suite for Describing the Solar Corona and Inner Heliosphere: **J A Linker**, P Riley, Z Mikic, R Lionello, V S Titov, D Odstrcil

1340h **SA43A-1613 POSTER** A Milestone in Commercial Space Weather: USTAR Center for Space Weather: **W Tobiska**, R W Schunk, J J Sojka, D C Thompson, L Scherliess, L Zhu, L C Gardner

1340h **SA43A-1614 POSTER** On the Relative Utilities of Data Types for Assimilation by Global Ionospheric Models: **G J Bishop**, L F McNamara, J Welsh, D T Decker

1340h **SA43A-1615 POSTER** Assessment of Ionospheric Measurement Techniques in Support of Space Weather Requirements: **R E Erlandson**, L J Paxton, M A Kelly, A Q Rogers, L J Zanetti

1340h **SA43A-1616 POSTER** Visualization and Analysis of Spectrograph-mode Data Products from Far Ultraviolet Scanning Imaging Sensors: **B C Wolven**, R K Schaefer, S W Hsieh, L J Paxton

1340h **SA43A-1617 POSTER** In Situ Measurement of Ionospheric Plasma Density Irregularities with the Plasma Local Anomalous Noise Experiment (PLANE) aboard FalconSAT-3: **L Habash Krause**, C Enloe, M G McHarg, D Bayley, S Hart, T Lawrence

1340h **SA43A-1618 POSTER** Operational Software for the DMSP SSULI UV Sensors: C A Metzler, **P B Dandenault**, P Serengulian, A C Nicholas, S A Budzien, K Dymond

1340h **SA43A-1619 POSTER** Global Ultra-Violet Ionosphere-Thermosphere Observatory (GUVITO): N Curtis, **G Crowley**, A B Christensen, L J Paxton, J Robichaud, M A Barry, G S Bust

1340h **SA43A-1620 POSTER** Space Environment Information System - SPENVIS: Applicability for Mission Operations: **G Lawrence**, S Reid, M Kruglanski, N Parmentier

1340h **SA43A-1621 POSTER** Statistical Prediction of Solar Particle Event Frequency based on the Measurements of Recent Solar Cycles for Acute Radiation Risk Analysis: **M Y Kim**, S Hu, F A Cucinotta

1340h **SA43A-1622 POSTER** Prototype Development of an Operational Global Aircraft Radiation Exposure Nowcast: **C J Mertens**, W Tobiska, D Bouwer, B T Kress, M J Wiltberger, S C Solomon, J Kunches

1340h **SA43A-1623 POSTER** DREAM: An R2O Success Story?: **G D Reeves**, M G Henderson, J Koller, Y Chen, R H Friedel, S G Zaharia, D Thomsen

SA43B Moscone South: 303 Thursday 1340h
The ITM System From Solar Maximum to Solar Minimum: Recent Progress and Outstanding Questions I

Presiding: **M G Mlynczak**, Science Directorate; **J Yee**, Applied Physics Laboratory, Johns Hopkins University

1340h **SA43B-01** Solar Forcing of the Thermosphere-Ionosphere System from Maximum to Minimum (*Invited*): **S C Solomon**, L Qian, T N Woods

1400h **SA43B-02** Seasonal Variation of Thermospheric Neutral Density from Solar Cycle 20 to Solar Cycle 23: **L Qian**, C Chu, J T Emmert, S C Solomon

1415h **SA43B-03** A Comparison of Solar EUV Irradiance Reference Spectra and Their Affect on the Earth's Thermosphere and Ionosphere: **P C Chamberlin**, T N Woods, L Qian

1430h **SA43B-04** Solar cycle dependence of medium-scale traveling ionospheric disturbances observed by GPS receivers in Japan: **A Saito**, T Tsugawa, Y Otsuka, M Yamamoto

1445h **SA43B-05** Solar cycle variation of ionosphere-thermosphere parameters: **H Luhr**, J Park, C Stolle, R Liu, C Xiong

1500h **SA43B-06** Observations of infrared radiative cooling in the thermosphere on daily to multiyear timescales from the TIMED/SABER instrument (*Invited*): **M G Mlynczak**

1520h **SA43B-07** SOLAR CYCLE EFFECTS ON THE COUPLING BETWEEN THE LOWER ATMOSPHERE AND IONOSPHERE: **E R Talaat**

SPA - Solar and Heliospheric Physics

SH43A Moscone South: 301 Thursday 1340h
Beyond Coronagraphs: Imaging of ICMs Ushers in New Era in Our Understanding of CME Heliospheric Properties II

Presiding: **N Lugaz**, Institute for Astronomy; **C J Davis**, STFC Rutherford Appleton Laboratory

1340h **SH43A-01** Comparing white-light and in-situ observations of CMEs (*Invited*): **A P Rouillard**, B Lavraud, J Davies, C Jacquey, M Lockwood

1355h **SH43A-02** Analysis of CME Trajectories using STEREO Heliospheric Imager Data: **P C Liewer**, E M De Jong, J R Hall, R A Howard, W T Thompson

1410h **SH43A-03** Reconstructing the 3-D Structure and Trajectory of ICMs: Physical and Forecasting Implications: **T A Howard**, J Tappin

1425h **SH43A-04** Geometric Triangulation of Imaging Observations to Track CMEs Continuously Out to 1 AU (*Invited*): **Y Liu**, J Davies, J G Luhmann, R P Lin, S Bale, A Vourlidis

1440h **SH43A-05** Validation of Numerical Simulations of Interplanetary CMEs Using STEREO Observations (*Invited*): **D Odstrcil**

1455h **SH41A-1634** Solar coronal mass ejection trajectories estimated from STEREO Heliospheric Imager data compared with established techniques and in situ data: **C J Davis**, J Kennedy, J Davies

1510h **SH43A-07** Speed Evolution of Fast CME/Shocks with SOHO/LASCO, Wind/WAVES, IPS and in-situ WIND data: Analysis of Kilometric Type-II Emissions (*Invited*): **A Gonzalez-Esparza**
 1525h **SH43A-08** Coronal Mass Ejections in the Declining and Minimum Phase between Solar Cycles 23 and 24: **M M Bisi**, B Jackson, J M Clover, M Tokumaru, A Buffington, P P Hick, K Fujiki

SPA - Magnetospheric Physics

SM43A Moscone South: Poster Hall Thursday 1340h
Dynamics of the Plasma Sheet I Posters

Presiding: R J Walker, UCLA

1340h **SM43A-1732 POSTER** Spatial profiles of magnetic field in the near-Earth plasma sheet during substorm growth phase: THEMIS five-point analysis: **M H Saito**, L Hau, C Hung, Y Lai, Y Chou
 1340h **SM43A-1733 POSTER** Access of the near-Earth electron plasma sheet to the inner magnetosphere seen by THEMIS: **S Kurita**, Y Miyoshi, F Tsuchiya, H Misawa, A Morioka, Y Nishimura, T Hori, Y Miyashita, T Takada, V Angelopoulos, J P McFadden, U Auster
 1340h **SM43A-1734 POSTER** Role of Diffusion in Transport of Cold Dense Plasma Near the Magnetopause Deep Into the Magnetosphere: THEMIS Observations: **T Izutsu**, H Hasegawa, M N Nishino, T Takada, M Fujimoto, V Angelopoulos, J P McFadden, U Auster, J W Bonnell
 1340h **SM43A-1735 POSTER** Tailward Flows with Northward Magnetic Field in the Earth's Magnetotail: **Y gao**, R J Walker, M G Kivelson, J M Weygand
 1340h **SM43A-1736 POSTER** Modeling the Evolution of Plasma Phase Space Density During a Period of Northward Interplanetary Magnetic Field: **W J Mata**, C Lemon, L R Lyons, C Wang
 1340h **SM43A-1737 POSTER** Determining Mean Electron Temperature Variation Along Magnetic Field Lines in the Earth's Plasma-sheet Using Multipoint Measurements From Cluster: **M R Presicci**, D Baker
 1340h **SM43A-1738 POSTER** Caveats of the Tsyganenko-Sitnov magnetic field models at distances beyond 10 R_E in the flanks: **M M Klida**, T A Fritz
 1340h **SM43A-1739 POSTER** Entropy Gradients in the Plasma Sheet: **R L Kaufmann**, W R Paterson
 1340h **SM43A-1740 POSTER** Specific Entropy During Substorms Observed With THEMIS: **M R Price**, G M Erickson
 1340h **SM43A-1741 POSTER** Timing of a Substorm Event at ~07:13UT, Jan 29, 2008: **J Liu**, V Angelopoulos, H U Frey, J P McFadden, K Glassmeier, S B Mende, C T Russell
 1340h **SM43A-1742 POSTER** Tail Flapping Followed by the Dipolarization Front During a Flow Burst Event: **K Hwang**, M L Goldstein, F Sahraoui, E Lee, G K Parks
 1340h **SM43A-1743 POSTER** THEMIS observations of current-carriers in the vicinity of sharp dipolarization fronts in the magnetotail: **X Zhang**, V Angelopoulos, A Runov, J P McFadden, D E Larson, U Auster, K Glassmeier
 1340h **SM43A-1744 POSTER** Mapping the Inflow and Exhaust Regions of a Kinking Magnetotail Reconnection Site using Data from Cluster: **L Kelly**, L Coryea, L Chen, D Connick, C Mouikis, P A Puhl-Quinn
 1340h **SM43A-1745 POSTER** An island coalescence scenario for the near-Earth current disruption in the magnetotail: **Z Ma**
 1340h **SM43A-1746 POSTER** Hall-MHD model of dipolarization fronts: **P N Guzdar**, A B Hassam, M M Swisdak, M I Sitnov

1340h **SM43A-1747 POSTER** Evaluation of Force Balance around Sharp Dipolarization Fronts within Bursty Flows: **S Li**, V Angelopoulos, A Runov, X Zhou, J P McFadden, D E Larson, J W Bonnell, U Auster, K Glassmeier
 1340h **SM43A-1748 POSTER** Relationship between the generation of the substorm-FAC and slow mode disturbances: **A Nakamizo**
 1340h **SM43A-1749 POSTER** Flow of Low-Frequency Electromagnetic Energy in the Near-Earth Plasma Sheet Associated With Substorm Onsets: **M Ivey**, G M Erickson
 1340h **SM43A-1750 POSTER** Model of electromagnetic signals of Electron phase-space Holes observed by THEMIS: **J Tao**, R E Ergun, L Andersson, J W Bonnell, A Roux, O LeContel, V Angelopoulos, J P McFadden, D E Larson, C M Cully, D L Newman, M V Goldman, K Glassmeier, W Baumjohann

SM43B Moscone South: Poster Hall Thursday 1340h
Universality in MHD Turbulence: Tools, Theory, and Observations III Posters (joint with SH, NG)

Presiding: S C Chapman, University of Warwick; N W Watkins, British Antarctic Survey

1340h **SM43B-1751 POSTER** Computer study of cross tail component of earthward fast plasma flow in the sheared magnetic field: **K Kondoh**, M Ugai
 1340h **SM43B-1752 POSTER** On the dissipation scale of broadband ELF waves in the auroral region: **E J Lund**, T T Nguyen
 1340h **SM43B-1753 POSTER** Two Types of Ion Velocity Distributions on Reconnected Field Lines: **L A Avanzo**, O L Vaisberg, G Koinash
 1340h **SM43B-1754 POSTER** Computer simulations of plasmoid evolution in the sheared magnetic field: **H Ichikawa**, M Ugai, K Kondoh
 1340h **SM43B-1755 POSTER** Turbulence and Self-Organized Criticality under finite driving- how they can look the same and how they are different: S J Rosenberg, **S C Chapman**, N W Watkins, G Rowlands
 1340h **SM43B-1756 POSTER** Applying Non-Extensive Entropy Definition to Turbulent Collisionless Plasmas - a Feasibility Study: **H Hietala**, E Kilpua, R O Vainio, H E Koskinen
 1340h **SM43B-1757 POSTER** Stochastic features of thermodynamic parameters in turbulent space plasmas: **G Consolini**
 1340h **SM43B-1758 POSTER** Gyrokinetic Particle Simulation of Kinetic Alfvén Wave: **X Cheng**, Z Lin
 1340h **SM43B-1759 POSTER** Relativistic Two-fluid Simulations of Guide Field Magnetic Reconnection: **S Zenitani**, M Hesse, A Klimas
 1340h **SM43B-1760 POSTER** Experimental tests of the von Karman self-preservation hypothesis: decay of an electron plasma to a near-maximum entropy state: **D Rodgers**, S Servidio, W H Matthaeus, D Montgomery, T Mitchell, T Aziz
 1340h **SM43B-1761 POSTER** 3d Flux Rope Dynamics Including Reconnection, Bouncing, And Guide Field Compression: **T Intrator**, X Sun, G Lapenta, L Dorf, I Furno
 1340h **SM43B-1762 POSTER** Inhomogeneity and anisotropy effects in magnetohydrodynamic turbulence: **N YOKOI**
 1340h **SM43B-1763 POSTER** Model of Electron Pressure Anisotropy in the Process of Magnetic Reconnection: **A V Divin**, G Lapenta, S Markidis
 1340h **SM43B-1764 POSTER** High-resolution MHD simulation of magnetic reconnection: **T Miyoshi**, K Kusano
 1340h **SM43B-1765 POSTER** Laboratory generated magnetized plasma bubbles as a means to understanding coronal mass ejections: **A G Lynn**, C Watts, W B Manchester

1340h **SM43B-1766** POSTER Modelling of the Turbulent Plasma Sheet for Different Geomagnetic Conditions: **M V Stepanova**, E E Antonova

1340h **SM43B-1767** POSTER Study of the turbulent transport processes in the plasma sheet using the THEMIS satellite data: V A Pinto, **M V Stepanova**, E E Antonova

1340h **SM43B-1768** POSTER Searching for Secondary Island Formation in Numerical Simulations of Magnetic Reconnection in Resistive MHD: **S Ragunathan**, C Ng

1340h **SM43B-1769** POSTER Shell to Shell Energy Fluxes versus Force-free Magnetic Field Configurations in Coronal Heating Field-lines Tangling Models: **A F Rappazzo**, M Velli

1340h **SM43B-1770** POSTER Theoretical and Simulation Study of Magnetic Reconnection in the MHD and the Hall-MHD Plasma: **H Yu**, L Lyu

SM43C Moscone South: 305 Thursday 1340h
Magnetospheric Plasma Waves: Generation, Propagation, and Interaction With Energetic Particles I

Presiding: **J Bortnik**, UCLA; **B Tsurutani**, Jet Propulsion Lab

1340h **SM43C-01** The Role of Plasma Waves In Planetary Magnetospheres (*Invited*): **D A Gurnett**

1358h **SM43C-02** MINIS Observations of ULF Waves Before the Geomagnetic Storm of 21 January 2005: **E A Bering**, R H Holzworth, M Kokorowski, J G Sample, D M Smith, M D Comess

1413h **SM43C-03** Modulation of Electromagnetic Ion Cyclotron Waves by Mixed Mode Pc5 ULF Waves: Generation and Propagation Mechanisms: **B J Fraser**, R Grew, H J Singer, M F Thomsen, R R Anderson

1428h **SM43C-04** Propagation Characteristics of Pc 1-2 Waves at High Latitude Ionospheric Waveguide: **H Kim**, M A Young, **M Lessard**, M J Engebretson

1443h **SM43C-05** Pc-5 wave power in the plasmasphere and trough: CRRES observations: **M Hartinger**, M Moldwin, V Angelopoulos, K Takahashi, H J Singer, R R Anderson

1458h **SM43C-06** A statistical study of EMIC wave-associated He⁺ energization in the outer magnetosphere: Cluster/CODIF observations: **J Zhang**, L M Kistler, C G Mouikis, B Klecker, J Sauvaud, M W Dunlop

1512h **SM53A-1370** Diffusion by Coherent Wave-Particle Interactions and Quasilinear Theory: **J M Albert**

1526h **SM43C-08** The role of Shabansky orbits in the generation of compression-related EMIC waves: **J P McCollough**, S R Elkington, D Baker

Study of Earth's Deep Interior (DI)

DI43A Moscone West: 2003 Thursday 1340h
Structure and Dynamics of the Earth's Upper Mantle and Transition Zone: The Role of Water II (*joint with MR, S, T, V*)

Presiding: **S Thomas**, Northwestern University; **A Lenardic**; **S Karato**, Yale University; **T Song**, IFREE, JAMSTEC

1340h **DI43A-01** Spatial variability of mantle transition zone water content: evidence from global electromagnetic induction data (*Invited*): **A Kelbert**, G D Egbert, A Schultz

1355h **DI43A-02** Metastable phase transformations and water contents in cold subducting slabs (*Invited*): **T Kubo**, S Yoshioka, S Kaneshima

1410h **DI43A-03** Intraplate volcanism and mantle dynamics in East Asia: Big mantle wedge (BMW) model (*Invited*): **D Zhao**

1425h **DI43A-04** Effects of hydration on the velocity structure of the Earth's upper mantle and transition zone (*Invited*): **Z Mao**, S D Jacobsen, T Duffy

1440h **DI43A-05** Seismic evidence for a wide-spread low velocity layer atop the 410-km discontinuity: **B Tauzin**, E Debayle, G Wittlinger

1455h **DI43A-06** Mechanisms of deep slab hydration: numerical modeling and implications: **M Faccenda**, T Gerya, L Burlini

1510h **DI43A-07** Effects of Hydration on the Structure of Wadsleyite: **J R Smyth**, Y Ye, D J Frost

1525h **DI43A-08** Control of the Water Fugacity Under High Pressures and Temperatures: Applications to the Water Solubility in Olivine: **K Otsuka**, S Karato

Mineral and Rock Physics

MR43A Moscone South: Poster Hall Thursday 1340h
Masters of Terrestrial Igneous Activity: Magmas, Melts, and Fluids II Posters (*joint with DI, T, V*)

Presiding: **S Keshav**, Bayerisches Geoinstitut

1340h **MR43A-1860** POSTER Spectral Methodology for the Rapid Discrimination of Kimberlite Indicator Minerals using Reflected Light in the Visible Spectral Region: **M J McMahon**, P Budkewitsch, F Fueten

1340h **MR43A-1861** POSTER Partial Molar Volume of CO₂ in Peridotitic Melt at High Pressure and Applications to Melt Mobility in the Mantle: **M S Duncan**, C B Agee

1340h **MR43A-1862** POSTER A New Approach to the Equation of State of Silicate Melts: An Application of a Hard-Sphere Model to a Multi-Component System: **Z Jing**, S Karato

1340h **MR43A-1863** POSTER Absence of Non-Bridging Oxygen on the Metaluminous Join in Potassium Aluminosilicate Glasses: **L M Thompson**, J F Stebbins

1340h **MR43A-1864** POSTER Quench rate and temperature effects on boron coordination in aluminoborosilicate melts: **J Wu**, J F Stebbins

1340h **MR43A-1865** POSTER Structural and density relaxation in NaAlSi₃O₈ glass at high pressure and temperature: **S J Gaudio**, C E Lesher, S Sen

1340h **MR43A-1866** POSTER Emplacement sequence in the Jinchuan sulfide ore-bearing ultramafic intrusion, western China: **S Su**, Z Tang

1340h **MR43A-1867** POSTER Electrical conductivity of albite melts at high pressures: **H Ni**, H Kepler

1340h **MR43A-1868** POSTER Quantitative analyses of hydroxyls ions environment in pyroxenes from Kilbourne Hole peridotites (New Mexico): An FTIR and NMR study: **K Bégaudeau**, Y Morizet, M Paris, P Florian, F Lévêque, J Mercier

1340h **MR43A-1869** POSTER Structural stability and sound velocity of Kilauea basalt glass at high pressure: **B Chen**, A E Gleason, S M Clark, R Jeanloz

1340h **MR43A-1870** POSTER High-Pressure Falling Sphere Viscosimetry of Basaltic and Dacitic Rocks in Conjunction with Synchrotron Radiation: **H J Mueller**, N Stronck, R Naumann, C Lathe, M Spiwek, M Wehber, F R Schilling, J Lauterjung

1340h **MR43A-1871** POSTER Non-Potassic Melts In CMAS-CO₂-H₂O-K₂O Model Peridotite: I Buisman, **M J Walter**, S Keshav

MR43B Moscone South: Poster Hall Thursday 1340h
Chemistry and Physics of Planetary Cores II Posters (*joint with DI, V*)

Presiding: A J Campbell, University of Maryland; M J Walter, University of Bristol

1340h **MR43B-1872 POSTER** Study of Fe-S-Si immiscible system at high pressure and high temperature: implications for planetary cores: **G Morard**, C Sanloup, T Katsura, B B Guillot, G Fiquet, M Mezouar

1340h **MR43B-1873 POSTER** Phase relations and density of iron at the Earth's core conditions: **T Komabayashi**, Y Fei

1340h **MR43B-1874 POSTER** Fe₃C up to core conditions: **A V Calderon**, R Caracas, A H Romero

1340h **MR43B-1875 POSTER** Phase relations of iron up to 280 GPa and 3700 K: a diamond-anvil cell study: **S Tateno**, K Hirose, N Sata, Y Ohishi

1340h **MR43B-1876 POSTER** Phase stability of S-bearing Fe-Ni alloy and (Fe,Ni)₃S at the core pressure conditions: **T Sakai**, H G Terasaki, E Ohtani, S Kamada, N Hirao, N Sata, Y Ohishi

1340h **MR43B-1877 POSTER** 2D Two-fluid Simulations of Core Formation in 10km Planetesimals: **A C Muirhead**, G A Glatzmaier

1340h **MR43B-1878 POSTER** Sulfur Contents of Planetary and Protoplanetary Cores: **A J Campbell**

MR43C Moscone South: Poster Hall Thursday 1340h
The Core-Mantle Boundary II Posters (*joint with S, DI, T, V*)

Presiding: R Caracas, Ecole Normale Supérieure

1340h **MR43C-1879 POSTER** Novel Pressure-Induced Magnetic Transition in Magnetite (Fe₃O₄): **Y Ding**, D Haskel, S Ovchinnikov, Y Tseng, J Lang, H Mao

1340h **MR43C-1880 POSTER** Deformation in D" Beneath North America From Anisotropy: A J Nowacki, J Wookey, J M Kendall

1340h **MR43C-1881 POSTER** Metallic B8 phase of FeO at high pressure and temperature: **K Ohta**, K Hirose, K Shimizu, N Sata, Y Ohishi

1340h **MR43C-1882 POSTER** Solid / Liquid Partitioning of Iron in (Mg_{0.9}Fe_{0.1})₂SiO₄ Bulk Composition under Lower Mantle Conditions: **R Nomura**, K Hirose, S Tateno

1340h **MR43C-1883 POSTER** Nuclear Resonant Scattering Studies of Iron-rich (Mg,Fe)O at High Pressures: Insights into the Core-Mantle Boundary Region: **J K Wicks**, J M Jackson, W Sturhahn

1340h **MR43C-1884 POSTER** Lattice preferred orientation in MnGeO₃ post-perovskite at high-temperature: **Y Nagaya**, K Hirose, N Sata, Y Ohishi

1340h **MR43C-1885 POSTER** New High-Pressure Phase in Fe₂O₃: **T Tsuchiya**, N Nishiyama, H Yusa, J Tsuchiya, K Funakoshi

1340h **MR43C-1886 POSTER** Fine-Scale Volumetric Velocity Heterogeneities and D" Discontinuity Topography Constrained by Hi-net Tiltmeter Data: **N Takeuchi**, K Obara

1340h **MR43C-1887 POSTER** High-resolution tomography of CMB and lowermost mantle coupled by geodynamics: **G Soldati**, L Boschi, A M Forte

1340h **MR43C-1888 POSTER** Temperature effect on post-perovskite textures development: Implications for seismic anisotropy of the D" layer: **H Couvy**, J Parise, A Tommasi, J Chen

1340h **MR43C-1889 POSTER** The high pressure and temperature equation of state of wustite in the lower mantle: **M M Armentrout**, A Kavner

Seismology

S43A Moscone South: Poster Hall Thursday 1340h
Earthquake Strong Ground Motions II Posters (*joint with NH, NS*)

Presiding: M Kimura, DPRI, Kyoto Univ.; J Schmedes, UC Santa Barbara

1340h **S43A-1953 POSTER** Limitations of the Microtremor Method: A Study in the Los Angeles Basin, California: D Bose, **L W Wolf**

1340h **S43A-1954 POSTER** Site Response Studies In Mumbai Using (H/V) Nakamura Technique: **G S Surve**, G Mohan

1340h **S43A-1955 POSTER** Volumetric Strain Associated with S-waves: **Y Robiou du Pont**, Z Geballe, M Rudolph, D S Dreger, C Wang

1340h **S43A-1956 POSTER** Novel FDTD Approach for Seismic Response of Three-dimensionally Heterogeneous Model to an Oblique Plane-wave Incidence: **H Takenaka**, T Okamoto, T Nakamura

1340h **S43A-1957 POSTER** Amplification Characteristics during the Strong and Weak Ground Motions at the Iwth25 Station, Northeast Japan: **M Kimura**, K Asano, T Iwata

1340h **S43A-1958 POSTER** Ambient Noise Green's Function Simulation of Long-Period Ground Motions for Reverse Faulting: **H Miyake**, G C Beroza

1340h **S43A-1959 POSTER** Next Generation Attenuation of Ground Motions in Ilan, Taiwan: Establishment and Analysis of Attenuation Relations for Peak Ground Acceleration (PGA) and Peak Ground Velocity (PGV): **K Liu**

1340h **S43A-1960 POSTER** Preliminary Site Characterization in Korea: **S Kang**, C You, B Suk, K Kim

1340h **S43A-1961 POSTER** Characterization of Italian strong-motion recording sites for a new soil classification: F Pacor, L Luzi, D Bindi, S Parolai, M Picozzi, **M Pilz**, M Mucciarelli, M Gallipoli, R Paolucci

1340h **S43A-1962 POSTER** Empirical Estimation Technique for Non-stationary Site Effects with Revised Meyer-Yamada Wavelet Analysis: **T Akazawa**, K Irikura

1340h **S43A-1963 POSTER** Earthquake ground motion prediction for real sedimentary basins: which numerical schemes are applicable?: **P Moczo**, J Kristek, M Galis, P Pazak

1340h **S43A-1964 POSTER** Nonlinear Site Response Due to Large Ground Acceleration: Observation and Computer Simulation: **S Noguchi**, T Furumura, T Sasatani

1340h **S43A-1965 POSTER** Building Quakes: Detection of Weld Fractures in Buildings using High-Frequency Seismic Techniques: **V Heckman**, M D Kohler, T H Heaton

1340h **S43A-1966 POSTER** Trampoline Effect: Observations and Modeling: **R Guyer**, C S Larmat, T J Ulrich

1340h **S43A-1967 POSTER** Dependency of Supershear Transition and Ground Motion on the Autocorrelation of Initial Stress: **J Schmedes**, R J Archuleta, D Lavallee

1340h **S43A-1968 POSTER** Assessing the capability of numerical methods to predict earthquake ground motion: the Euroseistest verification and validation project: E O Chaljub, **P Bard**, S Tsuno, J Kristek, P Moczo, P Franek, F Hollender, M Manakou, D Raptakis, K Pitilakis

1340h **S43A-1969 POSTER** Ground-motion simulations of the L'Aquila earthquake Mw6.3 (April 6th, 2009) using aftershocks as empirical Green's functions: **L Honore**, F Courboulex

1340h **S43A-1970 POSTER** Modeling of local 3D effects of the April 6th 2009 l'Aquila (Italy) event in the City of Rome: **A Caserta**, I Oprsal, A Rovelli, F Marra, A Govoni, S Vinci

1340h **S43A-1971 POSTER** HYBRID STRONG GROUND MOTION SIMULATION OF EARTHQUAKES ASSOCIATED WITH THE NORTH ANATOLIAN FAULT ZONE: **B Ugurhan**, A Askan

1340h **S43A-1972 POSTER** Ground Motion Simulation for the 2008 Wenchuan, China, Earthquake Using the Stochastic Finite-Fault Method: **H Ghasemi**, Y Fukushima, K Koketsu, H Miyake, Z Wang

1340h **S43A-1973 POSTER** A strong motion investigation of the 2008 Ms 8 Wenchuan earthquake: **W Zhang**, G Shao, Q Liu, C Ji, R J Archuleta

1340h **S43A-1974 POSTER** The Propagation Characteristics of Strong Ground-Motion on the Footwall of Chelungpu Fault During the 1999 Chi-Chi, Taiwan Earthquake: **Y Huang**, B Huang, S Wang

1340h **S43A-1975 POSTER** Dynamic fault rupture model of the 2008 Iwate-Miyagi Nairiku earthquake, Japan; Role of rupture velocity changes on extreme ground motions: **N E Pulido Hernandez**, L A Dalguer Gudiel, S Aoi

1340h **S43A-1976 POSTER** Earthquake Ground Motion for the Salt Lake City Segment of the Wasatch Fault: **Q Liu**, R J Archuleta

1340h **S43A-1977 POSTER** Chino Hills — A highly computationally efficient 2 Hz validation exercise: **R Taborda**, H Karaoglu, J Bielak, J Urbanic, J Lopez, L Ramirez Guzman

1340h **S43A-1978 POSTER** Rupture directivity and local site effects: the M7.3 Honduras earthquake of May 23, 2009: **D Shulman**, W D Mooney

S43B Moscone South: Poster Hall Thursday 1340h
Topography Effects in Ground Motion Predictions: From Numerical Modeling to Engineering Design II Posters (*joint with NH, NS*)

Presiding: **D Assimaki**, Georgia Institute of Technology; **A K Yong**, US Geological Survey

1340h **S43B-1979 POSTER** Single Site Strong-Motion Attenuation Relationship: **C SUNG**, C Lee

1340h **S43B-1980 POSTER** SORD as a Computational Platform for Earthquake Simulation, Source Imaging, and Full 3D Tomography: **F Wang**, G P Ely, T H Jordan

1340h **S43B-1981 POSTER** Finite-difference Simulation of Strong Motion From a Sub-oceanic Earthquake: Modeling Effects of Land and Ocean-bottom Topographies: T Nakamura, **H Takenaka**, T Okamoto, Y Kaneda

1340h **S43B-1982 POSTER** Spectral-element simulations of the Mw 7.9 Wenchuan earthquake: **H Zhu**, T Nissen-Meyer, C Morency, D B Peter, Y Luo, J Tromp

1340h **S43B-1983 POSTER** Hough Transform Used to Detect Body to Surface Wave Converted phases from Bathymetric Topography Associated with a Trench: **L A Dominguez Ramirez**, P M Davis

S43C Moscone West: 2007 Thursday 1340h
Seismicity, Seismotectonics, and Hazard I (*joint with T, NH*)

Presiding: **B Allmann**, ETH Zurich; **M T Page**, USGS Pasadena

1340h **S43C-01** Scientific Challenges in Developing the Next Uniform California Earthquake Rupture Forecast (UCERF3): **E H Field**

1355h **S43C-02** Preliminary Results of the Time-Dependent Earthquake Forecast Model MARFSTA applied to Mainland Japan: **C W Smyth**, J J Mori

1410h **S43C-03** Are Spontaneous Earthquakes Stationary In California?: **Q Wang**, D D Jackson, J Zhuang

1425h **S43C-04** Mainshock-Aftershock Sequences v. Swarms: A Systematic Study Based on Energy: **B C Christensen**, S R McNutt, L A Burris

1440h **S43C-05** An Entropic Explanation for Gutenberg-Richter Scaling: **M T Page**, E H Field

1455h **S43C-06** ML versus Mw, earthquake scaling, and source parameter variations in Switzerland: **B Allmann**, B Edwards, F Bethmann, N Deichmann, D Giardini

1510h **S43C-07** Scaled Seismic Energy in Japan and the US by Empirical Green's Function Analysis: **A Baltay**, G Prieto, S Ide, G C Beroza

1525h **S43C-08** APPARENT STRESS SCALING AND DYNAMIC FRICTION OF A SET OF JAPANESE SEISMIC SEQUENCES: **L Malagnini**, K M Mayeda, E Boschi

S43D Moscone West: 2005 Thursday 1340h
Structure of the Crust and Lithosphere II (*joint with T, V*)

Presiding: **C Gans**, University of Arizona; **S A Burdick**, MIT

1340h **S43D-01** Seismic Imaging Results From a Decade of Rolling Array Deployments in Southeast Australia: **N Rawlinson**, H Tkalcic, P Arroucau

1355h **S43D-02** Shear wave velocity structure of the upper mantle beneath southern Africa from Rayleigh wave tomography: E Kgaswane, **A N Adams**, A Nyblade

1410h **S43D-03** Imaging The Flat Slab Beneath The Sierras Pampeanas, Argentina, Using Receiver Function Analysis: Evidence For Overthickened Subducted Oceanic Crust: **C Gans**, S L Beck, G Zandt, H J Gilbert, P M Alvarado, L Linkimer, R C Porter

1425h **S43D-04** RAYLEIGH WAVE DISPERSION AND TOMOGRAPHY OF THE MEXICO SLAB REGION: **I Stubailo**, C Beghein, P M Davis

1440h **S43D-05** Estimation of Three-dimensional Boundary Shape of the Osaka Sedimentary Basin, Japan, by Waveform Inversion: **A Iwaki**, T Iwata

1455h **S43D-06** 3-D Velocity Structure in and around the Source Area of the 2004 Mid Niigata, Japan, Earthquake: Improvement using Seismic Waveform Modeling: **R Tajima**, K Koketsu, F C Tajima, K Hikima, H Miyake

1510h **S43D-07** Pre-Stack Depth-Migrated Reflection Images of the Central California Coast Ranges: Industry Seismic Reflection Profile "SJ-6": **R D Catchings**, M Goldman, G S Fuis, M J Rymer

1525h **S43D-08** Reflection tomography with teleseismic free-surface multiples: **S A Burdick**, M V De Hoop, R D van der Hilst

Tectonophysics

T43A Moscone South: Poster Hall Thursday 1340h
Brittle Deformation of Solids and Granular Materials II Posters (*joint with MR, NG, S*)

Presiding: **T A Dewers**, Sandia National Laboratories; **K Issen**, Clarkson University

1340h **T43A-2038 POSTER** Stick-slip instabilities and shear strain localization in granular materials: **E G Daub**, J M Carlson

1340h **T43A-2039 POSTER** The geometry of slip surfaces in the hanging-wall of the Sierra Madre fault, La-Canada, California: **O Dor**, C G Sammis, Y Ben-Zion

1340h **T43A-2040** POSTER Dynamic rupture on a frictional interface with off-fault damage: **S Xu**, J P Ampuero, Y Ben-Zion, V Lyakhovsky

1340h **T43A-2041** POSTER Correlation between slip surface roughness and the internal structures of active faults: **T Candela**, F Renard, E E Brodsky, M P Bouchon

1340h **T43A-2042** POSTER Wave propagation from a line source embedded in a fault zone containing densely distributed parallel cracks: **Y Murai**

1340h **T43A-2043** POSTER Been Living in the Past? Hysteresis in the Equation of State of Granular Media: **J A Ten Cate**, H Kim, R Guyer

1340h **T43A-2044** POSTER On the Mechanical Behavior of Curved Faults: **E Ritz**, D D Pollard

1340h **T43A-2045** POSTER The development of fracture sets in folded sedimentary rocks at Raplee Ridge and Comb Ridge, UT: **S Seyum**, I Mynatt, D D Pollard

1340h **T43A-2046** POSTER A two-scale model for frictional cracks in 3D fractured brittle media with the extended finite element method: **F Liu**, R I Borja

1340h **T43A-2047** POSTER The role of crack tip plasticity on the propagation of fracture in rocks and other brittle solids: **R I Borja**, H Rahmani, F Liu, A Aydin

1340h **T43A-2048** POSTER Intense fracturing and fracture sealing induced by mineral growth in porous rocks: the force of crystallization: **F Renard**, C Noiriell, M Doan, J Gratier

1340h **T43A-2049** POSTER True Tri-axial testing of Castlegate Sandstone: **M D Ingraham**, K Issen, D Holcomb

1340h **T43A-2050** POSTER Strain localization in porous sandstone associated with the Northern Harz Mountains Border Fault, Germany: **C Klimczak**, R A Schultz

1340h **T43A-2051** POSTER Tectonic Controls on the Formation of Compaction Bands in Sandstone: **R A Schultz**

1340h **T43A-2052** POSTER Micromechanical modeling of cataclastic pore collapse in limestones: **W Zhu**, P Baud, T Wong

1340h **T43A-2053** POSTER An Analytical Laboratory and Numerical Modeling Investigation of Pressure Solution Seam Growth and Evolution: **X Zhou**, F A Nenna, A Aydin

1340h **T43A-2054** POSTER Strain Localization Conditions for Porous Sandstone under True Triaxial Stress States: **K A Issen**

1340h **T43A-2055** POSTER Elastic-Plastic Coupling and Localization of Porous Sandstone Under Axisymmetric Compression: **T A Dewers**, K A Issen, D Holcomb

1340h **T43A-2056** POSTER Brittle faulting and cataclastic flow in Tavel limestone: V Vajdova, **W Zhu**, T Chen, T Wong

1340h **T43A-2057** POSTER Shape Preferred Orientation of Porphyroclasts in the Active Gouge Zones of the San Andreas Fault at SAFOD: **D W Sills**, J S Chester, F M Chester

T43B Moscone South: Poster Hall Thursday 1340h
Cenozoic Mountain Building in Asia and South America: Impact on Surface Processes, Erosion, Climate Change, and Deep Earth Processes III Posters (joint with H, PP, S, EP, V, DI)

Presiding: **J Nie**, UT Austin; **M H Taylor**, University of Kansas;
B K Horton, UT Austin

1340h **T43B-2058** POSTER A Late Quaternary shortening rate for the frontal thrust of the Andean Precordillera north of Mendoza: **S Schmidt**, J Kuhlmann, R Hetzel, F Mingorance, V A Ramos

1340h **T43B-2059** POSTER IMAGE OF THE SLAB AND MOHO IN SOUTHERN PERU FROM RECEIVER FUNCTIONS: **K E Phillips**, R W Clayton, S Skinner, P M Davis, R Guy, I Stubbailo, E J Foote, V Aguilar, H Tavera, L Audin

1340h **T43B-2060** POSTER Neotectonic Basin and Landscape Evolution in the Eastern Cordillera of NW Argentina – Humahuaca Basin (23-24° S): **H Pingel**, M R Strecker, G E Hilley, R Alonso, A K Schmitt

1340h **T43B-2061** POSTER Magnetostratigraphy of Neogene sediments from the Suerkuli Basin and evolution of the Altyn Tagh Fault: **H Chang**, J Nie, X Fang, Y Song, Z An

1340h **T43B-2062** POSTER A slow-slipping active fold and thrust system at the SE corner of the Atacama basin, northern Chile: **Y Lin**, J H Shyu, G González

1340h **T43B-2063** POSTER Influence of Glacial Oscillations on Deformation in the Himalayas of Central Nepal: **V Godard**, D W Burbank

1340h **T43B-2064** POSTER Spatial pattern of modern-day erosion rate across the Longmen Shan margin of the Tibetan plateau by river sediment load data: L Wen, **J Liu**, P Chen, L Zeng

1340h **T43B-2065** POSTER Mechanisms for landscape evolution: Correlations between topography, lithology, erosion, and rock uplift in the central Nepalese Himalaya: **L S Walsh**, A J Martin, T P Ojha, T Fedenczuk

1340h **T43B-2066** POSTER Miocene Exhumation of the Northern and Southern Qilian Shan, N. China; results from Apatite U-Th/He thermochronology: **S A Johnstone**, J K Hourigan, G Zhuang, B D Ritts, B J Darby

1340h **T43B-2067** POSTER Reconstructing erosion distribution during the early Holocene Indian Summer Monsoon in the NW Himalaya: **M Michalak**, J K Hourigan, B Bookhagen

1340h **T43B-2068** WITHDRAWN

1340h **T43B-2069** POSTER Comparison of tectonic uplift rates with fluvial incision rates at intermediate timescales within active folds: example from the Shibumi River, central Japan: **N Marushima**, T Ishiyama

1340h **T43B-2070** POSTER Late Cenozoic Deformation in the Western Tarim Basin, NW China: **J A Thompson**, D W Burbank, J Chen, T Li

1340h **T43B-2071** POSTER Pliocene onset of widespread normal faulting in the southern Puna Plateau, southern central Andes, NW Argentina: **M C Montero Lopez**, F D Hongn, R Marrett, R Seggiaro, M R Strecker

1340h **T43B-2072** POSTER Coupled U-Pb Dating and Hf Isotopic Analysis of Detrital Zircons from Modern Sand of the Yalu River System (Yarlung Tsangpo) in Southern Tibet: Implications for Himalayan Provenance Analysis and Drainage Reconstruction: **J Zhang**, A Yin, F Wu, W Liu, J Dai

1340h **T43B-2073** POSTER Geologic Mapping and U-Pb Zircon Ages of Early Paleozoic Plutonic Rocks in the Yadong and Kangmar Areas, Southern Tibet: **W Liu**

1340h **T43B-2074** POSTER Identifying Blind Thrust Anticlines in the Subsurface using Drainage Patterns: Andean Foreland of Central Argentina: **P A Enderlin**, L M Schoenbohm, B A Brooks, C Costa

1340h **T43B-2075** POSTER Carbonate clumped isotope paleothermometry and stable isotope results from the Eocene Fenghuo Shan Group, Hoh Xil Basin, Central Tibet: **K E Snell**, P C Lippert, J M Eiler

1340h **T43B-2076** POSTER Morpho-Sedimentary Characterization of Deformation Front Propagation: the Example of the Neuquén Andes (Argentina): **C Bonnel**, G Messenger, B Nivihre, D Dhont, P LACAN, Y Hervouet, J Xavier

1340h **T43B-2077 POSTER** Plio-Quaternary compressive strain regime in the Southern Neuquen Basin (37°30'-39°S, Argentina): **B B Nivière**, G Messenger, J Martinod, P Lacan

1340h **T43B-2078 POSTER** Linkages of Erosion, Tectonics, and Climate in a Glacial Setting: Lessons Learned in Alaska's St. Elias Orogen: **J A Spotila**, A L Berger

1340h **T43B-2079 POSTER** Paleosol Proxies for Low Elevation Paleoclimate East of the Andes, Northwestern Argentina: **J J Rosario**, T E Jordan, C N Garzzone, P Higgins, R Hernandez, J Hernandez

1340h **T43B-2080 POSTER** A zircon (U-Th)/He exhumation study in the lower Sutlej River valley; Northwestern Himalaya: **T Boyes**, M Michalak, J K Hourigan

1340h **T43B-2081 POSTER** The Structural and Tectonic Evolution of the Arizaro Basin of the Puna Plateau in NW Argentina: **J Boyd**, B Carrapa, P G DeCelles, J C McNabb, L M Schoenbohm, B K Horton

1340h **T43B-2082 POSTER** Exhumation history of the Northern Andes from the Cenozoic syn-tectonic sedimentary fill of the Middle Magdalena Valley Basin, Colombia: **C J Moreno**, V M Caballero, B K Horton, A Mora

1340h **T43B-2083 POSTER** Tracking evolution of Andean ranges bounding the Middle Magdalena Valley basin, Colombia: **J Nie**, B K Horton, A Mora, J Saylor, T B Housh, J Rubiano, N Naranjo

1340h **T43B-2084 POSTER** Tracing long term tectonic evolution of accretionary orogens by U-Pb zircon geochronology: Proterozoic to Jurassic tectonics of the Santander Massif, northern Colombia: **V A Valencia**, A Cardona, G E Gehrels, J Ruiz, M Ibañez

1340h **T43B-2085 POSTER** A Geodynamic Model of Growth and Expansion of the Central Andes: **Y Yang**, M Liu, G Luo

1340h **T43B-2086 POSTER** Stratigraphy and Isopachs in north part of Western Taiwan Foreland Basin: Using seismic reflection profiles: **J Chang**, H Yu

1340h **T43B-2087 POSTER** Atmospheric Moisture Sources, Snowline Elevations, and Glacial Erosion Potential Across High Asia: **D Scherler**, B Bookhagen, M R Strecker

1340h **T43B-2088 POSTER** Late Cretaceous-Tertiary Petrotectonic Evolution of the Gyeongsang Basin, SE Korea: **B Hwang**, J Kim, J YOON, W G Ernst

1340h **T43B-2089 POSTER** Tectonics, climate and mountain building in the forearc of southern Peru recorded in the 10Be chronology of low-relief surface abandonment: **S R Hall**, D Farber, L Audin, R C Finkel

1340h **T43B-2090 POSTER** CONSTRAINTS ON EXHUMATION AND SEDIMENTS PROVENANCE DURING PALEOGENE IN THE NORTHERN PYRENEES (FRANCE) USING DETRITAL AFT, ZHe AND Z(U/Pb) THERMOCHRONOLOGY: **P Filleaudeau**, F Mouthereau, M Fellin, R Pik, O Lacombe

1340h **T43B-2091 POSTER** CENOZOIC EXHUMATION OF THE ANTIOQUEÑO PLATEAU, NORTHERN ANDES, COLOMBIA, FROM APATITE LOW-TEMPERATURE THERMOCHRONOLOGY: **S A Restrepo-Moreno**, D A Foster, P B O'Sullivan, R Donelick, D F Stockli

1340h **T43B-2092 POSTER** Gravitational gliding in continental domains - Insights from field work (Neuquén Basin, Argentina) and numerical modeling: **G Messenger**, B Nivihre, R Hassani

1340h **T43B-2093 POSTER** Constraints on the thermo-kinematic evolution of the Central Nepal Himalaya from modeling detrital thermochronology data: **C Perry**, P Van Der Beek, J Braun, X Robert

1340h **T43B-2094 POSTER** Superimposed unconformities of tectonostratigraphy in distal part of foreland basin, SW Taiwan: **Y Chen**, K Yang, J Wu, W Huang

1340h **T43B-2095 POSTER** Climate and Orography in the Central Andes in the IPCC-AR4 coupled climate models: **P J Goodman**, J L Russell

T43C Moscone South: Poster Hall Thursday 1340h
From East to West: New Views on the Geology and Tectonics of the Himalayan-Tibetan Orogen III Posters (joint with G, PP, S, EP, V)

Presiding: **C J Warren**, The Open University; **J M Cottle**, University of California Santa Barbara; **A C Robinson**, University of Houston

1340h **T43C-2096 POSTER** Tethys and the evolution in Afghanistan: tectonics and mineral resources: **N Okaya**, C T Onishi, W D Mooney

1340h **T43C-2097 POSTER** Trace element geochemistry and tectonic implications of the volcanic rocks from the Bela ophiolite, western Pakistan: **Y Xiong**, S D Khan, J F Casey, K Mahmood, Y Gao

1340h **T43C-2098 POSTER** Exhumation Depths of the Lower Crustal Domes of the Pamir: **J L McGraw**, B R Hacker, L Ratschbacher

1340h **T43C-2099 POSTER** Tectono-thermal evolution of the Western Pamir Mountains, using 40Ar/39Ar thermochronology on modern river sands: **C E Lukens**, B Carrapa, L M Schoenbohm, B S Singer, B Jicha

1340h **T43C-2100 POSTER** Structural and Temporal Evolution of the Chinese Pamir Constrained Along two Orogen Perpendicular Transects: **E R Sobel**, L Schoenbohm, J Chen, R Thiede, D F Stockli, M Sudo

1340h **T43C-2101 POSTER** Syntectonic Extension and Domes Development during NE-chinese Pamir - Formation, decreasing during the Plio-Pleistocene?: **R C Thiede**, E R Sobel, L M Schoenbohm, J Chen, T F Schildgen

1340h **T43C-2102 POSTER** A temporary seismological network across the Pamir and Tien Shan mountain ranges: **B Schurr**, X Yuan, J Mechie, C Sippl, F Schneider, V Minaev, U Abdybachaev

1340h **T43C-2103 POSTER** Lithosphere Heterogeneity beneath Tien Shan from Petrology and Electrical Conductivity of Xenoliths: **N S Bagdassarov**, V Batalev, V Egorova

1340h **T43C-2104 POSTER** Studies on in-situ stress measurement near fault in Wulumuqi city: **H Li**, F Xie

1340h **T43C-2105 POSTER** Mesozoic to Cenozoic Tectonics of Northern Qaidam Basin, Northern Tibetan Plateau, Constrained by Apatite (U-Th)/He Thermochronology and Basin Analysis: **G Zhuang**, J K Hourigan, B D Ritts, S A Johnstone

1340h **T43C-2106 POSTER** Dissipation of fast strike-slip faulting within and beyond northeastern Tibet: **A R Duvall**, M K Clark

1340h **T43C-2107 POSTER** Regional Seismotectonics in the Tibetan Plateau: **Z Zhao**, J Xu, Z Zhao

1340h **T43C-2108 POSTER** Pn tomography beneath the central Tibet from Hi-CLIMB linear seismic array: **Y Hsu**, B Huang

1340h **T43C-2109 POSTER** Crustal thickness variation across the Bangong-Nujiang Suture in central Tibet: **Y Zhou**, L Zhu

1340h **T43C-2110 POSTER** Structural evolution of the Thakkhola graben and implications on the architecture of the central Himalaya: **T Baltz**, M A Murphy

1340h **T43C-2111 POSTER** Earthquake activity along the Pumqu-Xianza rift (Tibet) and its tectonic implications: **P W Monigle**, J Nabelek, J Braunmiller, S Carpenter, J R Baur

1340h **T43C-2112 POSTER** A field test of the rolling hinge model: Example from the Lunggar extensional system: **K Sundell**, M H Taylor, P A Kapp, D F Stockli, R Styron

1340h **T43C-2113** POSTER A New Quaternary Strand of the Karakoram Fault System, Ladakh Himalayas: **W Bohon**, K Hodges, R Arrowsmith, A Tripathy

1340h **T43C-2114** POSTER Was the transition from gravity driven channel flow to brittle exhumation contemporaneous along the Himalaya?: **A Carter**, M Streule, J M Cottle

1340h **T43C-2115** POSTER Structural and lithological discoveries along the strike of the Himalaya change paradigms and possibilities: **A G Webb**, A Yin

1340h **T43C-2116** POSTER Tibet- Himalayan Analogs of Pan-African Shear Zones : Implications for Neoproterozoic Tectonics: **K Attoh**, L D Brown

1340h **T43C-2117** POSTER Long-term erosion and exhumation rates across different climatic zones in the Indian NW-Himalaya: **A Deeken**, J K Hourigan, R C Thiede, E R Sobel, M R Strecker

1340h **T43C-2118** POSTER E-W extension in the NW Indian Himalaya - Triggered by Tibetan Plateau Deformation?: **E Hintersberger**, R C Thiede, M R Strecker, B R Hacker

1340h **T43C-2119** POSTER Himalayan Leucogranites from the Zaskar Region, Northern India: **F Horton**, J Sommerfeld, W C Hassett, M L Leech

1340h **T43C-2120** POSTER Spatial variation of radon and helium in soil gas vis-à-vis geology of area, NW Himalayas, India: **S Mahajan**, B Bajwa, A Kumar, S Singh, V Walia, T F Yang

1340h **T43C-2121** POSTER Imaging the Himalayan megathrust in northwest India: wave-equation migration and receiver function CCP-stacking compared: **W B Caldwell**, S L Klemperer, J F Lawrence, A Ashish, S S Rai, J Shragge

1340h **T43C-2122** POSTER Upper crustal shortening and forward modeling of the Himalayan fold thrust belt along the Budhi-Gandaki River, central Nepal: **S Khanal**, D M Robinson

1340h **T43C-2123** POSTER Polyphase (Miocene-Pleistocene?) slip on the South Tibetan Fault system in the Dhaulagiri Himalaya: **J A McDermott**, K Hodges, M C Van Soest

1340h **T43C-2124** POSTER Kinematics and vorticity in Kangmar Dome: Testing patterns of mid-crustal ductile deformation during the Himalayan orogeny: **J Lee**, T Wagner

1340h **T43C-2125** POSTER Crustal Shortening in the Himalayan Fold-Thrust Belt, Eastern and Central Bhutan: **S P Long**, N McQuarrie, T Tobgay, D Grujic

1340h **T43C-2126** POSTER Metamorphic grade of Paro Formation, western Bhutan and its implications: **T Tobgay**, N McQuarrie, S P Long

1340h **T43C-2127** POSTER Geochronological constraints on Miocene structural reorganization of the South Tibetan Detachment, eastern Himalaya: **D A Kellett**, D Grujic, C J Warren

1340h **T43C-2128** POSTER Landscape evolution of the Bhutan Himalaya – insights from tectonic geomorphology and low-temperature thermochronology: **B A Adams**, M von Soest, K Hodges, K X Whipple

1340h **T43C-2129** POSTER Timing of granulite-facies metamorphism in the eastern Himalayan syntaxis and its tectonic implications: **W Xu**, H Zhang, R Parrish, L Guo

1340h **T43C-2130** POSTER Timing and duration of backthrusting in the Indus Group: a detrital zircon (U-Th)/He approach: **A Tripathy**, K Hodges, M C Van Soest, T Ahmad

1340h **T43C-2131** POSTER Investigation of the Geometry and Kinematics of the Main Frontal Thrust Zone of the Eastern Himalaya Reveals Eastward Increasing Quaternary Himalayan Convergence Rate: **W Burgess**, A Yin, C S Dubey

1340h **T43C-2132** POSTER First GPS results from northern Myanmar: about the Sagaing fault / Tibetan flow interaction: **T Maurin**, F Masson, C Rangin

1340h **T43C-2133** POSTER Mineralogy, Pb and O isotopic characteristics of granitic rocks from the Nansha block (South China Sea): magmatic process and tectonic affiliation: **Q Yan**, X Shi

1340h **T43C-2134** POSTER Zircon U-Pb and Hf isotopic study for the migmatized amphibolites in the Cathaysia Block: implications on the granulite facies metamorphism of Caledonian event in Southeastern China: **L Longming**, S Min, W Yuejun, X Guangfu, Z Guochun, X Xiaoping, W Jean, Z Feifei

1340h **T43C-2135** POSTER 40Ar/39Ar laserprobe study of the Day Nui Con Voi Metamorphic Complex, Vietnam: **C Wu**, C Lo, M Yeh, S Chung, T Lee

1340h **T43C-2136** POSTER The bilateral and nearly simultaneous obduction of Gaize (central Tibet) ophiolites at the Late Jurassic: constraints on the closure of Bangong-Nujiang suture: **Z Yuxiu**, Z Kaijun

T43D Moscone South: Poster Hall Thursday 1340h
Topography and Mantle Processes I Posters (joint with S, EP)

Presiding: **D A Foster**, University of Florida; **J D Pelletier**, University of Arizona; **R M Russo**, University of Florida

1340h **T43D-2137** POSTER Thermochronologic constraints on the development of The East Coast Basin along New Zealand's Hikurangi Margin: **M J Legg**, K P Furlong, P J Kamp

1340h **T43D-2138** POSTER Links between tectonism and exhumation in the Spanish Pyrenees: Evidence from apatite fission track analysis and Ar fault dating: **J M Rahl**, S H Haines, B A van der Pluijm

1340h **T43D-2139** POSTER Long-Term Erosion and Growth of the Swiss Alps: Transient or Steady?: M T Brandon, **D F McPhillips**

1340h **T43D-2140** POSTER Constraints on the Exhumation History of the Klamath Mountains Block from Preliminary Thermal Modeling: **R E Piotraschke**, K P Furlong, S M Cashman, E Kirby

1340h **T43D-2141** POSTER Paleoelevation from Fossil Leaves: Errors Bigger than Mountains: **D L Royer**, D J Peppe, P Wilf

1340h **T43D-2142** POSTER Lithospheric Architecture and Mantle-Supported Topography of the Colorado Plateau Constrained by Receiver Function Imaging: **D Wilson**, R C Aster, S P Grand, J F Ni, W S Baldrige

1340h **T43D-2143** POSTER Mean Elevation of Continents and Survival of Islands: **Y Zhang**

1340h **T43D-2144** POSTER No flattening of the Pacific plate thermal subsidence: **C Adam**, V Vidal

1340h **T43D-2145** POSTER Numerical modelling of post-orogenic evolution: isostasy, erosion and metamorphism: G Hetenyi, **P Steer**, R Cattin

1340h **T43D-2146** POSTER Numerical Investigation on the Effects of Slab Geometry and Mantle Rheology and Their Control on the Topography of Back-arc Regions: **B So**, S Lee

1340h **T43D-2147** POSTER Small-scale convection in the upper mantle as a mechanism for generating sedimentary sequences: **K Petersen**, S Nielsen, O Clausen, R Stephenson, T Gerya

1340h **T43D-2148** WITHDRAWN

1340h **T43D-2149** POSTER Reconstructing hotspot-induced dynamic topography through palaeogeomorphology: **A L Whitchurch**, S Gupta, D Barford

1340h **T43D-2150** POSTER South Pacific hotspot swells dynamically supported by mantle flows: M Yoshida, **C Adam**, T Isse, D Suetsugu, Y Fukao, G Barruol

1340h **T43D-2151 POSTER** Experimental simulation of erosion applied to the Aconcagua fold-and-thrust belt, Argentina: **L Cruz**, G E Hilley, J Malinski, M Hernandez, A Take

1340h **T43D-2152 POSTER** The Western Edge of Cratonic North America and Topography of the Northern U.S. Rocky Mountains: **D A Foster**, R M Russo, S van der Lee, P A Mueller

1340h **T43D-2153 POSTER** How Does Mantle Convection Affect Eustatic Sea Level: Ocean Ridge Volume is Only Part of the Answer: **G L Kinsland**

1340h **T43D-2154 POSTER** Incision history of the Colorado River system over the last several Ma from cosmogenic burial dating of high terrace gravels: **A L Darling**, K E Karlstrom, E Kirby, W B Ouimet, A Aslan, D E Granger

1340h **T43D-2155 POSTER** Uplift rates of southern Africa from incision of the Sundays River, South Africa: **E D Erlanger**, D E Granger, R J Gibbon

T43E Moscone West: 201 I Thursday 1340h
Moho, Lithosphere, and Upper Mantle Structure Beneath Europe: What Have We Learned in 100 Years? I (*joint with MR, NS, S, V*)

Presiding: **M Herak**, Faculty of Sciences; **H Tkalcic**, The Australian National University

1340h **T43E-01** Crust and upper mantle of Europe, Greenland, and the North Atlantic region: An overview (*Invited*): **I M Artemieva**, H Thybo

1400h **T43E-02** Large-scale shear velocity structure of the upper mantle beneath Europe and surrounding regions: **C P Legendre**, T M Meier, S Lebedev, W Friederich

1415h **T43E-03** An integrative model of the crust and upper mantle of Western and Central Europe (*Invited*): **M K Kaban**, M Tesauro, S Cloetingh, I Koulakov

1435h **T43E-04** High-resolution seismic imaging of mantle-wedge structure across northern and southern segments of the western Hellenic subduction zone: **F D Pearce**, S Rondenay, C Chen, J Suckale, M Sachpazi, M Charalampakis, A Hosa, L Royden

1450h **T43E-05** Structural models of the Eastern Alps derived from geophysical data and their relation to tectonic processes (*Invited*): **E P Brueckl**, M Behm

1510h **T43E-06** P and S wave upper mantle structure beneath Northern Italy from travel time tomography: **M Torpey**, K Liszewski, M H Benoit, V L Levin

1525h **T43E-07** Constraints on the nature of the SW-Iberia crust from wide-angle P- and S-velocity models: I Palomeras, D Marti, **R Carbonell**, P Ayarza, F Simancas, D Martinez-Poyatos, A Azor, F Lodeiro, A Perez-Estaun

T43F Moscone West: 2009 Thursday 1340h
East Africa Rift System: Links Between the Surface and Depth II (*joint with G, S, DI, V*)

Presiding: **C Pagli**, University of Leeds; **J O Hammond**, University of Bristol; **D Keir**, University of Leeds; **A Ayele**

1340h **T43F-01** Deep-seated mantle anomalies and the dynamic impact on the African continent (*Invited*): **N A Simmons**, A M Forte, S P Grand, R Moucha, J X Mitrovica, D B Rowley, S Quere

1355h **T43F-02** Upper Mantle Seismic Velocity Structure Beneath Eastern Africa and the Origin of Cenozoic Extensional Tectonism (*Invited*): A Nyblade, **J Julia**, A N Adams, G D Mulibo, F A Tugume

1410h **T43F-03** Geodetic constraints on rifting processes in East Africa (*Invited*): **E Calais**, D S Stamps, L Bennati, E Saria, L M Flesch, A M Freed

1425h **T43F-04** Multiple inflation and deflation events at Kenyan volcanoes, East African Rift: **J Biggs**, E Y Anthony, C J Ebinger

1440h **T43F-05** Shallow and deep earthquake sequences captured in the North Tanzanian Divergence, East Africa: Inferences on seismogenic processes and rheology: J Albaric, **J Perrot**, J Déverchère, A Deschamps, R W Ferdinand, B Le Gall

1455h **T43F-06** Rise, transport, and storage of magma during continental rupture: Constraints from the Afar rifting episode (*Invited*): **C J Ebinger**, M Belachew, D M Core, D Keir, J V Rowland, J Hammond

1510h **T43F-07** 3-D Conductivity structure of an active magmatic segment associated with the final stage of continental break-up: Afar, Ethiopia: **S Hautot**, K A Whaler, M Desissa, G Dawes, S Fisseha, N Johnson

1525h **T43F-08** Can stress transfer explain the spatial pattern of magmatism along the Dabbahu rift segment, Afar, Ethiopia?: **I J Hamling**, T J Wright, L Bennati, E Calais, E Lewi, C Pagli

Volcanology, Geochemistry and Petrology

V43A Moscone South: Poster Hall Thursday 1340h
Ash Plumes, Lava Domes, Lahars, and Explosions: The 2009 Eruption of Redoubt Volcano, Alaska I Posters (*joint with A, G, S, NH, EP*)

Presiding: **C F Waythomas**, Alaska Volcano Observatory; **P Webley**, University of Alaska Fairbanks; **K F Bull**, Alaska Volcano Observatory

1340h **V43A-2207 POSTER** Ash dispersal forecasts and event reconstruction of the Redoubt Volcano's 2009 explosive activity using the VOL-CALPUFF model: **S Barsotti**, L G Mastin, L Nannipieri, A Neri, J R Schaefer, K L Wallace, D J Schneider

1340h **V43A-2208 POSTER** Modeling and forecasting tephra hazards at Redoubt Volcano, Alaska, during 2009 unrest and eruption: **L G Mastin**, R P Denlinger, K L Wallace, J R Schaefer

1340h **V43A-2209 POSTER** Radar observations of the 2009 eruption of Redoubt Volcano, Alaska: Initial deployment of a transportable Doppler radar system for volcano-monitoring: **R P Hoblitt**, D J Schneider

1340h **V43A-2210 POSTER** Satellite Observations of Volcanic Clouds from the Eruption of Redoubt Volcano, Alaska, 2009: **K G Dean**, A L Ekstrand, P Webley, J Dehn

1340h **V43A-2211 POSTER** Satellite-based extrusion rates of the 2009 eruption of Redoubt Volcano, Alaska: **J Dehn**

1340h **V43A-2212 POSTER** Geodetic evidence for lower crustal magma withdrawal during the 2009 eruption of Redoubt Volcano, Alaska: **P F Cervelli**, R Grapenthin, J T Freymueller

1340h **V43A-2213 POSTER** Local Infrasonic Observations of the Explosive Eruptions of Redoubt Volcano, Alaska, March-April 2009: **S R McNutt**, K Arnoult, J V Olson, C Szuberla, M E West, E Clark

1340h **V43A-2214 POSTER** Infrasonic Array Observations of the Recent Explosive Eruptions of Mt. Redoubt, Alaska: **K Arnoult**, J V Olson, C Szuberla, S R McNutt, M Garces, D Fee, M A Hedlin

1340h **V43A-2215 POSTER** Alarm systems detect volcanic tremor and earthquake swarms during Redoubt eruption, 2009: G Thompson, **M E West**

1340h **V43A-2216 POSTER** Lightning and the evolution of electrical activity during the explosions of Mt. Redoubt: **S A Behnke**, R J Thomas, P R Krehbiel, W Rison, H E Edens, S R McNutt

1340h **V43A-2217 POSTER** A satellite multi-sensor approach to investigate radiative forcing of aerosol from the eruption of Redoubt Volcano: **C L Young**, I N Sokolik, J Dufek

1340h **V43A-2218** POSTER Airborne Measurements of Gas Emissions during the 2009 Eruption of Redoubt Volcano, Alaska: **C A Werner**, P J Kelly, M P Doukas, M A Pfeffer, W C Evans, R G McGimsey, C A Neal

1340h **V43A-2219** POSTER Comparing and Contrasting the 2009 and 1989-90 Eruptions of Redoubt Volcano, Alaska: R G McGimsey, **C A Neal**, T P Miller, J A Power, K L Wallace, A K Diefenbach, J F Larsen, C F Waythomas

1340h **V43A-2220** POSTER Timing, distribution, and character of tephra fall from the 2009 eruption of Redoubt Volcano, Alaska – a progress report: **K L Wallace**, J R Schaefer

1340h **V43A-2221** POSTER Lahar Inundation of the Drift River Valley During the 2009 Eruption of Redoubt Volcano, Alaska: **C F Waythomas**, W E Scott, T C Pierson, J J Major

1340h **V43A-2222** POSTER Petrology of andesites from the 2009 eruption of Redoubt Volcano, Alaska: M L Coombs, **S Henton**, T W Sisson, P E Izbekov, J S Shipman, J F Larsen, C J Nye, C Cameron, K L Wallace, K F Bull, R G McGimsey

1340h **V43A-2223** POSTER LARGE SCALE EDIFICE COLLAPSE AT REDOUBT VOLCANO, ALASKA: **J E Beget**, C Montanaro, T Trainor, K Bull

1340h **V43A-2224** POSTER A comparison of sediment cores from two lakes near Redoubt Volcano: improved tephrochronology and evidence of variable plume trajectories during the last 3900 years: **C Schiff**, K L Wallace, D S Kaufman, M Ketterer

1340h **V43A-2225** POSTER Use of NWChat (Instant Messaging program) as a coordination tool during the 2009 Redoubt Eruptions: **J M Osiensky**, D Jones

V43B Moscone South: Poster Hall Thursday 1340h
Geochemically Complex, Multicomponent Fluids and Geologic Processes I Posters (*joint with EP*)

1340h **V43B-2226** POSTER The effect of NaCl on aqueous silica in mantle fluids: constraints from quartz solubility experiments in NaCl-H₂O at 1000 °C, 1.5 GPa: **M F Cruz**, C E Manning, R C Newton, J D Hunt

1340h **V43B-2227** POSTER An example of deep crustal brines effecting large-scale chemical modification of the crust during assembly of the Paleoproterozoic Columbia supercontinent: **W E Glassley**, J A Korstgard, K Sørensen

1340h **V43B-2228** POSTER Experimental simulations in the system H₂O-Cl: A step forward in the study of magma degassing at Mount Erebus (Antarctica): **M Alletti**, A Burgisser, B Scaillet

1340h **V43B-2229** POSTER Experimental determination of the H₂O + 15 wt% NaCl and H₂O + 25 wt% NaCl liquids to 1.4 GPa: **P valenti**, C Schmidt

1340h **V43B-2230** POSTER Redox control on S and Cl partitioning between basaltic melts and coexisting fluids: Experimental constraints at 1050 °C and 200 MPa: O Beermann, **R E Botcharnikov**, M Nowak, F Holtz

1340h **V43B-2231** POSTER Fluid/melt partitioning of Re, Mo, W, Ti and Pb in the system haplobasalt-H₂O-Cl and the volcanic degassing of trace heavy metals: **D Canil**, J MacKenzie

1340h **V43B-2232** POSTER REE and Hf distribution between pyrope and MgCO₃- or NaCl-bearing aqueous fluid at 800 °C and 3 GPa: **C Martin**, F Brunet, S Duchene, B Luais, E Deloule

1340h **V43B-2233** POSTER Understanding Pegmatite Texture: Kinetics of Crystallization in the Haplogranite-Li-B-H₂O System: **M C Sirbescu**, M Wilke, I V Veksler

1340h **V43B-2234** POSTER Homogenization Temperature Measurements in Hydrothermal Diamond-Anvil Cell for Melt and Fluid Inclusions from the Jiajika Pegmatite Deposit, China: **J Li**, I Chou, S Yuan, R C Burruss

1340h **V43B-2235** POSTER Speciation of Aqueous Silica at Elevated PT Using Raman Spectroscopy: **J D Hunt**, A Kavner, E A Schauble, C E Manning

1340h **V43B-2236** POSTER Al-Si complexing in crustal and mantle fluids: Evidence from corundum solubility in SiO₂-H₂O fluids at 800-950 °C, 0.5-2.0 GPa: **R B Thomas**, C E Manning

1340h **V43B-2237** POSTER The Molecular Species in Cordierite: The Nature of the Fluid Phase During Crystallization: N Rahmoun, **C A Geiger**, K Heide

1340h **V43B-2238** POSTER Solubility of albite or jadeite + quartz + paragonite in H₂O at 500 °C and 600 °C, 1 - 2.2 GPa: **A Wohlers**, C E Manning, A B Thompson

1340h **V43B-2239** POSTER Magmatic interactions on short time scales: magma mixing during the Kalama eruptive period at Mount St. Helens, Washington: **A E Lieuallen**, F J Tepley, M A Clynnne

1340h **V43B-2240** POSTER OXYGEN AND HYDROGEN ISOTOPE GEOCHEMISTRY OF THE IRON ORE GROUP (IOG), INDIA: THE STABLE ISOTOPIC COMPOSITION OF THE ARCHEAN OCEAN: **S Banerjee**, I Richards, K Ferguson, A R Basu, R T Gregory

1340h **V43B-2241** POSTER Mixing vs Boiling process in a shallow submarine hydrothermal system of Bahía Concepción, Mexico: **R Villanueva Estrada**, R Prol-Ledesma, A Rodríguez, C Canet, I Torres, E González

1340h **V43B-2242** POSTER Geochemistry characterizations and arsenic species analysis of As-rich aquifers in the southern Choushui River alluvial fan: **K Lu**, C Liu, S Wang

1340h **V43B-2243** POSTER The involvement of slab-derived fluids in non-volcanogenic hot springs in SW Japan: **C Kusuda**, H Iwamori, K Kazahaya, N Morikawa, M Takahashi, H Takahashi, M Ohwada, T Ishikawa, M Tanimizu, K Nagaishi

1340h **V43B-2244** POSTER In-situ synchrotron radiation x-ray diffraction and visual imaging study of magnesite + quartz + water at mid-crustal temperatures and pressures: **R J Kerrigan**, P A Candela, P M Piccoli

1340h **V43B-2245** POSTER Zircon solubility and of Zr species in subduction zone fluids: **M Wilke**, C Schmidt, K Rickers, S Pascarelli, C E Manning, A Stechern

1340h **V43B-2246** WITHDRAWN

1340h **V43B-2247** POSTER In-situ Raman Spectroscopic Investigation of Sulfur, Sulfur-Water, and Sulfur-Methane-Water Systems Between 22 and 450 °C: **S Yuan**, I Chou, J Li, R C Burruss

1340h **V43B-2248** POSTER Structural Control on Hydrothermal Fluid Circulations in Two Volcanoes of the Aeolian Archipelago, Stromboli and Vulcano (Italy): **S Barde-Cabusson**, A Finizola, T Ricci, M Rossi, E Delcher, B Suski, A Revil, P Menny, F Di Gangi, J Letort, A Peltier, V Villasante, G DOUILLET, G Avaré

1340h **V43B-2249** POSTER Distribution and origin of dissolved gases of groundwaters at Las Cañadas aquifer, Tenerife, Canary Islands: **R Marrero**, G Melian, E Padron, F Sortino, P A Hernandez Perez, D L Lopez, N Perez

1340h **V43B-2250** POSTER Experimental investigation of the degassing behavior of Hg via proxy heavy metals in natural and synthetic silicate melts: **A D Johnson**, D Canil

1340h **V43B-2251** POSTER Fluid circulation and structural discontinuities on the Santa Maria - Cerro Quemado - Zunil volcanic complex (Guatemala): A Finizola, **L Bennati**, D A Lopez, J A Walker, F Barahona, R Cartagena, C R Funes, V Conde, C Rios, C Higuera

1340h **V43B-2252** POSTER Mercury Degassing on Africa-Adriatic Tectonic Plate Margin: **J Kotnik**, S Giammanco, M Horvat, V Fajon

1340h **V43B-2253** POSTER Lifetime of Superheated Aqueous Solutions in Micrometric Synthetic Fluid Inclusions: **M El Mekki-Azouzi**, C Ramboz, J Lenain, K Schmulovich

1340h **V43B-2254** POSTER Tracing the CO₂ source and migration in natural analogues from different geological contexts: **A Battani**, F Jean Luc, S Philippe, E Nadine, V Olivier, J Elodie

1340h **V43B-2255** POSTER Clay Mineralogy And Pore Water Geochemistry Of Mud From Baratang Mud Volcanoes From Andamans, India And Great Boiling Springs, Nevada, USA: Linking Mud Mineralogy Using XRD And XRF To Extrusion Mechanisms: **S Datta**, R A Socki, P Niles, S Rekhi, I Cernatescu, P Sutton, B Litteer

1340h **V43B-2256** POSTER Alkaline Fluids and Reduced Volatiles in Modern Serpentinizing Environments: **G L Frueh-Green**, E M Schwarzenbach, S Méhay, M D Lilley, S M Bernasconi, M Molinari, L Marini

1340h **V43B-2257** POSTER One year of real-time radon monitoring at Stromboli volcano and the effect of environmental parameters on ²²²Rn concentrations: C Cigolini, M Laiolo, D Coppola, D Piscopo, **S Bertolino**

1340h **V43B-2258** POSTER Degassing pathways through the shallow magmatic-hydrothermal system of Poás Volcano (Costa Rica): **L Spampinato**, G G Salerno, R Martin, G M Sawyer, C Ramirez, E Ilyinskaya, C Oppenheimer

1340h **V43B-2259** POSTER Eco-Materials Processing of Magnesium Hydroxide Recovered from Seawater for Protein Complex Formation: **H Yoon**, C Yoon, K Chung

1340h **V43B-2260** POSTER The effect of copper on the estimation of sulfur fugacity from the composition of pyrrhotite: an experimental evaluation: **M J Mengason**, P M Piccoli, P A Candela

1340h **V51G-04** POSTER Transport of Elements By Geothermal And Volcanic Vapor: **H S Kaasalainen**, A Stefánsson, P Prapaipong, N Giroud, S Arnórsson, E Shock

V43C Moscone South: Poster Hall Thursday 1340h
Nanoscale and Microscale Processes at Mineral Grain and Phase Boundaries in Metamorphic and Igneous Rocks: Solid-State Diffusion, Dissolution-Reprecipitation, and Mass Transport I Posters (*joint with MR, T*)

Presiding: **S Emmanuel**, The Hebrew University of Jerusalem

1340h **V43C-2261** POSTER Interfacial tension between immiscible melts in the system K₂O – FeO – Fe₂O₃ – Al₂O₃ – SiO₂: **J Kaehn**, I V Veksler, G Franz, D B Dingwell

1340h **V43C-2262** POSTER Zr Diffusion in Rhyolitic Melt During Zircon Dissolution: **Z Xu**, Y Zhang

1340h **V43C-2263** POSTER Solid-state mass transfer reactions between garnet and included zircons: **D R Snoeyenbos**, A Koziol

1340h **V43C-2264** WITHDRAWN

1340h **V43C-2265** POSTER Pseudotachylite in eclogite-facies shear zones from the Lofoten Islands, northern Norway: M L Leech, **D Shulman**, S Dutra

1340h **V43C-2266** POSTER Experimental investigation on the kinetic demixing in chromite spinel: **A M Suzuki**, A M Dillman, S Mei, D L Kohlstedt

1340h **V43C-2267** POSTER Lab-Based Nanofocus X-ray CT as a Supplemental Analysis Tool in Studies of Earth Materials: **J D Santillan**, K Maher, G O'Henley, G Zacher, O Brunke

1340h **V43C-2268** POSTER The 3D evolution of crack space under uniaxial deformation: **A Flaws**, K Hess, B Schillinger, B Cordonnier, Y Lavallee, M Mühlbauer, M Schulz, D B Dingwell

1340h **V43C-2269** POSTER Nanoparticulate mackinawite formation; a stopped and continuous flow XANES and EXAFS investigation: **I B Butler**, A M Bell, J M Charnock, D Rickard, D J Vaughan, A Oldroyd

1340h **V43C-2270** POSTER Green rust nanoparticle formation, stability and oxidation, and its role in natural and engineered systems: **S Shaw**, L Benning, I Ahmed, G Kakonyi, A Sumoondur, N Terrill

1340h **V43C-2271** POSTER An experimental study on aqueous fluid connectivity in amphibolitic lower crust: **M Abe**, M Nakamura

1340h **V43C-2272** POSTER The effect of conductive grain boundary impurities on electrical conductivity in polycrystalline olivine: **H C Watson**, J J Roberts, J A Tyburczy

1340h **V43C-2273** POSTER Yttrium-Ytterbium interdiffusion along a near Σ5 grain boundary at the nm-scale: K Hartmann, Q Ramasse, C Kilielowski, R Wirth, W Heinrich

1340h **V43C-2274** POSTER Tracing the beginning of crystallization of amorphous forsterite thin films using AFM and IR spectroscopy: **B Oehm**, M Burchard, D Lattard, R Dohmen, S Chakraborty

1340h **V43C-2275** POSTER Pore size and the lab-field reaction rate riddle: **S Emmanuel**, J J Ague, O Walderhaug

1340h **V43C-2276** POSTER Bulk Effect Of Local Non-Hydrostatic Stresses On The Dehydration And Permeability Characteristics Of Gypsum: Experimental Approach: S Llana Funez, **D R Faulkner**, J Wheeler

1340h **V43C-2277** POSTER In-situ investigations of grain boundary–fluid inclusion interaction in recrystallizing rock analogues: **J Schmatz**, O Schenk, J L Urai

1340h **V43C-2278** POSTER Kaolinite illitization at 300 C and 1000 bars with increasing time: **M Mantovani**, A N Becerro, A Escudero

1340h **V43E-2316** POSTER Implications of garnet resorption for the Lu-Hf garnet geochronometer: Makhevinekh Lake Pluton aureole, Labrador: **E D Kelly**, W D Carlson, J Connelly

V43D Moscone South: Poster Hall Thursday 1340h
New Insight Into Ultrahigh-Pressure Metamorphism and Rheology in Collisional Orogenic Belts I Posters (*joint with MR, T*)

Presiding: **Q Wang**, Nanjing University; **J Zhang**, Faculty of Earth Sciences; **H Jung**, Seoul National University; **C G Mattinson**, Central Washington University

1340h **V43D-2279** POSTER UHP Metamorphism and Exhumation of Paleoproterozoic and Neoproterozoic Protoliths, North Qaidam UHP terrane, NW China: **C G Mattinson**, J L Wooden, J Zhang, D K Bird

1340h **V43D-2280** POSTER Deformation mechanism maps of olivine and rheology of the continental upper mantle: **Q Wang**

1340h **V43D-2281** POSTER Lattice Preferred Orientation of Olivine in both Garnet Peridotite from North Qaidam UHP Metamorphic Belt and Harzburgite from Yushigou, North Qilian HP Belt in China: **H Jung**, M Park, J Lee, S Jung, S Yu, S Song, Y Cao

1340h **V43D-2282** POSTER Transitional time of oceanic to continental subduction in the Dabie orogen: Clues from the Triassic age for oceanic eclogites: **H Cheng**, S DuFrane, E Nakamura, J D Vervoort

1340h **V43D-2283** POSTER Deformation microstructures of UHP eclogites from the main hole of the Chinese Continental Scientific Drilling project: **H Xu**, Z Jin, J Zhang

1340h **V43D-2284** POSTER Pressure Dependence of Creep in Olivine and its Importance for Measurement of Mantle Rheology: **G Xia**, H W Green, J Zhang

1340h **V43D-2285 POSTER** Deep mantle derived noble gases in metamorphic microdiamonds from Kokchetav massif, Kazakhstan: **H Sumino**, L Dobrzhinetskaya

1340h **V43D-2286 POSTER** On the origin of pyroxene exsolution topotaxy in majoritic garnets: **J Zhang**, H Xu, L Dobrzhinetskaya

1340h **V43D-2287 POSTER** Coherence of the Dabie Shan UHPM terrane investigated by Lu-Hf and $^{40}\text{Ar}/^{39}\text{Ar}$ dating of eclogites: **F M Brouwer**, M Groen, O Nebel, J R Wijbrans, H Qiu

1340h **V43D-2288 POSTER** On the relationship of HP-UHP terranes from Central China Orogen: constraints from new geochronology data: **L Liu**, D Chen, C Wang, C Zhang

1340h **V43D-2289 POSTER** Evolution Of Sulu Mantle Garnet Clinopyroxenite: Evidence From Mineral Microstructure And Geochronology Of Zircon: **R Y Zhang**, J G Liou, H Xu, J Huberty

1340h **V43D-2290 POSTER** Experimental Investigation of Strength Variation of Subducting Slabs Crossing the 660km Discontinuity and Its Implications for Deep-Focus Earthquakes: **S Zhao**, H W Green, Z Jin, J Zhang

1340h **V43D-2291 POSTER** Lu-Hf dating of garnet from MCCs in the Woodlark Rift of southeastern Papua New Guinea: **N A Zirakparvar**, S Baldwin, J D Vervoort, P G Fitzgerald

1340h **V43D-2292 POSTER** The Sandane Shear Zone: A Thrust Below the Nordfjord Ultrahigh-Pressure Province, Western Norway: **D J Young**, D B Root, B R Hacker

1340h **V43D-2293 POSTER** Reduction induced exsolution and formation of oriented sulfide lamellae in high- to ultrahigh pressure rocks: **L Zeng**, J Chen, L Gao, F Chen

1340h **V43D-2294 POSTER** Origin of unique coesite-bearing zircon with low-U and high HREE contents from allanite-bearing gneisses in the Sulu UHP terrane, eastern China: **F Liu**, A Gerdes, J G Liou, P Liu

1340h **V43D-2295 POSTER** Garnet-chloritoid-kyanite parageneses: a key constraint on subduction dynamics: **A J Smye**, L Greenwood, T Holland

1340h **V43D-2296 POSTER** Hydrogen solubility in omphacite up to 10 GPa and implications for water transportation in subduction zone: **Y Wu**, Y Fei, Z Jin, M Xu

1340h **V43D-2297 POSTER** Subduction/exhumation of UHP rocks in Silurian-Devonian continental collision, northern WGR, Norway: **P Robinson**, M P Terry

1340h **V43D-2298 POSTER** Zircon U-Pb dating reveals two discrete episodes of Ordovician high-pressure metamorphism within the Seve Nappe Complex, Scandinavian Caledonides: D B Root, **F Corfu**

1340h **V43D-2299 POSTER** Microfabrics of granulites from Huaian area of North China Craton: implications for the rheology of continental lower crust: **L Xu**, Z Jin, H Xu, J Zhang

1340h **V43D-2300 POSTER** Melt-Peridotite Reaction Mechanism of North China Craton Destruction: Experimental Constrains: **C Wang**, Z Jin, S Gao, J Zhang, S Zheng

1340h **V43D-2301 POSTER** The composition of fluids generated during deep continental subduction estimated from fluid inclusions in UHP rocks: S Ferrando, **M Frezzotti**, R Compagnoni

1340h **V43D-2302 POSTER** Mobility of HSEs in subduction zone fluids: Evidence from the Franciscan Complex, CA: **S C Penniston-Dorland**, R J Walker, L Pitcher, S S Sorensen

1340h **V43D-2303 POSTER** The response of zircon in eclogite to metamorphism during the multi-stage evolution of the Huwan Shear Zone, China: Insights from Lu-Hf-U-Pb isotopic and trace-element geochemistry: **T J Peters**, J C Ayers, S Gao, X Liu

1340h **V43D-2304 POSTER** Pseudosection modeling of coesite-eclogite and felsic host gneiss from Papua New Guinea: **M R Manon**

1340h **V43D-2305 POSTER** STRUCTURAL GEOMETRY OF AN EXHUMED UHP TERRANE IN THE EASTERN SULU OROGEN, CHINA: IMPLICATIONS FOR CONTINENTAL COLLISIONAL PROCESSES: **L Wang**, T Kusky

1340h **V43D-2306 POSTER** Deep origin of both the Kangjinla podiform chromite deposit and its host rock peridotite in southern Tibet: **X Xu**, J Yang, Q Fang, W Bai, D Ba

1340h **V43D-2307 POSTER** Zircon age, trace element and Hf isotope compositions of eclogites from the western Dabie Mountain, central China: constraints on exhumation process of UHP terrain: Y Wu, **L Zhao**

1340h **V43D-2308 POSTER** Constraining the garnet-talc join for metasedimentary material attaining eclogite-facies conditions: **R M Chmielowski**, P Fumagalli, S Poli

1340h **V43D-2309 POSTER** Diamondiferous kimberlites in Central India synchronous with Deccan flood basalt volcanism: **B Lehmann**, R Burgess, D Frei, B V Belyatsky, D Mainkar, N V Chalapathi Rao

1340h **V43D-2310 POSTER** Two distinct phases of subduction metamorphism in the Sanbagawa belt: Evidence from Lu-Hf geochronology and geothermobarometry for the Western Iratsu eclogite: **S Endo**, S Wallis, R Anczkiewicz

1340h **V43D-2311 POSTER** Omphacite and aragonite-bearing metapelites from the Sambagawa belt in central Shikoku, Japan and their implications: **Y Kouketsu**, M Enami

V43E Moscone South: Poster Hall Thursday 1340h Petrology and Geochemistry I Posters

Presiding: J A O'Leary, Woods Hole Oceanographic Institution

1340h **V43E-2312 POSTER** Triassic post collision igneous activity and granulite facies metamorphic event in the Yangpyeong area, South Korea and its meaning to the tectonics of Northeast Asia: **S Lee**, C Oh

1340h **V43E-2313 POSTER** The subduction and collision related middle Paleozoic metamorphic events in the SW of Gyeonggi Massif in South Korea and its meaning to the tectonics in Northeast Asia: **T Kim**, C Oh, S Lee

1340h **V43E-2314 POSTER** Provenance of Neoproterozoic to Cretaceous sediments in eastern Greenland: **J Slama**, R Pedersen, J Kosler, O Walderhaug, H F Jørgensen

1340h **V43E-2315 POSTER** High-precision $^{40}\text{Ar}/^{39}\text{Ar}$ ages for the Jehol fossil-bearing formations in SE China: **S Chang**, H Zhang, S R Hemming, Y Fang, G T Mesko

1340h **V43E-2317 POSTER** Origin of Leucogranite at the Archean-Proterozoic Boundary: SHRIMP U-Pb Evidence from the Eastern Ghats Belt, SE India: **V Kopparapu**, W G Ernst, L Chervela, J L Wooden, M J Grove

1340h **V43E-2318 POSTER** Solid-state ^{13}C NMR analysis of Lower Cretaceous Baganuur (Mongolia) lignite: B Erdenetsogt, **I Lee**, S Lee, Y Ko

1340h **V43E-2319 POSTER** Are Displaced Miogeoclinal Rocks present in metamorphic pendants in the central and southern Sierra Nevada: **L B Gelbach**, R Stanley, J Chang, E Van Guilder, S R Paterson, V Memeti

1340h **V43E-2320 POSTER** Mineralogy and Geochemical Processes of Carbonate Mineral-rich Sulfide Mine Tailings, Zimapan, Mexico: **R J McClure**, Y Deng, R Loeppert, B E Herbert, R Carrillo, C Gonzalez

1340h **V43E-2321 POSTER** Lu-Hf Analysis of Zircons in the Little Belt Mountains Suggest Paleoproterozoic Subduction in the Great Falls Tectonic Zone: **RA Weiss**, J J Vogl, P A Mueller, D A Foster, G D Kamenov, J L Wooden

1340h **V43E-2322 POSTER** A new garnet, $\{(Y, REE)(Ca, Fe^{2+})_2[(Mg, Fe^{2+})(Fe^{3+}, Al)](Si_3O_{12})\}$, and its role in the yttrium and rare-earth element budget in a granulite: E S Grew, **J H Marsh**, M G Yates, A Locock

1340h **V43E-2323 POSTER** STRUCTURAL AND GEOCHEMICAL CHARACTERISTICS OF SECONDARY DOLOMITIC BODIES OF CRETACEOUS COLIMA-JALISCO BASIN, WESTERN MEXICO: **P F Zarate**

V43F Moscone South: Poster Hall Thursday 1340h
Synthesizing Diverse Data Sets Into Models of Hawaiian Plume and Island Evolution II Posters

Presiding: **B K Nelson**, Univ Washington; **R Tanaka**, Institute for Study of the Earth's Interior

1340h **V43F-2324 POSTER** What Caused Kilauea's Caldera to Form?: **D Swanson**

1340h **V43F-2325 POSTER** Constraining the timescale of magma stagnation beneath Mauna Kea volcano, Hawaii, using diffusion profiles in olivine phenocrysts: **E M Bloch**, J Ganguly

1340h **V43F-2326 POSTER** Geochronology, geochemistry and geophysics of Mahukona Volcano, Hawaii: D Hanano, **M O Garcia**, D A Weis, A F Flinders, G Ito, M D Kurz

1340h **V43F-2327 POSTER** Mantle source history and magmatic plumbing system of Kilauea Volcano inferred from the chemistry of historical (1790-1980 AD) rift zone lavas: **J P Marske**, M O Garcia, A J Pietruszka, M D Norman, J M Rhodes

1340h **V43F-2328 POSTER** $^{40}Ar/^{39}Ar$ geochronology of submarine Mauna Loa volcano, Hawaii: **B Jicha**, J M Rhodes, B S Singer, M J Vollinger, M O Garcia

V43G Moscone South: Poster Hall Thursday 1340h
The 2008-2009 Eruption of Halema'uma'u, Kilauea: Eruption, Ascent Dynamics, and Plume Dispersion I Posters

Presiding: **R J Carey**, University of Hawaii; **M R Patrick**, USGS-HVO

1340h **V43G-2329 POSTER** The 2008-2009 Eruption in Halema'uma'u Crater, Kilauea Volcano: **J P Kauahikaua**, T R Orr, M R Patrick, D Swanson, M P Poland, A Miklius, D Wilson, A J Sutton, T Elias, C R Thornber, K Wooten

1340h **V43G-2330 POSTER** What has driven degassing events during the 2008-2009 Summit Eruption of Kilauea Volcano, Hawaii? (*Invited*): T R Orr, **M R Patrick**

1340h **V43G-2331 POSTER** Source processes of short-term, transient tilt events at Kilauea Volcano, Hawaii: **M P Poland**, T E Huth, A Miklius

1340h **V43G-2332 POSTER** Understanding the origin of micron-sized silicate spherules emitted during quiescent degassing from the 2008-2009 summit eruption at Kilauea Volcano, Hawaii: R Martin, **E Ilyinskaya**, J Le Blond, G M Sawyer, V I Tsanev, T A Mather, D M Pyle, A J Sutton, T Elias, C A Werner, C Oppenheimer, M Edmonds

1340h **V43G-2333 POSTER** Size-resolved chemistry of aerosols produced by Halema'uma'u eruption 2008-2009, Kilauea Volcano, Hawaii: **E Ilyinskaya**, R Martin, M Edmonds, A J Sutton, T Elias, C A Werner

1340h **V43G-2334 POSTER** Bromine monoxide emissions from Kilauea volcano - Hawaii: **G G Salerno**, C Oppenheimer, V I Tsanev, A J Sutton, T Elias

1340h **V43G-2335 POSTER** Volatiles in gases and melt inclusions erupted during the 2008-9 Halema'uma'u eruption of Kilauea Volcano, Hawaii: **G M Sawyer**, I Sides, R Martin, I Mead, T J Roberts, R Jones, V I Tsanev, R Herd, A J Sutton, T Elias, C A Werner, D Swanson, P Allard, C Oppenheimer, M Edmonds

1340h **V43G-2336 POSTER** Plume chemistry and potential impacts of the plume from the recent activity at Halema'uma'u, Kilauea, USA: T A Mather, M L Witt, R Martin, A Aiuppa, E Bagnato, **A J Sutton**

1340h **V43G-2337 POSTER** Ambient air quality effects of the 2008-2009 Halema'uma'u eruption on the Island of Hawaii: **T Elias**, A J Sutton, J P Kauahikaua, J D Ray, J L Babb

1340h **V43G-2338 POSTER** The Role of Macroscopic and Microscopic Processes Relating to the 2008 series of Explosions from Halemaumau Crater, Kilauea, Hawaii: **R J Carey**, B F Houghton, D Swanson, M R Patrick

1340h **V43G-2339 POSTER** Keanakakoi Reticulite: Eruption Intensity, Mechanisms, and Chronology of a High-fountaining Hawaiian Eruption at Kilauea, Hawaii: M May, **R J Carey**, B F Houghton, D Swanson

1340h **V43G-2340 POSTER** Eruption Mechanisms and Emplacement Processes for Selected Units of the Keanakako'i Tephra Member, Kilauea, Hawaii: M Janebo, **B F Houghton**, D Swanson, R J Carey

V43H Moscone West: 2018 Thursday 1340h
Bridging Field, Geochemistry, and Physical Models to Better Understand the Evolution of Crustal Magma Reservoirs and the Generation of Differentiated Melts III

Presiding: **O Bachmann**, University of Washington; **A Grunder**

1340h **V43H-01** Constraints on the Physiochemical Evolution of Crustal Magma Bodies (*Invited*): **W A Bohrsen**, F J Spera

1410h **V43H-02** THE ROLE OF CRUSTAL MELTING IN DACITE PRODUCTION AT THE AUCANQUILCHA VOLCANIC CLUSTER, CHILE: ISOTOPIC AND TRACE ELEMENT CONSTRAINTS: **B A Walker**, A Grunder

1425h **V43H-03** Petrologic, Sr and Th Isotope Insight to Evolution of 1902 dacite, Volcan Santa Maria, Guatemala: **B S Singer**, S E Greene, K E Smith, B Jicha, J Fournelle, C Johnson, B Beard, N W Rogers

1440h **V43H-04** A Case for CO₂-rich Subduction Zone Magmas (*Invited*): **J Blundy**, K V Cashman, A Rust, F Witham

1510h **V43H-05** Mantle Calcium Dominates Continental Magmas: **J I Simon**, D J Depaolo, O Bachmann

1525h **V43H-06** Two differentiation trends in the Thingmuli volcano, Eastern Iceland: **G Charreteur**, C Tegner, K M Haase

V43I Moscone West: 2016 Thursday 1340h
Submarine Volcanic Eruptions: Studies of Geological, Chemical, and Biological Processes I (*joint with B, OS, T*)

Presiding: **T M Shank**, Woods Hole Oceanographic Institution; **B Chadwick**, Oregon State University

1340h **V43I-01** Active Eruptions in the NE Lau Basin: **J A Resing**, R W Embley

1355h **V43I-02** Products of Submarine Fountains and Bubble-burst Eruptive Activity at 1200 m on West Mata Volcano, Lau Basin: **D A Clague**, K H Rubin, N S Keller

1410h **V43I-03** Water-column Observations During a Seafloor Eruption on the Northeast Lau Spreading Center: **E T Baker**, S L Walker, J Resing, T Baumberger, M D Lilley, J E Lupton, J W Lavelle, K H Rubin, R W Embley, R Greene

1425h **V43I-04** Hydrogen and Methane Dissolved in Plumes of the Northeast Lau Basin Eruption Sites: **T Baumberger**, M D Lilley, J E Lupton, J A Resing, E T Baker, S L Walker, K H Rubin, G L Frueh-Green

1440h **V43I-05** Lavas from Active Boninite and Very Recent Basalt Eruptions at Two Submarine NE Lau Basin Sites: **K H Rubin**, R W Embley, D A Clague, J A Resing, P J Michael, N S Keller, E T Baker

1455h **V43I-06** Chemical properties and hydrothermal processes on the first two directly sampled deep-sea eruptions (*Invited*): **D A Butterfield**, J A Resing, K K Roe, M Christensen, R W Embley, J E Lupton, W Chadwick

1510h **V43I-07** Microbial Communities in Erupting Fluids from West Mata Volcano, Tonga Arc: **J A Huber**, H Cantin, J Resing, D A Butterfield

1525h **V43I-08** Sulfur in submarine eruptions: Observations and preliminary data from West Mata, NE Lau Basin: **N S Keller**, K H Rubin, D A Clague, P J Michael, J A Resing, L B Cooper, A M Shaw, S Ono, Y Tamura

V43J Moscone West: 2020 Thursday 1340h
Using Small-Scale Observations to Answer Big Questions in Earth Sciences: Advances From 30 Years of Ion Microprobe Analysis II (*joint with PB, P, DI, T, EP*)

Presiding: **H M Stoll**, University of Oviedo; **L Nittler**

1340h **V43J-01** 26Al homogeneity of the early solar system demonstrated by high precision Mg isotopic analyses of meteoritic chondrules with an ion microprobe (*Invited*): **M Chaussidon**, J Villeneuve, G Libourel

1355h **V43J-02** The isotopic homogeneity in the early solar system: Revisiting the CAI oxygen isotopic anomaly: **M Ozima**, A Yamada

1407h **V43J-03** Oxygen Isotope Distribution in the Early Solar System: An Ion Microscopic View of a Big Issue: **T R Ireland**

1422h **V43J-04** Performance Characteristics of the MegaSIMS for Isotopic Analysis of Captured Solar Wind: **K D McKeegan**, D S Burnett, C D Coath, V S Heber, G Jarzabinski, A P Kallio, T K Kunihiro, P H Mao

1434h **V43J-05** Why Corals Care about Ocean Acidification: Insights from Ion Microprobe Analyses of Coral Crystals (*Invited*): **A L Cohen**, D C McCorkle, S de Putron, G A Gaetani, K A Rose

1449h **V43J-06** High Spatial Resolution nanoSIMS Analysis to Calibrate Environmental Proxies in Coral Grown During Short Culture Experiments: **A C Gagnon**, J F Adkins, J Erez, J M Eiler, Y Guan

1501h **V43J-07** Intra-Shell boron isotope ratios in benthic foraminifera: Implications for paleo-pH reconstructions: **C Rollion-Bard**, J Erez

1513h **V43J-08** Do Coccolith B/Ca Ratios Elucidate the Response of the Smallest Calcifiers to Ocean Acidification?: **H M Stoll**, G Langer, N Shimizu, K Kanamaru-Shinn

1528h **V43J-09** Li isotope fractionation in aragonite precipitated from seawater at different rates: **R I Gabbitov**, A K Schmitt, G A Gaetani, A L Cohen, E B Watson, M Rosner

Union

U44A Moscone South: 103 Thursday 1600h
Response of the Arctic Landscape to a Warming Climate II (*joint with B, C, GC, H*)

Presiding: **J L Baeseman**, Association of Polar Early Career Scientists; **W B Bowden**, University of Vermont; **B T Crosby**, Idaho State University; **M N Gooseff**, Penn State University

1600h **U44A-01** Climate Change in the Arctic, Moving from Acceptance to Adaptation (*Invited*): **L D Hinzman**

1615h **U44A-02** Greenhouse gas release from arctic permafrost: positive feedback to climate warming (*Invited*): **K M Walter Anthony**, S A Zimov

1630h **U44A-03** The relative contribution of methane and carbon dioxide release to climate change as a result of the decomposition of permafrost carbon (*Invited*): **E A Schuur**

1645h **U44A-04** Arctic ecosystem responses to changes in water table and surface warming: **P C Olivas**, S F Oberbauer, C E Tweedie, W C Oechel

1700h **U44A-05** The links between hydrology and dissolved organic carbon export in a subarctic landscape experiencing permafrost thaw: D Olefeldt, A Persson, **N T Roulet**

1715h **U44A-06** The impacts of thawing permafrost on tundra lakes, Mackenzie Delta region, NWT, Canada. (*Invited*): **S Kokelj**, M S Thompson, T Lantz, J Thienpont, M F Pisaric, J P Smol, J Blais, B Zajdlik

1730h **U44A-07** Negative climate feedbacks from surface permafrost degradation in the continuous permafrost zone – Thermokarst lakes on the run: **G Grosse**, K M Walter Anthony, V E Romanovsky, L J Plug, B M Jones, M E Edwards

1745h **U44A-08** Novel Disturbance on Alaska's North Slope: Effects of a Large Wildfire on Ecosystem Carbon and Nitrogen Dynamics: **M C Mack**, M Bret-Harte, T N Hollingsworth, R R Jandt, G R Shaver, E A Schuur, D Verbyla

Atmospheric Sciences

A44A Moscone West: 3008 Thursday 1600h
Atmospheric Carbon Dioxide: Observation, Validation, Modeling, and Assimilation II (*joint with GC*)

Presiding: **N Gruber**, ETH Zurich; **C Sweeney**, University of Colorado, CIRES

1600h **A44A-01** In-situ vertical profiles of greenhouse gases: Why we need them and how we are going to get them in the future: **C Sweeney**, A Karion, P P Tans, J H Butler, E Crosson

1630h **A44A-02** A Calibration for the Total Carbon Column Observing Network using HIPPO Aircraft Profiles: **D Wunch**, G C Toon, S C Wofsy, B B Stephens, J L Blavier, G Keppel-Aleks, V Sherlock, B J Connor, N M Deutscher, D W Griffith, R Macatangay, P O Wennberg

1645h **A44A-03** Southern Ocean CO₂ fluxes, Atmospheric CO₂, and the Tropical Land Source: **N Gruber**, K Steinkamp

1700h **A44A-04** Column Averaged CO₂, CH₄, and CO Mixing Ratios at ARM-SGP: **M L Fischer**, D Wunch, S Biraud, J B Abshire, J L Blavier, G Keppel-Aleks, S S Kulawik, C E Miller, C M Roehl, V Payne, C Sweeney, J Smith, G C Toon, M S Torn, P O Wennberg

1715h **A44A-05** Estimation of CO₂ Surface Fluxes From Satellite Data using a 2-step Approach: **R J Engelen**, F Chevallier

1730h **A44A-06** Error correlation between CO₂ and CO as constraint for CO₂ flux inversions using satellite data: **H Wang**, D J Jacob, M Kopacz, D B Jones, P Suntharalingam, J A Fisher, R Nassar, S Pawson, E Nielsen
 1745h **A44A-07** Using Tropospheric Emission Spectrometer (TES) CO₂ observations to improve inverse modeling estimates of carbon fluxes: **R Nassar**, D B Jones, S S Kulawik, J M Chen, R J Andres, P Suntharalingam

A44B Moscone West: 3004 Thursday 1600h
Cloud Properties and Physical Processes, Including Aerosol-Cloud Interactions III

Presiding: **J A Coakley**, Oregon State University; **D Rosenfeld**, The Hebrew University of Jerusalem

1600h **A44B-01** CALIPSO and MODIS Observations of Increases in Aerosol Optical Depths near Marine Stratocumulus: **J A Coakley**, W R Tahnk
 1615h **A44B-02** The Near-Omnipresence of Coalescence in Warm Clouds: A Different Explanation for the Hoppel Dip: **J B Jensen**
 1630h **A44B-03** Cluster Analysis of Large Scale Dynamics of Growing and Dissipating Cirrus Events Observed by A-Train and Geostationary Satellite: **E J Dupont**, G G Mace, P Minnis, R Palikonda
 1645h **A44B-04** Cloud and precipitation regimes revealed by combined CloudSat and ISCCP observations: **J M Haynes**, T S L'Ecuier, G L Stephens, C Jakob
 1700h **A44B-05** Sea-breeze induced convection over Houston: Sensitivity of Aerosol Indirect Effects to instability: **G G CARRIO**, W R Cotton
 1715h **A44B-06** How much water can pollution aerosols hold in the cloud by suppressing warm rain?: **D Rosenfeld**
 1730h **A44B-07** Aerosol-Cloud Interactions and Cloud Microphysical Properties in the Asir Region of Saudi Arabia: **P A Kucera**, D Axisa, R P Burger, R Li, D R Collins, E J Freney, P R Buseck
 1745h **A44B-08** Chemical Characterization of Biomass Burning Aerosols and an Examination of Their Impact on Clouds: **K A Pratt**, S M Murphy, C H Twohy, R Subramanian, J Seinfeld, K A Prather

A44C Moscone West: 3002 Thursday 1600h
Climate General Contributions II

Presiding: **J C Cohen**, Federal University of Para; **J R Dim**, JAXA; **S Mieruch**, University of Bremen; **M Georgescu**, Stanford University

1600h **A44C-01** Impact of deforestation on climate at Amazon Basin: Simulations using high resolution: **J C Cohen**, J D Beltrao, A W Gandu, R R Ramos-da-Silva
 1615h **A44C-02** A new climate classification based on Markov chain analysis: **S Mieruch**, S Noël, H Bovensmann, J P Burrows, J A Freund
 1630h **A44C-03** Use of Time Series Analyses for Cloud Types Extraction and Variability in the Context of Global Climate Change: **J R Dim**, H Murakami, M Hori, T Y Nakajima
 1645h **A44C-04** The Atlantic interhemispheric thermal gradient in the 20th century – an asymmetric warming and its possible forcings: **C Chang**, J C Chiang, M F Wehner
 1700h **A44C-05** Climate changes due to phase shift of the seasonal component of Earth's surface temperatures: **A Vecchio**, V Carbone, V Capparelli
 1715h **A44C-06** Assessing the capacity of IPCC-GCMs to reproduce weather types in tropical South America: An approach using a Neuronal Networks method: **J Espinoza**, J Boulanger, M Lengaigne, J Ronchail, H Rust

1730h **A44C-07** Evaluation of Precipitation from Reanalyses Products Using Gauge-Based Analysis of Daily Precipitation over East Asia: **T Zhao**, A I Yatagai
 1745h **A44C-08** Climate Implications of land-use change associated with U.S. biofuels: **M Georgescu**, C Field, D B Lobell

A44D Moscone West: 3006 Thursday 1600h
Pathways of Mercury Transport and Exposure at Multiple Scales I (joint with B, OS)

Presiding: **N E Selin**, Massachusetts Institute of Technology

1600h **A44D-01** A Methylmercury Prediction Too For Surface Waters Across The Contiguous United States (*Invited*): **D P Krabbenhoft**, N Booth, M Lutz, M N Fienen, T Saltman
 1620h **A44D-02** Mercury Isotopic Evidence for Contrasting Mercury Transport Pathways to Coastal versus Open Ocean Fisheries (*Invited*): **J D Blum**, D B Senn, E J Chesney, M S Bank, A Maage, J P Shine
 1640h **A44D-03** Evidence for the free troposphere as a source of atmospheric mercury measured in Reno, Nevada, U.S.A: **M S Gustin**, S N Lyman
 1655h **A44D-04** Global source-receptor relationships for mercury under present and year 2050 anthropogenic emissions scenarios: **E S Corbitt**, C Holmes, D J Jacob, D G Streets, N E Selin, A Sorensen, E M Sunderland
 1710h **A44D-05** Lake Recovery Following Mercury Deposition Changes: **L Levin**, K Lohman
 1725h **A44D-06** Production and Cycling of Methylated Mercury Species in Arctic Marine Waters: **I Lehnher**, V L St.Louis, H Hintelmann
 1740h **A44D-07** Observations of iodine oxide and reactive gaseous mercury at a coastal site in Pensacola, FL: **S Coburn**, B K Dix, R Sinreich, A F Terschure, E S Edgerton, R Volkamer

Biogeosciences

B44A Moscone West: 3016 Thursday 1600h
Carbon and Water Cycles: Interpreting and Assimilating From Leaf and Soil Column to Globe II (joint with H)

Presiding: **A D Richardson**, Harvard University; **M Reichstein**, Max-Planck-Inst. for Biogeo.

1600h **B44A-01** Model-data fusion at scales from site to globe: Uncertainty assessment, network design and multiple data constraints: **K J Davis**, M P Butler, L I Diaz, T W Hilton, K Keller, T LAUVAUX, N Miles, B M Raczka, R Tonkononenkov, N M Urban, J Xiao
 1615h **B44A-02** Beyond MCMC: Data-constraint and error propagation in a dynamic terrestrial biosphere model through Bayesian model emulation (*Invited*): **M Dietze**, D LeBauer, P R Moorcroft, A D Richardson, D Wang
 1630h **B44A-03** Carbon cycling at a temperate evergreen forest: a comparison of three ecosystem-model data assimilation systems at Howland, ME (*Invited*): **D J Moore**, A D Richardson, D M Ricciuto, D Hollinger
 1645h **B44A-04** Spatial structure in North American regional CO₂ fluxes evaluated with a simple land surface model: **T W Hilton**, K J Davis, K Keller, N M Urban
 1700h **B44A-05** Spatial pattern of terrestrial carbon dioxide and water vapor coupling: **C Beer**, M Reichstein, P Ciais, E L Davin, P J Oliveira, S Piao, T Raddatz, E Tomelleri, N Viovy

1715h **B44A-06** Global evapotranspiration from remote sensing (SRB, AIRS, MODIS) validated at 36 FLUXNET sites: **D Armanios, J B Fisher**, K P Tu

1730h **B44A-07** Using Atmospheric Measurements of Carbonyl Sulfide to Constrain Conductance: **J A Berry**, J E Campbell, I T Baker, S A Montzka, S R Kawa

1745h **B44A-08** WITHDRAWN

B44B Moscone West: 3018 Thursday 1600h
Carbon Cycling in Northern Peatlands II

Presiding: **X Comas**, Florida Atlantic University; **A S Reeve**, University of Maine; **L D Slater**, Rutgers-Newark

1600h **B44B-01** Carbon fluxes from restored peatlands – the carbon benefit of revegetation: **J Rowson, F Worrall**, M Evans, A Bonn

1615h **B44B-02** Oxygen effects on methane production and oxidation in managed peatland soils: **T E Wood**, W L Silver

1630h **B44B-03** Simulating the sensitivity of northern peatlands to climate change: coupling hydrology and carbon dynamics: **N T Roulet**, J Wu

1645h **B44B-04** Contrasting natural abundance radiocarbon signatures of methane released upon permafrost decomposition. (*Invited*): **J Chanton**, K M Walter Anthony, J Prater, G Whiting

1700h **B44B-05** GOOD WIL 'O THE WISP HUNTING! MEASURING AND MODELING PEATLAND METHANE BUBBLE BUILDUP AND EBULLITION: **J M Waddington**, A J Baird, T J Coulthard, J Ramirez

1715h **B44B-06** The Red Lake Peatland Observatory (RLPO): A multi-sensor instrument array for monitoring carbon-water dynamics in a large northern peatland: **P H Glaser**, D O Rosenberry, A S Reeve, D I Siegel, J P Chanton, L D Slater, X Comas, J M Rhoades, L Allen, J Corbett, J D'Andrilli, M I Tfilany, A Parsekian, J Nolan, M Sarkar, M Gracz, P J Morin

1730h **B44B-07** Variations in methane flux to the atmosphere within and between microhabitats in a northern peatland system: **S M Green**, A J Baird

1745h **B44B-08** Fire Severity And Long-Term Carbon Accumulation In Sub-Arctic Peatlands In Northern Manitoba, Canada: **P Camill**, C E Umbanhowar, A Dupont, H Jacobson, M Leopold

Cryosphere

C44A Moscone West: 3014 Thursday 1600h
Remote Sensing of the Cryosphere II

Presiding: **M Tedesco**; **T H Painter**, Snow Optics Laboratory

1600h **C44A-01** Comparison of MODIS, thermochron and station temperatures at Summit, Greenland during the winter of 2008-09: **L Koenig**, D K Hall

1615h **C44A-02** A Pilot Study to Compare SSM/I Passive Microwave derived Melt Onset Dates to Satellite-Derived Albedo Melt Onset Dates for select points throughout the Arctic: **M R Anderson**, J Busse, S Drobot

1630h **C44A-03** Satellite-derived pan-Arctic melt onset dataset, 2000-2009: **L Wang**, C Derksen, S Howell, G J Wolken, M J Sharp, T Markus

1645h **C44A-04** An analysis of MODIS fractional snow cover estimates for snowmelt runoff modeling: **C M Steele**, A Rango, M P Bleiweiss

1700h **C44A-05** Topographic and Climatic Controls on Snow Cover Duration in the Sierra Nevada (*Invited*): **N P Molotch**, L Meromy

1715h **C44A-06** THE IMPACT OF FIRN COMPACTION ON ESTIMATES OF ICE SHEET MASS BALANCE: **J Li**, H J Zwally

1730h **C44A-07** Ice velocity determined using conventional and multiple-aperture InSAR: A Shepherd, **N Gourmelen**, S Kim, S J Palmer, H Bjornsson, F Palsson

1745h **C44A-08** Comparing Field Observations of Arctic Sea Ice to SSM/I and AMSR-E Sea Ice Products 2006-2009: **A R Orlich**, J K Hutchings, A Prakash

Education and Human Resources

ED44A Moscone West: 3020 Thursday 1600h
Geocognition and Geoscience Education Research: Impacts on Course Curriculum and Student Learning II

Presiding: **L Arthurs**, University of Colorado at Boulder; **D K Duncan**, Univ. of Colorado; **J Libarkin**, Michigan State University

1600h **ED44A-01** Insights from a decade of research into the teaching and learning of space science. (*Invited*): **E Prather**

1615h **ED44A-02** Education Research and Teaching in Astrophysical & Planetary Sciences at the Univ. of Colorado: **D K Duncan**, L Arthurs

1630h **ED44A-03** Geocognition Research: An International Discipline (*Invited*): **J Libarkin**

1645h **ED44A-04** Mississippi State University's Geoscience Education and Geocognition Research Program in the Department of Geosciences: **K McNeal**, R M Clary, K Sherman-Morris, B Kirkland, D Gillham, A Moe-Hoffman

1700h **ED44A-05** Geoscience Education and Cognition Research at George Mason University: **G K Mattiotti**, E E Peters, S Verardo

1715h **ED44A-06** CU's Department of Geological Sciences - Science Education Initiative Project (GEOL-SEI): A five-year plan for introducing and supporting an evidence-based and scientific approach to teaching: **L Arthurs**, D A Budd

1730h **ED44A-07** Geoscience Education Research, Development, and Practice at Arizona State University: **S C Semken**, S J Reynolds, J Johnson, D R Baker, J Luft, J Middleton

1745h **ED44A-08** Research Into the Role of Students' Affective Domain While Learning Geology in Field Environments: **J Elkins**

Earth and Planetary Surface Processes

EP44A Moscone West: 2008 Thursday 1600h
The Imprint of Quaternary Climate Change on Landscapes II
(*joint with C, H, PP, GC*)

Presiding: **S Aciego**, ETH-Zurich; **R Amundson**, University of California; **A Dosseto**, University of Wollongong

1600h **EP44A-01** High-relief glacial landscape evolution constrained by apatite ⁴He/³He thermochronometry: **D L Shuster**, J W Sanders, K M Cuffey

1615h **EP44A-02** Transient Events and Landscape Response in Boulder Creek, Colorado Front Range (*Invited*): **S P Anderson**, M Duehnforth, R S Anderson, M M Berlin, D P Dethier, G E Tucker, C W Wobus, A Blum, M Leopold, M W Williams, K M Befus, A F Sheehan

1630h **EP44A-03** Timescale dependence of erosion rates, a case of study: Marinelli Glacier, Cordillera Darwin, southern Patagonia: **R A Fernandez-Vasquez**, J B Anderson, J S Wellner

1645h **EP44A-04** The Zebra Stripes of the Atacama Desert: Geomorphic Evidence of Quaternary Climate Changes: **J J Owen**, R Amundson, W E Dietrich, K Nishiizumi, R C Finkel, G Chong
 1700h **EP44A-05** Do bedrock river terraces record climate change? Evidence for episodic bedrock terrace formation due solely to meander bend growth and cutoff: **N J Finnegan**, W E Dietrich
 1715h **EP44A-06** Soil collapse and dilation as modifier of hillslope morphology (*Invited*): **O Chadwick**, S R Levick, L Khomo, A S Hartshorn, A M Heimsath, C Bern
 1730h **EP44A-07** The record of quaternary climate change preserved by marine radiogenic isotopes: **K W Burton**, I J Parkinson, A Gannoun

Geodesy

G44A Moscone West: 3022 Thursday 1600h
Volcano Geodesy: Monitoring and Modeling III (*joint with S, V, NH, IN*)

Presiding: A Newman, Georgia Tech; M Lisowski, USGS

1600h **G44A-01** Numerical tools for modelling ground deformation and gravity changes on volcanoes (*Invited*): **C Del Negro**, A Bonaccorso, G Currenti
 1615h **G44A-02** Monitoring and Modeling of Ground Deformation at Three Sisters volcanic center, central Oregon Cascade Range, 1997-2009 (*Invited*): **D Dzurisin**, M Lisowski, C W Wicks
 1630h **G44A-03** Deformation interplay at Hawaii Island: **M Shirzaei**, T R Walter
 1645h **G44A-04** Evidence that the coupling of magma chambers and dykes controls transient dyke volume and velocity: **E Rivalta**
 1700h **G44A-05** Modelling Steady Magmatic Inflation at Uturuncu Volcano, Bolivia: **J Pearse**, Y A Fialko
 1715h **G44A-06** Geodetic Observations and Numerical Models of Magmatic Activity at Taal Volcano, Philippines: M W Hamburger, **G A Galgana**, A V Newman, R U Solidum, T Bacolcol
 1730h **G44A-07** Interaction between magmatic and faulting processes in the Long Valley caldera, California: **A Enneking**, K M Johnson, M W Hamburger, A J Hooper
 1745h **G44A-08** Incompressibility of Magma in a Volcanic Reservoir from Strain Changes Immediately Before Eruption: **A T Linde**, S I Sacks

Global Environmental Change

GC44A Moscone West: 3001 Thursday 1600h
Uncertainty Quantification and Its Application to Climate Change II (*joint with A, NH, OS, IN*)

Presiding: M Boslough, Sandia National Laboratories; C Covey, PCMDI

1600h **GC44A-01** Estimating climate projection uncertainties from multi model ensembles of global general circulation models (*Invited*): **R Knutti**
 1620h **GC44A-02** Incorporating Model Quality Information in Climate Change Detection and Attribution Studies (*Invited*): **B D Santer**, K E Taylor, P J Gleckler, C Bonfils, T P Barnett, D W Pierce, T M Wigley, C A Mears, F J Wentz, W Bruggemann, N Gillett, S Klein, S Solomon, P Stott, M F Wehner
 1640h **GC44A-03** Robust Constraints for Climate Sensitivity in Multiple Perturbed Physics Ensembles (*Invited*): **B M Sanderson**

1700h **GC44A-04** Compensation between model feedbacks and curtailment of climate sensitivity: **P Huybers**
 1712h **GC44A-05** Relative contributions of uncertainty in anthropogenic emissions and climate system response to the uncertainty of projected 21st century climate: **A P Sokolov**, P H Stone, C E Forest, R G Prinn, M C Sarofim, M Webster, S Paltsev, J M Reilly
 1724h **GC44A-06** Probabilistic Predictions of Regional Climate Change: **G R Harris**, D M Sexton, B B Booth, K Brown, M Collins, J M Murphy
 1736h **GC44A-07** Uncertainty Quantification in the Presence of Limited Climate Model Data with Discontinuities: **C Safta**, K Sargsyan, B Debusschere, H Najm
 1748h **GC44A-08** Understanding Climate Uncertainty with an Ocean Focus: **R T Tokmakian**

Geomagnetism and Paleomagnetism

GP44A Moscone South: 102 Thursday 1600h
Edward Bullard Lecture (This session will be Webcast)

Presiding: C Constable, IGPP; R J Blakely, U.S Geological Survey

1605h **GP44A-01** Rocks That Remember (*Invited*): **S A McEnroe**

Hydrology

H44A Moscone West: 3005 Thursday 1600h
Computational Paradigms and Emerging Issues in Hydrologic Modeling and Hydrosystems Management II

Presiding: R S Teegavarapu, Florida Atlantic University; B Tolson, University of Waterloo; L S Matott, University of Waterloo; L Ormsbee, University of Kentucky

1608h **H44A-01** River network routing in all rivers of the Texas Gulf: **C H David**, D R Maidment, S Hong, G Niu, Z Yang
 1622h **H44A-02** Stream Flow Estimation via Belief Propagation for Sparsely Instrumented Watersheds: **C R Krekeler**, K Nagarajan, W D Graham, K C Slatton
 1636h **H44A-03** Advancing multi-model approaches to rainfall-runoff modeling: strategies for model emulation and mixtures-of-experts modeling: **L A Marshall**, D J Nott, M Fielding, A Sharma, S Y Liong
 1650h **H44A-04** Proper use of MSE-based criteria for calibration and evaluation of hydrologic models: **G F Martinez Baquero**, H V Gupta
 1704h **H44A-05** Efficiency of Evolutionary Algorithms for Calibration of Watershed Models: **M Ahmadi**, M Arabi
 1718h **H44A-06** Reduced order parameter estimation using quasilinearization and quadratic programming: **A J Siade**, M Putti, D Kendall, W W Yeh
 1732h **H44A-07** Implementation of Parallel Algorithm and Radial Basis Function (RBF) Method for Computationally Expensive Groundwater Models: **A Singh**, C A Shoemaker
 1746h **H44A-08** Comparison of computationally frugal (linear) to expensive (nonlinear) methods for analyzing inverse modeling results: **S Mehl**, L Foglia, M C Hill

H44B Moscone West: 3007 Thursday 1600h
Evaporation From Lakes, Reservoirs, and Wetlands I (*joint with A*)

Presiding: M B Parlange, EPFL - Lausanne; J Tanny, Inst of Soil Water & Environ

1600h **H44B-01** The effect of scale on the applicability of Taylor's hypothesis (*Invited*): C W Higgins, M B Parlange, M Froidevaux, V Simeonov

1615h **H44B-02** Evaporation and the mass and energy balances of the Dead Sea (*Invited*): N Lensky, I Gavrieli, I Gertman, R Nehorai, I M Lensky, V Lyakhovsky, Y Dvorkin

1630h **H44B-03** Closing the Energy Budget: Advances in assessing heat fluxes into shallow lakes and ponds (*Invited*): S W Tyler, M B Hausner, F I Suarez, J S Selker

1645h **H44B-04** Salt marsh-atmosphere exchange of energy, water vapor, and CO₂: effects of transient flooding: K B Moffett, S Gorelick

1700h **H44B-05** Measurement of Wetland Evapotranspiration in Southern Florida: T Bernier, C Lopez, W B Shoemaker

1715h **H44B-06** Heat and Water Vapor Fluxes Over a Lake: a LES and Field Campaign Investigation: N Vercauteren, M Froidevaux, C W Higgins, V Kumar, E Bou-Zeid, M B Parlange

1730h **H44B-07** Evaporation from partially covered water surfaces: S Assouline, D Or

1745h **H44B-08** Enhanced Evaporation and Surface Temperatures in a Northern Wisconsin Lake: A Combined Response to Global Warming and Local "Brightening": J D Lenters, K D Holman, J Wang

H44C Moscone West: 3009 Thursday 1600h
Meandering Rivers: Advances in Research III (*joint with EP*)

Presiding: J D Abad, University of Pittsburgh; I Guneralp, Texas A&M University

1600h **H44C-01** The Dynamics of Submarine Meandering Channels: Are Terrestrial Systems Good Analogues? (*Invited*): S E Darby, J Peakall, D R Parsons

1625h **H44C-02** Flow Structure and Channel Change in a Chute Cutoff along a Large Meandering River: B L Rhoads, J Best, K Johnson, F L Engel

1640h **H44C-03** A non-linear meander model: Development and Implications: W Ottevanger, K Blankart, W S Uijttewaalt

1655h **H44C-04** Highly Sinuous Meanders on Mars: Morphology, Hydrology and Terrestrial Analogs (*Invited*): A D Howard, D M Burr, R Williams

1720h **H44C-05** Arctic River Mobility: A Baseline Assessment: J C Rowland, C J Wilson, S P Brumby, P A Pope

1735h **H44C-06** Meandering: fluvial versus tidal. (*Invited*): G Seminara

H44D Moscone West: 3011 Thursday 1600h
Understanding Land-Atmosphere Interactions With Models and Observations III

Presiding: J A Santanello, NASA-GSFC; M B Ek, NOAA/NWS/NCEP

1600h **H44D-01** The Role of Landform, Land-Use and Land-Cover in the Diurnal Cycle of Rainfall (*Invited*): A P Barros, P Shrestha, X Sun

1630h **H44D-02** Investigation of the impacts of vegetation distribution and evaporative cooling on urban climate using a coupled LES-LSM model: H Huang, C Chu, S A Margulis

1645h **H44D-03** Large-Eddy Simulations of the Convective Atmospheric Boundary Layer over Heterogeneous Land Surfaces: D Nadeau, V Kumar, C W Higgins, M B Parlange

1700h **H44D-04** Comparison of land-precipitation coupling strength using observations and models: X Zeng, M J Barlage, C L Castro

1715h **H44D-05** Identifying parameters to describe local land-atmosphere coupling: M B Ek, C M Jacobs, J A Santanello, O Tuinenburg

1735h **H44D-06** Spectral behavior of a land-atmosphere coupled model and applications to hydrometeorology (*Invited*): D Entekhabi, P Gentile, J Polcher

Earth and Space Science Informatics

IN44A Moscone South: 309 Thursday 1600h
Data Stewardship in the 21st Century II

Presiding: H K Ramapriyan, NASA; R E Duerr, National Snow and Ice Data Center

1600h **IN44A-01** Meeting the Challenge of Data Stewardship through Community Partnership and Practice: Examples from the USGS (*Invited*): L C Gundersen

1615h **IN44A-02** The Data Conservancy: S Choudhury, R E Duerr

1630h **IN44A-03** A NASA Program Perspective on Data Stewardship (*Invited*): M E Maiden

1645h **IN44A-04** DataONE: Enabling Data-Intensive Biological and Environmental Research through Cyberinfrastructure: R B Cook, W K Michener, M T Frame, S E Hampton, T J Vision

1700h **IN44A-05** The NOAA Archives of the 21st Century: K S Casey, J Relp, E Kihn, J J Bates, L McCulloch, K R McDonald, R Vizbulis

1715h **IN44A-06** Towards systematic information exchange and reuse in e-laboratories: P Missier, C Goble, D De Roure

1730h **IN44A-07** Enabling Successful Submissions of Scientific Data for Preservation and Future Use: R R Downs, R S Chen

1745h **IN44A-08** Defining the Data Citation Problem in the DataNet Context: J Kunze, R B Cook, P Cruse, C Tenopir, T J Vision, W K Michener

Natural Hazards

NH44A Moscone West: 2006 Thursday 1600h
Landslide Prediction and Assessment: Mechanisms and Controls on Size Distribution III (*joint with G, NG, T*)

Presiding: H Fukuoka, Kyoto University; D B Kirschbaum, NASA Goddard Space Flight Center

1600h **NH44A-01** A framework for spatial and temporal prediction of shallow landslides induced by rainfall (*Invited*): J W Godt, N Lu, B Sener-Kaya, R L Baum

1615h **NH44A-02** The early warning system of landslides and sediment runoffs using meteorological condition including rainfall-soil moisture index (*Invited*): T Kubota, I C Silva, H Hasnawir

1630h **NH44A-03** Evaluation of Physically-based Model's Predictive Skill for Hurricane-triggered Landslides: Case Study in North Carolina and Indonesia: Z Liao, Y Hong, H Fukuoka, K Sassa

1645h **NH44A-04** Landslides triggered by rainfalls: regionalization of empirical models: P Versace, G Capparelli, D De Luca

1700h **NH44A-05** Regional landslide hazard assessment for Kulon Progo Area, Central Java, Indonesia: D Karnawati

1715h **NH44A-06** Rainfall Induced Landslides in Puerto Rico
(*Invited*): **C Lepore**, S Kamal, E Arnone, V Noto, P Shanahan,
R L Bras

1730h **NH44A-07** New techniques for landslide hazard assessments:
opportunities, methodology, and uncertainty: **D B Kirschbaum**,
C D Peters-Lidard, R F Adler, Y Hong

1745h **NH44A-08** Prediction of Rainfall-Induced Landslides:
F Nadim, F Sandersen

Near Surface Geophysics

NS44A Moscone West: 2002 Thursday 1600h
Near-Surface Geophysics General Contributions III (*joint with*
S, H, GP)

Presiding: **C J Weiss**, Virginia Tech; **L H Cox**, Montana Tech

1600h **NS44A-01** Requirements for a multi-scale, ultra wide-band
National Geoelectromagnetic Facility (*Invited*): **A Schultz**

1630h **NS44A-02** A review of controlled-source electromagnetic
science applications and opportunities for imaging in the depth
range 20 m to 1 km (*Invited*): **M E Everett**

1700h **NS44A-03** GEOPHYSICAL METHODS FOR COAL FIRE
DETECTION AND MONITORING: **U Meyer**, V Gundelach,
M Vasterling, A Lambrecht, H Rueter, H Lindner

1715h **NS44A-04** Integration of Seismic and SkyTEM in a
Heterogeneous Geological Setting: **A H Christensen**, H Lykke-
Andersen, F Jorgensen, E Nørmark, E Auken

1730h **NS44A-05** Three-Dimensional Loop-Source EM Inversion
Using Non-Linear Conjugate Gradients: **M S Hickey**, M E Everett

1745h **NS44A-06** Survey Design for Large-Scale, Unstructured
Resistivity Surveys: **D J LaBrecque**, D Casale

Ocean Sciences

OS44A Moscone West: 3003 Thursday 1600h
Gas Hydrates: Results of Recent Field Investigations V (*joint*
with PP)

Presiding: **R M Boswell**, US Dept of Energy; **T Saeki**, JOGMEC

1600h **OS44A-01** Long-term Variability of Carbon and Nitrogen in
the Bay of Bengal and Arabian Sea: Results from NGHP Expedition
1: **J E Johnson**, S C Phillips, E Miranda, L Giosan, K Rose

1615h **OS44A-02** High-flux Gas Seepage fuels Shallow Gas Hydrate
Deposits in the Eastern Black Sea: **T Pape**, A Bahr, S A Klapp,
J D Kessler, G Bohrmann

1630h **OS44A-03** Intimate association of sI and sII hydrate
structures at the Chapopote asphalt volcano, southern Gulf of
Mexico: **S A Klapp**, M M Murshed, T Pape, H Klein, G Bohrmann,
W F Kuhs, P G Brewer

1645h **OS44A-04** The Methane Sources and Flux in Offshore SW
Taiwan: **T F Yang**, S Lin, Y Wang

1700h **OS44A-05** Depressurization of Natural GH-bearing
Sediments using New Instrumented Pressure Chamber with Vertical
Effective Stress – Preliminary Results: **J Lee**, J Lee, M Lee

1715h **OS44A-06** A Sea Floor Methane Hydrate Displacement
Experiment Using N₂ Gas: **P G Brewer**, E T Peltzer, P M Walz,
X Zhang, K Hester

1730h **OS44A-07** Diagenetic modeling of sulfate reduction
in sediment sequences overlying methane hydrate deposits:
A Malinverno, J Pohlman

1745h **OS44A-08** Dissolved methane profiles in marine sediments
observed *in situ* differ greatly from analyses of recovered cores:
X Zhang, P G Brewer, K Hester, W Ussler, P M Walz, E T Peltzer,
J Ripmeester

Planetary Sciences

P44A Moscone South: 307 Thursday 1600h
Planetary Cores and Subsurface Ocean Dynamics Driven by
Mechanical Forcings II (*joint with GP, DI*)

Presiding: **J Noir**, UCLA; **P CARDIN**, LGIT - UJF/CNRS

1600h **P44A-01** High-precision measurements of planetary
spin states as probes of interior structure and processes (*Invited*):
J Margot

1613h **P44A-02** The Influence of a Liquid Internal Layer on the
Rotation Variations of Terrestrial Planets and Icy Satellites (*Invited*):
T Van Hoolst

1626h **P44A-03** Numerical simulations of magnetic field
induction in the tidally driven oceans of Europa and Titan (*Invited*):
G A Glatzmaier, E M Chen, F Nimmo, K K Khurana

1639h **P44A-04** Some Consequences of the Mechanical Forcing of
Cores and Oceans (*Invited*): **D J Stevenson**

1652h **P44A-05** On fluid flow driven by topography in a librating
body: C Wu, **P H Roberts**

1705h **P44A-06** Constraints on the couplings at the core-mantle
and inner core boundaries inferred from nutation observations
(*Invited*): **L Koot**, A Rivoldini, O de Viron, V M Dehant, M Dumberry

1718h **P44A-07** Earth's Core-Mantle Boundary (*Invited*): **T Lay**

1731h **P44A-08** Evidence for and against density stratification at
the top of the liquid core. (*Invited*): **D Gubbins**

1744h **P44A-09** Numerical models of zonal flow and dynamo
action in Jupiter and Saturn (*Invited*): **M H Heimpel**, N Gomez Perez

Paleoceanography and Paleoclimatology

PP44A Moscone West: 2004 Thursday 1600h
Cenozoic Greenhouse Climates and Carbon Cycle Dynamics
III (*joint with B, GC, OS*)

Presiding: **J C Zachos**, Univ California Santa Cruz; **A Sluijs**, Utrecht
University; **R E Zeebe**, University of Hawaii

1600h **PP44A-01** Global carbon isotope records and carbon cycle
feedbacks following the PETM perturbation (*Invited*): **G J Bowen**

1615h **PP44A-02** Polar methane production, hothouse climates,
and climate change: **H C Fricke**, C Williams, J B Yavitt

1630h **PP44A-03** A high-resolution record from Svalbard of carbon
release during the Paleocene-Eocene Thermal Maximum: **Y Cui**,
L R Kump, A Ridgwell, C K Junium

1645h **PP44A-04** Quantitative ecological analysis of the
nannoplankton response to the Paleocene Eocene Thermal
Maximum: **T J Bralower**, L J Schneider, S Gibbs, I Raffi, J A Sessa

1700h **PP44A-05** A terrestrial PETM record of variations in
carbon and hydrologic cycles from Northern Italian: **B J Tipler**,
S S Dirghangi, S Krishnan, C Agnini, S Galeotti, R Domenico,
M Pagani

1715h **PP44A-06** ENSO-Scale Variability in the Eocene Greenhouse
Recorded by Fossil Bivalves and Wood from Antarctica (*Invited*):
L C Ivany, T Brey, M Huber, D Buick, B Lomovasky, B R Schone

1730h **PP44A-07** Geochemical Changes in Response to Greenhouse Gas Forcing at the PETM using CCSM3: **A M Winguth**, C Winguth, K T Lindsay

1745h **PP44A-08** How Uncertain Is The Uncertainty In (Paleocene-Eocene) Climate Sensitivity? (*Invited*): **A Ridgwell**

SPA - Aeronomy

SA44A Moscone South: 303 Thursday 1600h
The ITM System From Solar Maximum to Solar Minimum: Recent Progress and Outstanding Questions II

Presiding: **E R Talaat**, The Johns Hopkins University Applied Physics Laboratory; **J M Russell**, Hampton University

1600h **SA44A-01** The response of the stratosphere to solar variability: What role does the QBO play? (*Invited*): **R R Garcia**

1620h **SA44A-02** Observations of mesospheric semi-annual oscillation and quasi-biennial oscillation over Hawaii: **T Li**, A Z Liu, X Lu, S Franke, G R Swenson, T Leblanc, I S McDermid

1635h **SA44A-03** Anticyclones in the Middle Atmosphere During Solar Maximum and Solar Minimum: **V Harvey**, R L Collins, C E Randall, R R Garcia

1650h **SA44A-04** Solar cycle effects in mesospheric ice clouds (*Invited*): **F Luebken**, U Berger, G Baumgarten, J Fiedler, M Gerding

1710h **SA44A-05** Comparison of Stratopause and Mesopause Temperature and Height between Solar Maximum and Solar Minimum: **J A France**, L Harvey, C E Randall, E E Remsberg

1725h **SA44A-06** The Accuracy of Ozone Concentration Derived from the 1.27 μm Dayglow Emission in the Mesosphere and Lower Thermosphere: **J Yee**, X Zhu, J M Russell, M Mlynzack

1740h **SA44A-07** Seasonal and interannual variability of gravity waves from airglow imaging at Adelaide and Alice Springs: **L J Gelinas**, J H Hecht, I M Reid, R A Vincent, R L Walterscheid, J M Woithe

SPA - Solar and Heliospheric Physics

SH44A Moscone South: 301 Thursday 1600h
Coronal Structure, Heating, and Dynamics II

Presiding: **I H Cairns**, University of Sydney; **S W Mcintosh**, NCAR/HAO

1600h **SH44A-01** Observing the Roots of Coronal Heating - in the Chromosphere: **S W Mcintosh**, B De Pontieu, V H Hansteen, K Schrijver

1615h **SH44A-02** Heating of the solar chromosphere by strong damping of Alfvén waves: **P Song**, V M Vasyliunas

1630h **SH44A-03** Coronal Radio Sounding with MEX, VEX and Rosetta: **M K Bird**, M Paetzold, S Tellmann, M Hahn, B Haeusler, G L Tyler, S W Asmar, A I Efimov, I V Chashei

1645h **SH44A-04** DIRECT RADIO PROBING AND INTERPRETATION OF THE SUN'S DENSITY PROFILE:

I H Cairns, V Lobzin, A Warmuth, B Li, P A Robinson, G J Mann

1700h **SH44A-05** MHD Simulations of the Interaction of Small Polarities in Coronal Holes: **R Lionello**, J A Linker, Z Mikic, V S Titov

1715h **SH44A-06** Generation of the Fast Solar Wind by Obliquely-Propagating Ion Cyclotron Waves: **P A Isenberg**, B J Vasquez

1730h **SH44A-07** ON THE DOWNFLOWS IN HEDGEROW PROMINENCES: **T E Berger**, **G Haerendel**

1745h **SH44A-08** Tomography with LASCO-C2 Total Brightness Images: **R A Frazin**, A Llebaria, P L Lamy

SPA - Magnetospheric Physics

SM44A Moscone South: 305 Thursday 1600h
Magnetospheric Plasma Waves: Generation, Propagation, and Interaction With Energetic Particles II

Presiding: **A A Chan**, Rice University; **S R Elkington**, LASP, University of Colorado

1600h **SM44A-01** Wave vector directions of whistler-mode chorus (*Invited*): **O Santolik**, J S Pickett, D A Gurnett, E Macusova, J D Menietti, N Cornilleau-Wehrin, B Tsurutani, O P Verkhoglyadova

1618h **SM44A-02** Dayside Outer Zone (DOZ) Chorus at High Latitudes: Properties and Possible Role of Minimum B Pockets (*Invited*): **B Tsurutani**, O P Verkhoglyadova, O Santolik, J S Pickett, S Yagitani, B Falkowsky

1636h **SM44A-03** THEMIS Analysis of Observed Equatorial Electron Distributions Responsible for Chorus Excitation: **W Li**, R M Thorne, Y Nishimura, J Bortnik, V Angelopoulos, J P McFadden, D E Larson, J W Bonnell, O LeContel, A Roux, U Auster

1650h **SM44A-04** Observation of proton chorus waves close to the equatorial plane by Cluster: **B Grison**, J S Pickett, O Santolik, P Robert, N Cornilleau-Wehrin, M J Engebretson, D O Constantinescu

1704h **SM44A-05** Whistler Mode Echoes Observed Below 2,000 km Altitude by Radio Plasma Imager (RPI) on IMAGE: Radio Sounding of Electron Density and Ion Composition (H^+ , He^+ , O^+): **V S Sonwalkar**, S Hazra, K Mayank, A Reddy, D L Carpenter, B W Reinisch

1718h **SM44A-06** WITHDRAWN

1718h **SM53B-1383** OBLIQUE LOWER BAND CHORUS WAVES AND TRANSVERSE MOTION OF THE CHORUS SOURCE: **J Chum**, O Santolik, J S Pickett, D A Gurnett, E Macusova

1732h **SM44A-07** Numerical modeling of plasmaspheric hiss characteristics: **J Bortnik**, R M Thorne, N P Meredith, L Chen

1746h **SM44A-08** Storm-Time Excitation of Whistler-Mode Chorus Obtained From Global Ring Current Simulations: **V Jordanova**, R M Thorne, W Li, Y Miyoshi

Mineral and Rock Physics

MR44A Moscone West: 2003 Thursday 1600h
Rock Deformation From Grain Boundaries to Plate Boundaries III (*joint with T, S, V, DI*)

Presiding: **D S King**, University of Minnesota; **P A Skemer**, Washington University in St. Louis

1600h **MR44A-01** Microstructure and mechanical properties: Direct and inverse relationships (*Invited*): **B Evans**

1615h **MR44A-02** A novel thermodynamic framework for multi-scale data assimilation: First applications from micro CT-scans to meso-scale microstructure (*Invited*): **K Regenauer-Lieb**, A Karrech, C Schrank, F Füsseis, G Rosenbaum, R F Weinberg

1630h **MR44A-03** Simultaneous Modeling of Transient Creep and Grain Boundary Sliding: **R F Cooper**, M Sundberg

1645h **MR44A-04** Bucking the Conventional Wisdom: Development of Crystallographic Preferred Orientation During Creep Involving Grain Boundary Sliding: **D L Goldsby**, M I Sundberg, R F Cooper

1700h **MR44A-05** Geometrical and transport properties of Bentheimer sandstone under deformation: **L Jasinski**, V Mourzenko, J Thovert, N Gland, S Youssef, O Vizika, **P M Adler**

1715h **MR44A-06** Shear band formation and poromechanical properties; application to unlithified sand, Humboldt County, CA: **B M Kaproth**, E Perez, S M Cashman, D M Saffer, C Marone
 1730h **MR44A-07** Friction versus dilation revisited: insights from theoretical and numerical models: **N Makedonska**, D W Sparks, E Aharonov, L Goren
 1745h **MR44A-08** Rheology of Antigorite Serpentine at High Temperature and Pressure: Implications for Slab-Wedge Coupling and Intermediate Depth Seismicity: **L J Chernak**, G Hirth

Seismology

S44A Moscone West: 2005 Thursday 1600h
Progress in Imaging Earth's Attenuation Structure II (*joint with T*)

Presiding: **M E Pasyanos**, Lawrence Livermore National Laboratory; **C A Dalton**, Boston University

1600h **S44A-01** Progress and challenges in global mantle attenuation tomography (*Invited*): **B A Romanowicz**

1615h **S44A-02** On the Use of Quality Factor in Seismology (*Invited*): **I B Morozov**

1630h **S44A-03** Attenuation of the S+Lg+Surface Wave Group out to 600 km in Northeastern North America: A Baseline Study?: **J Boatwright**, L C Seekins

1645h **S44A-04** A Multiphase Approach to Determine Attenuation Structure of the Lithosphere and its Use in Earthquake-Explosion Discrimination: **M E Pasyanos**, W R Walter, E Matzel, S R Ford, A J Rodgers

1700h **S44A-05** Strong Along-Arc Variations in Attenuation in the Mantle Wedge beneath Costa Rica and Nicaragua (*Invited*): **C A Rychert**, K M Fischer, G A Abers, T Plank, E M Syracuse, M Protti, V M Gonzalez, W Strauch

1715h **S44A-06** The Separation of intrinsic and scattering seismic attenuation in South Korea: **T Chung**, K Yoshimoto, S Yun

1730h **S44A-07** Earth's Attenuation Structure from the Ambient Seismic Field (*Invited*): **G Prieto**, J F Lawrence, M Denolle, G C Beroza

1745h **S44A-08** Body wave and Ambient Seismic Field Attenuation Tomography Using USArray: **J F Lawrence**, G Prieto

S44B Moscone West: 2007 Thursday 1600h
Seismicity, Seismotectonics, and Hazard II (*joint with T, NH*)

Presiding: **B Enescu**, National Research Institute for Earth Science and Disaster Prevention (NIED); **P Chen**, University of Wyoming

1600h **S44B-01** Rapid Centroid Moment Tensor (CMT) Inversion in 3D Earth Structure Model for Earthquakes in Southern California: **P Chen**, E Lee, T H Jordan, P J Maechling

1615h **S44B-02** The Hypocenter Relocation of the Wenchuan Earthquake and Its Aftershocks with Waveform Cross-Correlation: New Results and Their Application in Determination of Fault Plane Solutions: **C YU**, C Cai, K Tao, J Liu, J Ning

1630h **S44B-03** Effects of lateral crustal variation on the focal mechanism inversion and relocation of the Wenchuan Mw7.9 Earthquake aftershock sequence: **Y Zheng**, Z Xie, R Wang, X Xiong, S Ni

1645h **S44B-04** Earthquake relocation in intraplate context: T Camelbeek, **T Lecocq**, K G Hinzen, B Dost

1700h **S44B-05** MOMENT TENSOR SOLUTIONS OF RECENT EARTHQUAKES IN THE CALABRIAN REGION (SOUTH ITALY): B Orecchio, **S D'Amico**, A Gervasi, I Guerra, D Presti, L Zhu, R B Herrmann, G Neri

1715h **S44B-06** The 2008 Iwate-Miyagi Inland Earthquake (Mw6.9): The Distribution and Focal Mechanism Solution of Aftershocks in relation to the Crustal Structure: **B Enescu**, T Takeda, K Obara, Y Asano, S Sekine, W Suzuki, Y Yukutake

1730h **S44B-07** Spatial variation of the bottom of seismogenic layer beneath the Japan Islands: **A M Omuralieva**, A Hasegawa, J Nakajima, T Matsuzawa, T Okada

1745h **S44B-08** Signal Quality and the Reliability of Seismic Observations: **C P Zeiler**, A A Velasco, N E Pingitore

Tectonophysics

T44A Moscone West: 2011 Thursday 1600h
Moho, Lithosphere, and Upper Mantle Structure Beneath Europe: What Have We Learned in 100 Years? II (*joint with MR, NS, S, V*)

Presiding: **D Herak**, Faculty of Science; **G A Houseman**, University of Leeds

1600h **T44A-01** A New Comprehensive Model for Crustal and Upper Mantle Structure of the European Plate: **A Morelli**, P Danecek, I Molinari, L Postpischl, R Schivardi, P Serretti, M R Tondi

1615h **T44A-02** Rayleigh and Love waves phase velocity measurements in central Europe from seismic ambient noise: **J Verbeke**, B Fry, L Boschi, E H Kissling

1630h **T44A-03** Seismic tomography reveals the upper-mantle structure beneath the Carpathian-Pannonian system: **B D Dando**, G Houseman, G W Stuart, E Hegedus, A Kovacs, E P Brueckl, H Hausmann, S Radovanovic

1645h **T44A-04** Mohorovičić Discontinuity at the Contact of the Adriatic Microplate and Pannonian Segment: **F Sumanovac**, J Oreskovic

1700h **T44A-05** New constraints on the crustal structure beneath northern Tyrrhenian Sea: **V L Levin**, J J Park

1715h **T44A-06** New compilation of seismically deduced Moho depths beneath the Iberian Peninsula and its margins: J Gallart, **J Diaz**

1730h **T44A-07** Crustal Structure Under the Lower Tagus Valley, SW Iberia, from Joint Receiver Function and Surface Wave Dispersion Analysis: M K Salah, S Chang, **J F Fonseca**

1745h **T44A-08** Moho depth and crustal composition in southern Norway from Vp, Vs and Poisson's ratio: **W R Stratford**, H Thybo

T44B Moscone West: 2009 Thursday 1600h
Rifts and Basins of the U.S. Interior: A New EarthScope Frontier I (*joint with GP, S*)

Presiding: **G R Keller**, University of Oklahoma; **S van der Lee**, Northwestern University; **M Magnani**, University of Memphis; **B A van der Pluijm**, Univ of Michigan

1600h **T44B-01** Lithospheric Discontinuities Beneath North America (*Invited*): **K M Fischer**, D L Abt, H Yuan, B A Romanowicz

1615h **T44B-02** Mantle Heterogeneity Beneath the Tectonically Stable US Interior: **S van der Lee**, H Bedle, M I Billen, X Lou, A W Frederiksen

1630h **T44B-03** Anisotropic domains in the North American upper mantle: **H Yuan**, B A Romanowicz, D L Abt, K M Fischer

1645h **T44B-04** Wave Field Continuation Methods for Passive Imaging Under Deep Basins: **C A Langston**

1700h **T44B-05** Basement Structures in the Mid-Continent Region: Some Perspectives Based on Regional Geophysical Data: **G R Keller**

1715h **T44B-06** The case for dynamic subsidence of the United States east coast since the Eocene (*Invited*): **S Spasojevic**, L Liu, M Gurnis

1730h **T44B-07** Time and length scales of continental rifting: New perspectives for studies of rifting and rupture processes (*Invited*): **C J Ebinger**

1745h **T44B-08** New insights in partitioning of the long-term deformation in the Mississippi Embayment, Central U.S: **M Magnani**, L M Mitchell, K D McIntosh, B A Waldron

Volcanology, Geochemistry and Petrology

V44A Moscone West: 2018 Thursday 1600h
Field, Petrological, Textural, Geochemical, and Rheological Approaches to Understanding Mantle Processes: A New Look at Old Problems? I (*joint with T*)

Presiding: **O E Jagoutz**, Massachusetts Institute of Technology; **O Muntener**, University of Lausanne

1600h **V44A-01** Stress-driven melt segregation in partially molten rocks: a new approach for extrapolating kinetics and rheological consequences of the process from experimental to mantle conditions. (*Invited*): **B K Holtzman**, D S King, D L Kohlstedt

1630h **V44A-03** A Missing Link in Understanding Mantle Wedge Melting, Higashi-akaishi Peridotite, Japan: **C B Till**, R W Carlson, T L Grove, S Wallis, T Mizukami

1645h **V44A-04** Pyroxenite Formation in the Totalp Ultramafic Massif, Switzerland: Constraints From Highly Siderophile Elements: **D van Acken**, H Becker, R J Walker, F Wombacher

1700h **V44A-05** Decompaction Weakening and Mechanical Channeling Instability: Implications for Asthenospheric Melt Segregation and Transport (*Invited*): **J Connolly**, Y Podladchikov

1715h **V44A-06** Melt impregnation around the spinel-plagioclase transition in upper-mantle peridotite: **G Van den Bleeken**, O Muntener, P Ulmer

1730h **V44A-07** Minor Element Substitution in Olivine: An Experimental Study: **M C McCanta**, J R Beckett, M B Baker, E M Stolper

1745h **V44A-08** Internally consistent geothermometers for garnet peridotites and pyroxenites: **P Nimis**, H Grütter

V44B Moscone West: 2016 Thursday 1600h
Submarine Volcanic Eruptions: Studies of Geological, Chemical, and Biological Processes II (*joint with B, OS, T*)

Presiding: **J A Huber**, Marine Biological Laboratory; **J A Resing**, JISAO-PMEL

1600h **V44B-01** A comparison of eruption mechanisms in subaerial and submarine arc environments (*Invited*): **K V Cashman**, W Chadwick, R S Fiske, N Deardorff

1615h **V51D-1718** Helium, Carbon, and Helium Isotopes in the Northern Lau Basin: **J E Lupton**, D A Butterfield, M D Lilley, J Resing, R W Embley, R J Arculus, K H Rubin, L Evans, R Greene

1630h **V44B-03** Continuous, Long-term, Cyclic, Varied Eruptive Activity Observed at NW Rota-1 Submarine Volcano, Mariana Arc: **B Chadwick**, R P Dziak, E T Baker, K V Cashman, R W Embley, V Ferrini, C E de Ronde, D A Butterfield, N Deardorff, J H Haxel, H Matsumoto, M J Fowler, S L Walker, A M Bobbitt, S G Merle

1645h **V44B-04** Anomalous Chlorine Concentrations Indicate Recycling of Submarine Pyroclasts at NW Rota-1, Mariana Arc: **N Deardorff**, K V Cashman, W W Chadwick

1700h **V44B-05** Community Analysis of Dynamic Microbial Mat Communities from Actively Erupting Seamounts (*Invited*): **R Davis**, B Tebo, C L Moyer

1715h **V44B-06** Impacts of Volcanic Eruptions and Disturbances on Mid-Ocean Ridge Biological Communities: **T M Shank**

1730h **V44B-07** "Poseidic" explosive eruptions at Loihi Seamount, Hawaii: **C Schipper**, J D White, B F Houghton, N Shimizu, R B Stewart

1745h **V44B-08** Patgon-Masala Seamount, Southern Mariana Arc: Recent Observations with the WHOI Nereus HROV: **P Fryer**, T M Shank, S Hulme, E Bors

V44C Moscone West: 2020 Thursday 1600h
Using Small-Scale Observations to Answer Big Questions in Earth Sciences: Advances From 30 Years of Ion Microprobe Analysis III (*joint with PB, P, DI, T, EP*)

Presiding: **J M Warren**, Carnegie Institution of Washington; **B E John**, Dept of Geology and Geophysics

1600h **V44C-01** Oxygen isotope zonation of a single garnet from UHPM calcisilicate rock of Kokchetav Massif, Kazakhstan: a window into the geochemical nature of deeply subducted crustal rocks: **N V Sobolev**, H Schertl, J W Valley, F Page, N Kita, M Spicuzza, R D Neuser, A M Logvinova

1612h **V44C-02** ^{40}K - ^{40}Ca and ^{87}Rb - ^{86}Sr Dating by SIMS: The Double-Plus Advantage: **T M Harrison**, K D McKeegan, A K Schmitt

1624h **V44C-03** NanoSIMS analyses of zircons synthesized from Ti-enriched granitic melts: **A E Hofmann**, M B Baker, J M Eiler

1639h **V44C-04** Zircon-Scale Insights Into the History of a Supervolcano, Bishop Tuff, Long Valley, California - With Implications for the Ti-in-Zircon Geothermometer: **M R Reid**, J A Vazquez, A K Schmitt

1651h **V44C-05** Little Drops of (Ocean) Water, Little Grains of (Zircon) Sand: **J W Valley**, C B Grimes, D M Ortiz, T Ushikubo, A Bouvier, N Kita, A J Cavosie

1706h **V44C-06** Primitive Mantle Nitrogen Revealed by SIMS in 3.5 Ga Harzburgitic Diamonds: K Westerlund, **S H Richardson**, S B Shirey, E H Hauri, J J Gurney

1718h **V44C-07** Two-dimensional distribution of trace elements in a reaction texture in plagioclase lherzolite from the Horoman complex, northern Japan, and its implication in ascent processes of the upper mantle: **K Ozawa**, E Nakamura, K Kobayashi

1730h **V44C-08** Quantifying Grain-Boundary Diffusion of Incompatible Elements: A Collaborative Opportunity for Experimentalists and Ion-Probe Analysts (*Invited*): **E B Watson**

1745h **V44C-09** Deep sulfur cycle: **N Shimizu**, C W Mandeville

Friday A.M.

Union

U51A Moscone South: Poster Hall Friday 0800h
Response of Sedimentary Systems to Rapid Climate and Sea Level Changes and Its Impacts on Humans Posters

Presiding: **P D Clift**, University of Aberdeen; **L Giosan**, Woods Hole Oceanographic Institution

0800h **U51A-0001** WITHDRAWN

0800h **U51A-0002 POSTER** Large-scale River Channel Shifts on the Western Indo-Gangetic Plains and their implications for the Bronze-age Harappan Civilisation Settlement Patterns: **S Gupta**, R Sinha, P Mason, G Yadav, A Singh, A Carter, A Murrey

0800h **U51A-0003 POSTER** Are Deltaic Subaqueous Clinothems One-Highstand Affairs?: **L Giosan**, P Clift, T Henstock, C Ponton, D R Limmer

0800h **U51A-0004 POSTER** Holocene fluvial geochronologies, global databases and hydrological proxies: rethinking people-river interactions and rapid climate change impacts (*Invited*): **M G Macklin**

0800h **U51A-0005 POSTER** Sediment Buffering and Transport in the Holocene Indus River System: **P D Clift**, L Giosan, T Henstock, A R Tabrez, S VanLaningham, A H Alizai, D R Limmer, M Danish

0800h **U51A-0006 POSTER** Late Quaternary Climate Forcing of Rapid Sedimentation and Erosion Processes in the NW Himalaya (*Invited*): **B Bookhagen**, D Scherler, M R Strecker

0800h **U51A-0007 POSTER** Holocene Evolution of the Indus River Basin: the effect of climate and drainage reorganization on the Harappan: **A H Alizai**, P D Clift, S VanLaningham, L Giosan, A Carter, S Hillier, M G Macklin, G A Duller, J Durcan

0800h **U51A-0008 POSTER** Implications for a rapid early to mid-Holocene sea-level rise from the Mekong River incised-valley system: **R Tjallingii**, K Stattegger, A Wetzel

0800h **U51A-0009 POSTER** The imprint of orbital and millennial-scale sea level oscillations on the Gulf of Lion sedimentary record, Mediterranean Sea, of the last 500 ka: **J Frigola**, M Canals, I Cacho Lascorz, A Moreno-Caballud, F J Sierro, J Flores, S P Berne, B Dennielou, G Herrera, C Pascual, J O Grimalt, M Galavazi, R R Schneider

0800h **U51A-0010 WITHDRAWN**

0800h **U51A-0011 POSTER** Coastal response to accelerated sea-level rise (>4 mm/yr) based on early-mid Holocene coastal evolution in the northwestern Gulf of Mexico: **J B Anderson**, A B Rodriguez, A Simms

0800h **U51A-0012 POSTER** Barrier Island Sensitivity to Sea-Level Rise: Insights from Numerical Model Experiments, North Carolina Outer Banks and Chandeleur Islands, LA U.S.A: **L J Moore**, J H List, S Williams, K Patsch

U51B Moscone South: Poster Hall Friday 0800h
Science and Technology in GEO and GEOSS II Posters

Presiding: **H Plag**; **N Gabron**, JRC; **K S Fontaine**, NASA

0800h **U51B-0013 POSTER** Improving Weather and Climate Prediction with AIRS on Aqua: **T S Pagano**

0800h **U51B-0014 POSTER** McIDAS-V: A Data Analysis and Visualization Tool for Environmental Satellite Data: **T H Achtor**, T Rink, T M Whittaker

0800h **U51B-0015 POSTER** Climate impacts on environmental risks evaluated from space: a contribution to social benefits within the GEOSS Health Area: The case of Rift Valley Fever in Senegal: **Y M Tourre**

0800h **U51B-0016 POSTER** A Web-based Google-Earth Coincident Imaging Tool for Satellite Calibration and Validation: **B D Killough**, G Chander, S Gowda

0800h **U51B-0017 POSTER** HDF and OPeNDAP: Promoting Data Sharing and Interoperability in the Earth Sciences: **M J Folk**, M Yang, H Lee

0800h **U51B-0018 POSTER** GEOSS Architecture Implementation Pilot-II: Integrating Technologies and Expertise to Build GEOSS: E M Robinson, R B Husar, **S R Falke**, D C McCabe, L Menard, L Wald, A Warnock

0800h **U51B-0019 POSTER** Science and Technology in Regional Flood Disaster Pilots: A GEOSS Capacity Building Imperative: **S W Frye**, P G Cappelaere, D Mandl

U51C Moscone South: Poster Hall Friday 0800h
Scientific Progress in Geophysics From 25 Years of Sharing Data and Resources II Posters

Presiding: **D E James**, Carnegie Institution; **R Butler**, The IRIS Consortium

0800h **U51C-0020 POSTER** Then and Now, 25 Years of Progress Using Portable Arrays: The IRIS-PASSCAL Program: **M Alvarez**, R M Allen, J C Fowler, B C Beaudoin

0800h **U51C-0021 POSTER** The Global Seismographic Network: **J Berger**, K R Anderson, R Butler, P B Davis, J Derr, L S Gee, X Song

0800h **U51C-0022 POSTER** From Revolution to Evolution: 21 Years of the IRIS Data Management Facility: **R B Benson**, T K Ahern, C M Trabant, R Casey

0800h **U51C-0023 POSTER** Research Enabled through Eighteen Years of Geodesy Data Sharing by the UNAVCO Data Center: **F M Boler**, C M Meertens, C W Kreemer, G Blewitt

0800h **U51C-0024 POSTER** Delivering the EarthScope Transportable Array as a Community Asset: **R W Busby**, R Woodward, D W Simpson, K Hafner

0800h **U51C-0025 POSTER** The IRIS Education and Outreach Program: Providing access to data and equipment for educational and public use: **J Taber**, M Toigo, T K Bravo, M Hubenthal, P J McQuillan, R Welti

0800h **U51C-0026 POSTER** Integrated Geophysical Support for the UK Earth Science Community: R W England, **A M Brisbane**, D Hawthorn, V S Lane

0800h **U51C-0027 POSTER** International Seismological Centre (ISC): 40 years Service to Geophysical Research: **D A Storchak**

0800h **U51C-0028 POSTER** EMERALD: Coping with the Explosion of Seismic Data: **J D West**, M J Fouch, R Arrowsmith

0800h **U51C-0029 POSTER** Developing infrastructure for optimal exploration of large volume of seismological and geodetic data: **N M Shapiro**, G Moguillny, J Vilotte, F Brenguier, M Campillo, C Pequegnat

0800h **U51C-0030 POSTER** Calculating CyberShake Map 1.0 on Shared Open Science High Performance Computing Resources: **S Callaghan**, P J Maechling, E Deelman, P Small, K Vahi, G Mehta, G Juve, K Milner, R W Graves, E H Field, D A Okaya, T H Jordan

0800h **U51C-0031 POSTER** Alaska Volcano Observatory Seismic Network Data Availability: **J P Dixon**, M M Haney, S R McNutt, J A Power, S G Prejean, C K Searcy, S D Stihler, M E West

0800h **U51C-0032 POSTER** The Greenland Ice Sheet monitoring Network (GLISN): **K R Anderson**, B C Beaudoin, R Butler, J F Clinton, T Dahl-Jensen, G Ekstrom, D Giardini, W Hanka, M Kanao, T Larsen, D McCormack, S Mykkeltveit, M Nettles, N Piana Agostinetti, S Tsuboi, P Voss

0800h **U51C-0033 POSTER** NEW DEVELOPMENTS OF THE GEOSCOPE PROGRAM: **C Pardo**, S Bonaime, E Stutzmann, A Maggi, G Group

0800h **U51C-0034 POSTER** New S-velocity Models for the North American Upper Mantle from 25+ Years of Waveforms from the IRIS DMC: H Bedle, **S van der Lee**

0800h **U51C-0035** POSTER Teleseismic P and S Delay Times within Tectonically Active and Stable North America: **X Lou**, S van der Lee
0800h **U51C-0036** POSTER Antipodal Observations of Earth's Core: **R Butler**, S Tsuboi

0800h **U51C-0038** POSTER Subsurface Characterization Beneath the Coso Geothermal Field by Ambient Noise Tomography: M H Ritzwoller, **Y Yang**, A L Levshin, M P Barmin, C H Jones

0800h **U51C-0039** POSTER Crustal velocity models derived from the High Lava Plains controlled-source experiment in eastern Oregon: **C M Cox**, G R Keller, S H Harder, S L Klemperer, M S Okure

0800h **U51C-0040** POSTER Surface-wave Tomography of Taiwan Region using Ambient Noise Analysis: **T Huang**, Y Gung, W Liang, L Chiao

0800h **U51C-0041** POSTER Mapping the Radially Anisotropic Crustal Velocity Structure of NW Canada with Ambient-Noise Tomography: M E Daigle, **C A Dalton**, J B Gaherty, A M Courtier

0800h **U51C-0042** POSTER S-velocity mantle structure at the subducting Chile Ridge: **S M Lloyd**, S van der Lee, R M Russo, D Comte, V I Mocanu, A Gallego, R E Murdie, J C VanDecar

0800h **U51C-0043** POSTER Seismic Anisotropy of the Antarctic Upper Mantle from Shear Wave Splitting Analysis of POLENET and AGAP Seismograms: **S Hernandez**, D A Wiens, S Anandakrishnan, R C Aster, A D Huerta, A Nyblade, T J Wilson

0800h **U51C-0044** POSTER Using S-wave Receiver Functions to estimate crustal structure beneath ice sheets: an application to the Transantarctic Mountains, the Gamburtsev Mountains, and the East Antarctic Craton: **S E Hansen**, J Julia, A Nyblade, M L Pyle, D A Wiens, S Anandakrishnan

0800h **U51C-0045** POSTER Seismic structure of the Gamburtsev Mountains, East Antarctica and surrounding regions from surface wave tomography: **D S Heeszel**, D A Wiens, A Nyblade

0800h **U51C-0046** POSTER Crust and Upper Mantle Shear Wave Structure of Antarctica From Seismic Ambient Noise: **X Sun**, D A Wiens, S Anandakrishnan, R C Aster, A D Huerta, A Nyblade, T J Wilson, M An, M Kanao

U51D Moscone South: I03 Friday 0800h
The EarthScope Initiative: From North America Geodynamics to New Frontiers in Science I (*joint with S, T, A, H, G*)

Presiding: **C M Puskas**, University of Utah; **L M Flesch**, Purdue University

0800h **U51D-01** Using USArray Data to Explore Large-Scale Features in the Seismic Wavefield (*Invited*): **R Woodward**, D W Simpson, R W Busby

0815h **U51D-02** Structure and process beneath the western US: Integrating disparate geophysical datasets (*Invited*): **R M Allen**, P Audet, C M Eakin, S Hung, M J Obrebski, F F Pollitz, R W Porritt

0830h **U51D-03** The Plate Boundary Observatory as a Network for Water Cycle Studies: **K M Larson**, E E Small, J J Braun, E D Gutmann, M W Williams, V U Zavorotny, B Munson, A L Bilich, F G Nievinski, J Normandeau, S Doelger

0845h **U51D-04** Secular and annual hydrologic effects from the Plate Boundary Observatory GPS network: **C M Meertens**, J M Wahr, A A Borsa, M E Jackson, T Herring

0900h **U51D-05** Probing the atmosphere with the USArray: **K T Walker**, M A Hedlin, C D deGroot-Hedlin, D P Drob

0915h **U51D-06** Dynamics of Great Basin Crust-Mantle Coupling: **M J Fouch**, W E Holt, B P Wernicke, J L Davis, J D West, E C Klein, L M Flesch, E Chong

0930h **U51D-07** Lithospheric structure beneath the Colorado Plateau determined by receiver functions: **M S Miller**, A Levander

0945h **U51D-08** The Crust, the Slab Gap, the LAB, and the Mantle Wedge in the Mendocino Triple Junction Region: **Y Zhai**, A Levander, L O'Driscoll, B Schmandt, C P Ryan, E Humphreys, R W Porritt, R M Allen

Atmospheric Sciences

A51A Moscone South: Poster Hall Friday 0800h
Atmospheric Carbon Dioxide: Observation, Validation, Modeling, and Assimilation III Posters (*joint with GC*)

Presiding: **A M Michalak**, University of Michigan

0800h **A51A-0078** POSTER Atmospheric CO₂ simulation inside GEOS-5: Data mining, evaluation and treaty verification: **D J Erickson**, S Pawson, J Daniel, M Allen, L E Ott, A Ganguly, E Nielsen, F Hoffman

0800h **A51A-0079** POSTER COMBINING THE STRENGTHS OF OPEN-PATH AND CLOSED-PATH DESIGNS INTO A SINGLE CO₂/H₂O GAS ANALYZER: **G G Burba**, M Furtaw, D K McDermitt, R Eckles

0800h **A51A-0080** POSTER SIDE BY SIDE MEASUREMENTS OF GREENHOUSE GASES BY GROUND-BASED FOURIER TRANSFORM INFRARED (FTIR) SPECTROMETRY:

J Messerschmidt, C Weinzierl, R Macatangay, T Warneke, J Notholt

0800h **A51A-0081** POSTER The Hestia Project: High Spatial Resolution Fossil Fuel Carbon Dioxide Emissions Quantification at Hourly Scale in Indianapolis, USA: **Y Zhou**, K R Gurney

0800h **A51A-0082** POSTER Atmospheric Variability of CO₂ impact on space observation Requirements: **A L Swanson**, B Sen, L Newhart, G Segal

0800h **A51A-0083** POSTER Channel Selection for CO₂ Retrieval Using Near Infrared Measurements: **L Kuai**, V Natraj, R Shia, C E Miller, Y L Yung

0800h **A51A-0084** POSTER First results of CO₂ and CH₄ retrievals from GOSAT SWIR observations with PPDF-based algorithm: **A Bril**, S Oshchepkov, T Yokota

0800h **A51A-0085** POSTER Radiometric calibration accuracy of GOSAT TANSO-FTS (TIR) sensor and trace gas retrievals: **R Imasu**, N Saitoh, K Shiomi, H Suto, A Kuzze, M Nakajima

0800h **A51A-0086** POSTER Assimilation of AIRS and conventional CO₂ observations with an EnKF: **J Liu**, M T Chahine, E Kalnay, I Fung, E T Olsen

0800h **A51A-0087** POSTER Carbon Dioxide Retrieval from Space Spectral Data of ARGUS 1000 Spectrometer: **R K Jagpal**, B Quine, S M Abrarov, R Lee, H Chesser, E McKernan, Y Bhattacharya

0800h **A51A-0088** POSTER A Sigma-point Kalman Smoother for Atmospheric Trace Gas Inversion: **J Tang**, Q Zhuang

0800h **A51A-0089** POSTER Inverse Modeling System for Operational Processing of the GOSAT Level 4A Regional CO₂ Flux Data Product: **H Takagi**, S S Maksyutov, D A Belikov, Y Koyama, K Matsuzawa, W Kunishima

0800h **A51A-0090** POSTER CO₂ and its correlation with CO at a rural site near Beijing: implications for combustion efficiency in China: **Y Wang**, M B McElroy, J W Munger, S Xu, J Hao, H Ma, C P Nielsen

0800h **A51A-0091** POSTER Polarization Effects on Column CO₂ Retrievals from Non-Nadir Satellite Measurements in the Short-Wave Infrared: V Natraj, H Boesch, R J Spurr, **Y L Yung**

0800h **A51A-0092 POSTER** Ground-based Total Column and in situ measurements of CO₂ and CH₄ in the Southern Hemisphere, and an update to GOSAT/ground-based FTS comparisons: N M Deutscher, D W Griffith, **N B Jones**, V Sherlock, D Smale, I Morino, O Uchino, B J Connor, P O Wennberg, D Wunch, G C Toon, G Keppel-Aleks, R Macatangay, J Robinson

0800h **A51A-0093 POSTER** CO₂ Profile from Thermal Infrared Spectra of GOSAT/TANSO-FTS: First Results: **N Saitoh**, R Imasu

0800h **A51A-0094 POSTER** Column-averaged mole fraction of CO₂ (XCO₂) calculated from aircraft measurements in the world. Toward the validation of GOSAT: I Morino, **Y Miyamoto**, O Uchino, T Yokota, T Machida, Y Sawa, H Matsueda, C Sweeney, P P Tans

0800h **A51A-0095 POSTER** Preliminary Evaluation of GOSAT Level 2 (CO₂ and CH₄ column abundances) Data Product: **N Eguchi**, Y Yoshida, T Yokota

0800h **A51A-0096 POSTER** Seasonal and Interannual Variability of Mid-tropospheric CO₂ from Atmospheric Infrared Sounder: **X Jiang**, M T Chahine, E T Olsen, L L Chen, Y L Yung

0800h **A51A-0097 POSTER** Coincident retrievals of CO and CO₂ from high resolution solar absorption spectrometry: **G Keppel-Aleks**, P O Wennberg, D Wunch, G C Toon, C M Roehl, N M Deutscher, D W Griffith

0800h **A51A-0098 POSTER** Possibility of Overestimation of WPL Correction to CO₂ Flux by Open-Path Eddy Covariance Technique from Experimental Validation over Asphalt Surface: **F Kondo**, M Uematsu, O Tsukamoto

0800h **A51A-0099 POSTER** OFF-LINE ALGORITHM FOR CALCULATION OF VERTICAL TRACERS TRANSPORT DUE TO DEEP CONVECTION IN THE TROPOSPHERE: **D A Belikov**, S S Maksyutov

0800h **A51A-0100 POSTER** Retrieval of the column abundances of global carbon dioxide and methane from Greenhouse gases Observing SATellite (GOSAT) observation: **Y Yoshida**, N Eguchi, Y Ota, T Tanaka, N Kikuchi, I Morino, O Uchino, S S Maksyutov, H Watanabe, T Yokota

0800h **A51A-0101 POSTER** The impact of stratosphere-troposphere exchange on surface CO₂ mixing ratios studied with the GEOS-5 AGCM: **L E Ott**, S Pawson

0800h **A51A-0102 POSTER** Predicting Seasonal Cycles of Atmospheric Carbon Dioxide from Global Temperature Anomalies: **W V Tangborn**

0800h **A51A-0103 POSTER** Simulation of Atmospheric CO₂ Concentrations in California's South Coast Basin: **K R Costigan**, M K Dubey

0800h **A51A-0104 POSTER** Mid Tropospheric CO₂ measurement with AIRS: **B Imbiriba**, L Strow, S G Desouza-Machado, S Hannon, P Schou

0800h **A51A-0105 POSTER** Implementation of Lagrangian Particle Dispersion Model for CO₂ studies in a Continental Scale: **M Uliasz**, A E Schuh

0800h **A51A-0106 POSTER** Optimal Estimation Retrievals of CO₂ from AIRS spectra: **F W Irion**, S S Kulawik, B H Kahn, J Worden, K W Bowman, E Fishbein

0800h **A51A-0107 POSTER** Determination of Tropospheric Volume Mixing Ratios of CH₄ and N₂O from TCCON Column Measurements: **C M Roehl**, V Sherlock, B J Connor, D Wunch, G C Toon, D W Griffith, N M Deutscher, P O Wennberg

0800h **A51A-0108 POSTER** The effect of anthropogenic emissions corrections on the seasonal cycle of atmospheric CO₂: **B J Brooks**, F M Hoffman, R T Mills, D J Erickson, T J Blasing

0800h **A51A-0109 POSTER** How well could satellite measurements constrain country-scale carbon emissions?: **D F Baker**, C E Miller

0800h **A51A-0110 POSTER** Global Analysis of Carbon Sources and Sinks with a Comprehensive Model Optimized with GOSAT/Tanso Observations: **A Denning**, R S Lokupitiya, D Zupanski, S R Kawa, D F Baker, S C Doney, K R Gurney

A51B Moscone South: Poster Hall Friday 0800h Australian Wildfire and Pyroconvection: Black Saturday 2009 and Beyond II Posters

Presiding: **N J Livesey**, Jet Propulsion Laboratory; **M D Fromm**, Naval Research Lab

0800h **A51B-0111 POSTER** Transport of emissions from the 2009 Australian forest fires through the stratosphere: a comparison of MLS observations with FLEXPART model calculations: **N J Livesey**, M D Fromm, O R Cooper, H C Pumphrey

0800h **A51B-0112 POSTER** Evolution of Australian Bushfire 2009 Plume in the UTLS region investigated using the OSIRIS limb profiles: **J M Siddaway**, S V Petelina

0800h **A51B-0113 POSTER** Measurements of Lofted Aerosols Straddling the Stratospheric Boundary Using the UWO Purple Crow Lidar: **R J Sica**, P Doucet

0800h **A51B-0114 POSTER** Using OMI data to better understand the Black Saturday Fires: **D C Stein**, P Veefkind, P Levelt, J de Laat

0800h **A51B-0115 POSTER** Satellite Views of unprecedented smoke plume altitude and persistence after the 7 February 2009 Victoria pyrocumulonimbus storms: **M D Fromm**

0800h **A51B-0116 POSTER** The Effect of Aging on an Empirical Relationship of Aerosol Index and Biomass Burning Plume Height: **H Guan**, R Esswein, J P Lopez, R W Bergstrom, L T Iraci

A51C Moscone South: Poster Hall Friday 0800h Climate and Chemistry Impacts of Aviation and Aerospace Emissions Posters

Presiding: **D W Toohey**, University of Colorado

0800h **A51C-0117 POSTER** Detectability of contrail cirrus using passive space-borne remote sensing: **B Karcher**, U Burkhardt, C Fichter, P Minnis, R Palikonda

0800h **A51C-0118 POSTER** A Preliminary Look at a Regional Contrail Climatology: **D P Duda**, P Minnis, R Palikonda, K Khlopenkov

0800h **A51C-0119 POSTER** Modeling Persistent Contrails in a Large Eddy Simulation and a Global Climate Model: **A D Naiman**, S K Lele, J T Wilkerson, M Z Jacobson

0800h **A51C-0120 POSTER** Predicting persistent contrails using the ECMWF integrated forecast system: **G Radel**, K P Shine, R Forbes

0800h **A51C-0121 POSTER** A Case Study of the Radiative Forcing of Persistent Contrails Evolving into Cirrus: **P Forster**, J M Haywood, R Allan, A Rap, G Radel, K P Shine

0800h **A51C-0122 POSTER** FIELD EXPERIMENTS AND MODELING AT CDG AIRPORTS: **R Ramaroson**

0800h **A51C-0123 POSTER** The Investigation of the Impact of SO₂ Emissions from the Hong Kong International Airport: **J P Gray**, A K Lau, Z Yuan

0800h **A51C-0124 POSTER** Regional changes in aircraft NO_x emissions, impacts on ozone and methane and related radiative forcings: **M O Koehler**, G Radel, K P Shine, H L Rogers, J A Pyle

0800h **A51C-0125 WITHDRAWN**

0800h **A51C-0126 POSTER** On the Role of Contrail Ice in the Chemistry of Aircraft Exhaust Plumes: **P F Vohralik**, D C Lewellen, T F Rahmes, S L Baughcum

0800h **A51C-0127 POSTER** Aviation Climate Change Research Initiative (ACCRI) – An Update: **M L Gupta**

0800h **A51C-0128 POSTER** Aircraft emissions, plume chemistry, and alternative fuels: results from the APEX, AAFEX, and MDW-2009 campaigns: **E C Wood**, S C Herndon, M Timko, Z Yu, R C Miake-Lye, B H Lee, G Santoni, J W Munger, S Wofsy, B Anderson, W B Knighton

0800h **A51C-0129 POSTER** Tackling a moving target: chemical and microphysical evolution of particulate emissions from aircraft engines: **S C Herndon**, H Wong, Z Yu, M Timko, E C Wood, R C Miake-Lye, W B Knighton, A J Beyersdorf, B Anderson

0800h **A51C-0130 POSTER** Smart aircraft routing - a possibility for mitigation?: **H Mannstein**, K Gierens, K Graf, A Waibel, S Meilinger, A Seifert, C Köhler

0800h **A51C-0131 POSTER** Modification of cirrus clouds to reduce global warming: **D L Mitchell**

0800h **A51C-0132 POSTER** Inadvertent climate modification due to anthropogenic lead: **D J Cziczo**, U Lohmann, O Stetzer, J Curtius, S Mertes, K D Froyd, O Moehler

0800h **A51C-0133 POSTER** Potential Climate and Ozone Impacts From Hybrid Rocket Engine Emissions: **M Ross**

0800h **A51C-0134 POSTER** ICOARE: Impacts on Climate and Ozone from Aircraft and Rocket Emissions: **D W Toohey**, M Ross

A51D Moscone South: Poster Hall Friday 0800h
Marine Biogeochemical Cycles: A Second Look at Aerosol-Cloud-Climate Feedbacks I Posters (*joint with B, OS*)

Presiding: **N Meskhidze**, North Carolina State university; **S Gasso**

0800h **A51D-0135 WITHDRAWN**

0800h **A51D-0136 POSTER** Quantifying dust aerosol acidification by SO₂ utilizing observations and modeling of the oxygen isotopic composition of atmospheric sulfate: Implications for dust alkalinity and the marine boundary layer sulfur budget: **B Alexander**, D J Allman, H M Amos, T Fairlie, J Dachs, R S Sletten

0800h **A51D-0137 POSTER** How Important is Methodology to Estimates of Aerosol Solubility?: **C S Buck**, A Paytan

0800h **A51D-0138 POSTER** Fog-aerosol interactions in the coastal Namib Desert: K Soderberg, R J Swap, **S A Macko**

0800h **A51D-0139 POSTER** The Impact of Marine Organic Emissions on Coastal Air Quality of the Western US: **B Gantt**, N Meskhidze, A G Carlton

0800h **A51D-0140 POSTER** Aerosol and Cloud Observations at an Ocean Platform: **B E Fabbri**, G L Schuster, P Minnis, R Palikonda

0800h **A51D-0141 POSTER** Quantifying the Impact of Mineral Dust and Dissolved Iron Deposition on Marine Biological Activity: **M S Johnson**, N Meskhidze, S Gassó, F Solmon

0800h **A51D-0142 POSTER** Marine biogenic sources of organic nitrogen and water-soluble organic aerosols over the western North Pacific in summer: **Y Miyazaki**, K Kawamura, M Sawano

0800h **A51D-0143 POSTER** Development of Atmospheric Chemistry-Aerosol Transport Model for Bioavailable Iron From Dust and Combustion Source: **A Ito**, Y Feng

0800h **A51D-0144 POSTER** Climatic Effects of Marine Organic Aerosols: **J Xu**, N Meskhidze, Y Zhang, B Gantt, S J Ghan, A Nenes, X Liu, R C Easter, R A Zaveri

0800h **A51D-0145 POSTER** Incorporating Treatments of Marine Organics in the GU WRF/Chem Model: **J J Hemperly**, Y Pan, B Gantt, N Meskhidze, Y Zhang

0800h **A51D-0146 POSTER** A numerical evaluation of global oceanic emissions of α -pinene and isoprene: G Luo, F Yu

0800h **A51D-0147 POSTER** The production of dimethyl sulfide (DMS) and related compounds in the Southeasterly Pacific during the VAMOS Ocean-Cloud- Atmosphere-Land Study (VOCALS) field campaign: **A J Hind**, C Rauschenberg, M Yang, B J Huebert, P A Matrai

A51E Moscone South: Poster Hall Friday 0800h
Measurement and Modeling of Air-Surface Exchange Processes I Posters

Presiding: **L Zhang**; **J T Walker**, US EPA

0800h **A51E-0148 POSTER** Evaluation of the New Canadian Operational Air Quality Forecast Model - GEM-MACH15 for O₃, NO₂ and PM_{2.5} concentrations over Southern Ontario, Canada: **Q Li**, S Wong

0800h **A51E-0149 POSTER** Non-Stomatal Ozone Deposition to Vegetation: New Insights and Models: M Coyle, **E Nemitz**, N Cape, N Altimir, L Gruenhage, S Cieslik, J Tuovinen, H Ro-Poulsen, C Ammann

0800h **A51E-0150 POSTER** Bi-directional air-surface exchange of atmospheric ammonia – Review of measurements and development of a big-leaf model for general applications: **L Zhang**, P L Wright

0800h **A51E-0151 POSTER** Consistency Issues in Assimilation of Satellite Skin Temperatures: **A Pour Biazar**, R T McNider, S Mackaro

0800h **A51E-0152 POSTER** The effects of SST magnitude and gradient on the wind and rain water over the Yellow Sea: **R Park**, Y Cho, B Choi, C H Song

0800h **A51E-0153 POSTER** Effect of Nocturnal Low-level Jet on Nighttime CO₂ Concentrations and Fluxes: a Numerical Sensitive Study: **A Sogachev**, H Jørgensen, M Y Leclerc, H F Duarte, D Durden, N Pingintha, G Zhang

0800h **A51E-0154 POSTER** Typhoon-orography interaction investigated by wind profiler: **S Yang**, C Pan, H Lai, K Reddy

0800h **A51E-0155 POSTER** The Lagrangian stochastic model for estimating footprint and surface fluxes over inhomogeneous surfaces: **C Hsieh**, G G Katul

0800h **A51E-0156 POSTER** Temporal and Spatial Variation in Rainfall at Marine Corps Base Camp Lejeune North Carolina Using Tipping Bucket Gauges: **W P Robarge**, R Austin, K Baumann, P Cunningham

0800h **A51E-0157 POSTER** Analysis of Near-Surface Atmospheric Turbulence and Coherent Structures using Empirical Mode Decomposition: W E Eichinger, **B L Barnhart**, J H Prueger

0800h **A51E-0158 POSTER** Wavelet Analyses of Turbulence in the Hurricane Boundary Layer During Landfalls: **P Zhu**

0800h **A51E-0159 POSTER** Evaluating the Effects of Land-Surface Heterogeneity at Various Scales on Atmospheric Boundary Layer Processes: **M A Bolch**, R Avissar

0800h **A51E-0160 POSTER** Transport Analysis of Ozone Enhancement in Southern Ontario during BAQS-Met: **H He**, D W Tarasick, W K Hocking, Y J Rochon, M D Moran, P Makar, J Zhang, G B Osterman, J Wei, M Osman, C Mihele, J Brook, K B Strawbridge, J C McConnell, D B Jones

0800h **A51E-0161 POSTER** Processes of Ammonia Air-Surface Exchange in a Fertilized Corn Canopy: **J T Walker**, J O Bash, M Jones, E Nemitz, W P Robarge

0800h **A51E-0162 POSTER** Sea spray contributions to the air-sea fluxes at moderate and hurricane wind speeds: **J A Mueller**, F Veron

0800h **A51E-0163 POSTER** Characterisation of point and mobile sources in urban areas based upon mobile lab measurements of CO₂ ratios: **C M Mihele**, J Brook, G Lu, J Narayan, G Morneau

A51F Moscone South: Poster Hall Friday 0800h
Multiscale Organization of Tropical Convection and Its Interaction With the Large-Scale Circulation: Year of Tropical Convection (YOTC) III Posters

Presiding: M W Moncrieff, NCAR; D E Waliser

0800h **A51F-0164 POSTER** Leveraging A-Train Satellite Observations To Develop New Insights, Diagnostics And Constraints For Model Representations Of Clouds And Convection: **D E Waliser**, J F Li, W Chen, T L Kubar, B H Kahn, E Fetzer, T S L'Ecuier, J Neelin

0800h **A51F-0165 POSTER** Use of A-Train data to estimate convective buoyancy and entrainment rate: **Z Luo**, G Liu, G L Stephens

0800h **A51F-0166 POSTER** UTLS Signatures in MLS Fields during the YOTC May-July 2008 Large-Scale Convective Event: **M J Schwartz**, D E Waliser, B Tian

0800h **A51F-0167 POSTER** Alternative Representations of Convective Processes in the NASA GEOS-5 AGCM: **F R Robertson**, C Cohen, T L Miller

0800h **A51F-0168 POSTER** Mechanisms affecting the transition from shallow to deep convection over land: Inferences from observations collected at the ARM Southern Great Plains site: **Y Zhang**, S A Klein

0800h **A51F-0169 POSTER** Aspects of orogenic mesoscale convective organization admitted by a global multi-scale climate modeling framework: **M S Pritchard**, M W Moncrieff, R C Somerville

0800h **A51F-0170 POSTER** Relationships between Moisture Surges and Mesoscale- to Large-Scale Convection from Multi-year Satellite Imagery and North American Regional Reanalysis Data: **J F Mejia**, M W Douglas

0800h **A51F-0171 POSTER** Relative Role of Convection and Large-Scale Flow in Controlling Upper Tropospheric Humidity: **J Ryoo**, D W Waugh, T Igusa

0800h **A51F-0172 POSTER** Vertical structure of convective heating over the large-scale subsidence region in the CMIP3 models: **N Hirota**, Y N Takayabu

0800h **A51F-0173 POSTER** Diurnal Cycle: The Major Source of Error in ECMWF 1 to 10 Days Forecasts During YOTC 2008: **A Chakraborty**

0800h **A51F-0174 POSTER** Global Observations of the Madden-Julian Oscillations from Multi-Satellite Data: **K Li**, C M Logan, B L Slawski, B Tian, D E Waliser, Y L Yung

0800h **A51F-0175 POSTER** The global circulation response to diabatic heating associated with the Madden-Julian Oscillation: **K Seo**, S Son

0800h **A51F-0176 POSTER** HIRS Upper Tropospheric Water Vapor Dataset for Tracking Tropical Convections and Waves: **L Shi**, J J Bates

0800h **A51F-0177 POSTER** Comparing the Strength of Eyewall, Inner Rainband, and Outer Rainband Convection Using 10 years of TRMM Data: H Jiang, **E M Ramirez**, E J Zipser

0800h **A51F-0178 POSTER** NASA Goddard Giovanni Support for YOTC: **D Ostrenga**, G G Leptoukh, D E Waliser

0800h **A51F-0179 POSTER** Cirrus Clouds and Deep Convection in the Tropics: Insights from CALIPSO and CloudSat: **K Sassen**, J Zhu

0800h **A51F-0180 POSTER** Testing a Rossby-wave theory of the MJO: **D YANG**, A P Ingersoll

0800h **A51F-0181 POSTER** The Madden-Julian oscillation wind-convection coupling and the role of moisture processes in the MM5 model: **E Monier**, B C Weare, W I Gustafson

0800h **A51F-0182 POSTER** Numerical Modelling of the Observed Diurnal Cycle of Indian Monsoon Rainfall: **S Sahany**, V Vuruputur, R S Nanjundiah

0800h **A51F-0183 POSTER** Vertical Structure of the Madden-Julian Oscillation from AIRS and CloudSat: **B Tian**, D E Waliser, J H Jiang, J Li, E Fetzer

0800h **A51F-0184 POSTER** Monthly climatology of the equatorial hydrological cycle as observed from satellite and its connection to major equatorial climate indices: **M de la Torre Juarez**, E Fetzer, B Tian

0800h **A51F-0185 POSTER** Observed Variability of the East Pacific ITCZ: **C Bain**, G Magnusdottir, J M De Paz, J Kramer, P Smyth, H Stern

0800h **A51F-0186 POSTER** Asian Monsoon and Western Pacific Precipitation Variability in the Super-Parameterized Community Climate System Model: **C A DeMott**, C Stan, M F Khairoutdinov, J L Kinter, D A Randall

0800h **A51F-0187 POSTER** The Modulation of the Extratropical Atmosphere in the Pacific Basin in Response to the Madden Julian Oscillation: **R Moore**, O Martius, T Spengler

0800h **A51F-0188 POSTER** Seasonal Variation and Spatial Extent of Tropical Intraseasonal Oscillations: **V Krishnamurthy**

0800h **A51F-0189 POSTER** Water vapor recycling induced by the MJO convection: Application of water isotope tracers to the study of tropical convection: **N Kurita**, D C Noone, H Yamada, K Yoneyama

0800h **A51F-0190 POSTER** Linear response functions of a cumulus ensemble to temperature and moisture perturbations and implication to the dynamics of convectively coupled waves: **Z Kuang**

0800h **A51F-0191 POSTER** The Role of Extratropical Controls in Northward Moisture Surges of the North American Monsoon: **J Favors**, J T Abatzoglou, E Cordero

A51G Moscone South: Poster Hall Friday 0800h
Pathways of Mercury Transport and Exposure at Multiple Scales II Posters (joint with B, OS)

Presiding: N E Selin, Massachusetts Institute of Technology

0800h **A51G-0192 POSTER** Export of Atmospheric Mercury from East Asia Observed at Various Monitoring Sites in Taiwan: **G Sheu**, N Lin, J Wang, C Lee, S Chang

0800h **A51G-0193 POSTER** Quantification of Gaseous Elemental Mercury Dry Deposition to Environmental Surfaces using Mercury Stable Isotopes in a Controlled Environment: **A P Rutter**, J J Schauer, M M Shafer, M Olson, M Robinson, P Vanderveer, J E Creswell, A Parman, J Mallek, P Gorski

0800h **A51G-0194 POSTER** Source identification and mass balance studies of mercury in Lake An-dong, S. Korea: **J Han**, M Byeon, J Yoon, J Park, M Lee, I Huh, E Na, D Chung, S Shin, Y Kim

0800h **A51G-0195 POSTER** High Time Resolution Measurements of Gaseous Oxidized Mercury from Ground and Aircraft Platforms: **S N Lyman**, D A Jaffe

0800h **A51G-0196 POSTER** The effect of mercury deposition to ecosystem around coal-power plants in Tan-An peninsular, S. Korea: **Y Kim**, J Lee, K Song, S Shin, J Han, E Hong, G Jung

0800h **A51G-0197 POSTER** Measurements and Modeling of the Air-Sea Exchange of Mercury: **R P Mason**, M Andersson, A Sorenson, E M Sunderland

0800h **A51G-0198 POSTER** Identifying sources of gaseous oxidized mercury at two southeastern U.S. sites using chemical ratios and back trajectories: **P S Weiss-Penzias**, M S Gustin, S N Lyman

0800h **A51G-0199 POSTER** Measurements of atmospheric elemental and oxidized mercury and dry deposition to a surrogate surface at a coastal estuary location in Central California: **D Cook**, P S Weiss-Penzias, A R Flegal, A Paytan, M S Gustin

0800h **A51G-0200 WITHDRAWN**

0800h **A51G-0201 POSTER** Assessing the Fate of Litter Mercury during Decomposition under Controlled Laboratory Conditions: **A K Pokharel**, D Obrist

0800h **A51G-0202 WITHDRAWN**

0800h **A51G-0203 POSTER** Does seasonal snowpacks enhance or decrease mercury contamination of high elevation ecosystems?: A Pierce, **X Fain**, D Obrist, D Helmig, C Barth, H Jacques, K Chowanski, D Boyle, M William

0800h **A51G-0204 POSTER** Developing Isotope Tools for Identifying Mercury Mining Sources: **P G Koster van Groos**, B K Esser, R W Williams, J R Hunt

0800h **A51G-0205 POSTER** A Novel Method for the Study of the Chemical Speciation of Mercury in Air: **D Deeds**, E Guerette, A Tessier, P Ariya

A51H Moscone South: Poster Hall Friday 0800h
Role of Deep Convection in the Large-Scale Tropical Ocean-Atmosphere Interaction II Posters (*joint with OS*)

Presiding: **G J Zhang**, Scripps Institution Oceanography; **D Sun**, University of Colorado; **R B Neale**, NCAR

0800h **A51H-0206 POSTER** Climate Response to Tropical Cyclone-Induced Ocean Mixing in an Earth System Model of Intermediate Complexity: **R L Srivier**, M E Mann, M P Goes, K Keller

0800h **A51H-0207 POSTER** The Moist Static Energy Budget on Intraseasonal Time Scales as Observed in NCEP Reanalysis Data: **K Landu**, E D Maloney

0800h **A51H-0208 POSTER** A Survey of NASA's Tropical Atmospheric Research Field Campaigns: M Yubin He, **D M Hardin**, S Graves, H Conover, R Blakeslee, M Goodman

0800h **A51H-0209 POSTER** Cloud Statistics and Radiative Properties in the Tropics: **F J Wrenn**, G G Mace

0800h **A51H-0210 POSTER** Demonstration of Effects on Tropical Cyclone Forecasts from Variation in Cumulus Convection Parameterization with a High Resolution Global Model: **T L Miller**, J P Mackaro, C Cohen, F R Robertson

0800h **A51H-0211 POSTER** Simulations of the Indo-Pacific Warm Pool by IPCC Models: **Y Sun**, D Sun, L Wu

0800h **A51H-0212 POSTER** The Role of Stratiform and Convective heating in modifying the northward phase propagation of Monsoon Intraseasonal Oscillation: **R Chattopadhyay**, B Goswami, A K Sahai

0800h **A51H-0213 POSTER** On the Relationship Between QBO and Distribution of Tropical Deep Convection: **M A Geller**, S Liess

0800h **A51H-0214 POSTER** Clustering of Tropopause Penetrating Clouds: A Potential Test of Large-scale Convection in Climate Models: **H H Aumann**, A Ruzmaikin, S G Desouza-Machado

0800h **A51H-0215 POSTER** Reconciling deep convection with wide range statistical scaling: **J Stolle**, S Lovejoy, D J Schertzer

A51I Moscone South: Poster Hall Friday 0800h
Wildland Fire Emissions in Chemical Transport Models: Improving Input Resolution II Posters (*joint with B, GC*)

Presiding: **A J Soja**, National Institute Aerospace; **C Wiedinmyer**, National Center for Atmospheric Research; **B J Stocks**, B.J. Stocks Wildfire Investigations Ltd.

0800h **A51I-0216 POSTER** Estimating carbon emissions in Russia using the Canadian Forest Fire Danger Rating System: **D J McRae**, J Jin, Y Yang, S G Conard, A Sukhinin, B J Stocks

0800h **A51I-0217 POSTER** A new impulse-response method for estimating the distribution of global OH using satellite measurements of CO, a multi-year time series of fire emissions, and a chemical transport model: **M Mu**, J T Randerson, P S Kasibhatla, G van der Werf

0800h **A51I-0218 POSTER** High resolution fire emission estimates for air quality applications: **C Wiedinmyer**, J A Al-Saadi, L K Emmons, R J Yokelson, S K Akagi, A J Soja, C L Heald

0800h **A51I-0219 POSTER** Evaluation of NO_x emissions from U.S. wildfires occurring during August-October 2006 using WRF-Chem model simulations and satellite observations: **S Kim**, J Brioude, A Hilboll, A Richter, J F Gleason, J P Burrows, T B Ryerson, J W Peischl, J Holloway, S Lee, G J Frost, S A McKeen, M Trainer

0800h **A51I-0220 POSTER** BlueSky Modeling Framework: Current application, user tools, and future additions: **T Strand**, N Larkin, R Solomon, D Sullivan, S M Raffuse, D Pryden, K Craig, N Wheeler, L Chinkin

0800h **A51I-0221 POSTER** Trends in fire emissions over the 20th century as simulated by a fire model within CLM-CN: **S Kloster**, J T Randerson, N M Mahowald, P E Thornton

0800h **A51I-0222 POSTER** The Impact of Organic Carbon Absorption over Biomass Burning Regions: **B I Magi**, P A Ginoux

0800h **A51I-0223 POSTER** Satellite radiative power-based emission factors for nitrogen oxides from wildland fires in California: **A K Mebust**, A R Russell, L C Valin, R C Cohen

0800h **A51I-0224 POSTER** A Synoptic View of Smoke Injection and Transport During the ARCTAS 2008 Campaign from MISR Multi-angle Imaging: **M R Davis**, R A Kahn

0800h **A51I-0225 POSTER** Observed and Modeled Prescribed Fire Emissions and Transport: **S J Strenfel**, C B Clements, F R Freedman, J K Hiers

0800h **A51I-0226 WITHDRAWN**

0800h **A51I-0227 WITHDRAWN**

A51J Moscone South: 309 Friday 0800h
Aerosol and Cloud Radiative Properties and Climate Effects II

Presiding: **T P Ackerman**, University of Washington

0800h **A51J-01** Investigating the Climate Impacts of Black Carbon in GFDL's AM2.1 Atmospheric General Circulation Model: **G Persad**, Y Ming

0815h **A51J-02** Microphysical and Radiative Properties of Tropical Clouds Investigated in TC4 and NAMMA: **P Lawson**, E J Jensen, D L Mitchell, B A Baker, Q Mo, B Pilon

0830h **A51J-03** Climate implications of carbonaceous aerosols: An aerosol microphysical study using the GISS/MATRIX climate model: **S E Bauer**

0845h **A51J-04** Cloud optical depths from the new AERONET "cloud mode" observations: **J Chiu**, C Huang, A Marshak, I Slutsker, D M Giles, B N Holben, Y Knyazikhin, W J Wiscombe

0900h **A51J-05** Parametric uncertainty effects on aerosol radiative forcing: J von Storch, **J O Haerter**, E Roeckner, L Tomassini

0915h **A51J-06** Effects of the Time of Year on Climate Impacts Due to Volcanic Eruptions: **B Kravitz**, A Robock, G L Stenchikov

0930h **A51J-07** Spectral shortwave observations and modeling of ice clouds from TC4: **B C Kindel**, S Schmidt, P Pilewskie, M D King, S E Platnick, B A Baum, P Yang, G Wind, G T Arnold

0945h **A51J-08** The effect of wildfires on atmospheric heating rates as measured by unmanned aircraft: **C Corrigan**, V Ramanathan, M Venkata Ramana, A Zhu

A51K Moscone West: 3006 Friday 0800h
Atmospheric Sciences General Contributions: Chemistry and Composition II

Presiding: **P A Newman**, NASA Goddard; **C P Loughner**, University of Maryland

0800h **A51K-01** Oxidation photochemistry in the Southern Atlantic boundary layer: Unexpected deviations of photochemical steady state: **Z Hosaynali Beygi**, H Fischer, M Martinez, H D Harder, P Joeckel, U Parchatka, C Gurk, R Koenigstedt, D Brookes, P S Monks, J Lelieveld

0815h **A51K-02** Satellite Air Quality Monitoring Before, During and After the Beijing 2008 Olympics and Paralympics: **J C Witte**, M R Schoeberl, N A Krotkov, K E Pickering, D G Streets, J F Gleason, J C Gille

0830h **A51K-03** The Chemical and Aerosol Sounding Satellite (CASS): An Update: **J M Rodriguez**, M P McCormick, K A Walker, J M Zawodny, M R Schoeberl, C H Jackman

0845h **A51K-04** Climate change impact on stratospheric mixing: **P A Newman**, F Li

0900h **A51K-05** Investigating the urban heat island effect on air quality: **C P Loughner**, D J Allen, R R Dickerson, K E Pickering, Y Shou, D Zhang

0915h **A51K-06** Modelling Radical Chemistry above a Southeast Asian Rainforest: **S Malpass**, N Carslaw, P S Monks, A Karunaharan

0930h **A51K-07** Trends in atmospheric constituents measured by Fourier Transform spectroscopy at Wollongong, Australia, from 1996-2009: **N B Jones**, C Paton-Walsh, D W Griffith, N M Deutsch, S R Wilson, R Macantangay, M Henschon

0945h **A51K-08** Inter-annual variation in NO₂ over the United States: **D Chand**, S McClure, B A Schichtel, J Huddleston, W C Malm, T Moore

A51L Moscone West: 3002 Friday 0800h
Climate General Contributions III

Presiding: **N J Mantua**, University of Washington; **J Romanski**, Columbia University; **J Romanski**, Columbia University

0800h **A51L-01** Climatology of Major Sudden Stratospheric Warmings in the Whole Atmosphere Community Climate Model: **L de la Torre Ramos**, R R Garcia, J A Añel Cabanelas

0815h **A51L-02** Does the PDO influence Global Mean Surface Temperatures, or is it the other way around?: **N J Mantua**, T Mitchell

0830h **A51L-03** Investigating the Role of Diabatic Heating in Global Atmospheric Circulation and Climate Sensitivity: An Energetics Approach: **J Romanski**, W B Rossow

0845h **A51L-04** Three Distinct Physical Mechanisms of Summertime Precipitation Variability in Korea: **J Roh**, K Kim

0900h **A51L-05** Measurement of a Changing Moisture Climate: **J N Hallett**

0915h **A51L-06** GCM simulations of cold dry Snowball Earth atmospheres: **A Voigt**, I Held, J Marotzke

0930h **A51L-07** Energetics responses to higher greenhouse gas concentrations, and the role of the warming pattern: **D Hernandez-Deckers**, J von Storch

0945h **A51L-08** Future change of precipitation-altitude relationship over the Asian summer monsoon region simulated by a high-resolution climate model with a time-slice technique: **O Arakawa**, A Kitoh

A51M Moscone West: 3004 Friday 0800h
Global Atmospheric Composition With Geostationary Measurements I

Presiding: **V Peuch**, CNRM-GAME, Météo-France and CNRS URA1357; **A Eldering**, JPL/Caltech

0800h **A51M-01** Geostationary Atmospheric Observation Satellite Plan in Japan (*Invited*): **H Akimoto**, Y Kasai, K Kita, H Irie, K Sagi, S Hayashida

0815h **A51M-02** The NASA GEO-CAPE Mission: **J A Al-Saadi**, K W Jucks, P S Bontempi, E Hilsenrath, L T Iraci, J W Campbell, J Fishman, S R Kawa, A Mannino

0830h **A51M-03** Feasibility study for Japanese Air Quality Mission from Geostationary Satellite: Infrared Imaging Spectrometer: K Sagi, **Y Kasai**, B Philippe, K Suzuki, K Kita, S Hayashida, R Imasu, H Akimoto

0845h **A51M-04** Aerosol Retrievals from a Geostationary Platform: **S Kondragunta**, I Laszlo, P Ciren

0900h **A51M-05** Data assimilation experiments within the POGEQA project: **V Peuch**, J E Attie, M Claeysman, L El Amroui, P Ricaud, N Semane, S Massart, A Piacentini, D Cariolle, J Flaud, G Bergametti, R Cantie, F Pasternak, L Lehors, T von Clarmann, M Hoepfner, J Orphal

0915h **A51M-06** Satellite multispectral observations of carbon monoxide from a geostationary perspective: **D P Edwards**, A F Arellano, M N Deeter

0930h **A51M-07** How Low Can We Go? Characterizations of Ozone Profiles Using Panchromatic Spectral Coverage and Implications for Air Pollution Science from a Geostationary View: **A Eldering**, M Lee, K W Bowman, S S Kulawik, M Luo, Z Qu, G B Osterman, J Worden, S P Sander

0945h **A51M-08** Using Geostationary Observations to Improve Ozone Air Quality Forecasts: **P Zoogman**, D J Jacob, K Chance, L Zhang, P Le Sager, A M Fiore

A51N Moscone West: 3008 Friday 0800h
The Global Methane Cycle and Its Impacts on Climate and Atmospheric Chemistry I

Presiding: **C L Butenhoff**, Portland State Univ; **Q Zhuang**, Purdue University

0800h **A51N-01** Observation-based estimate of the error in atmospheric methane column retrieved from GOSAT SWIR spectra (*Invited*): **S S Maksyutov**, T Saeki, A A Bloom, C Frankenberg, Y Yoshida, I Morino, T Yokota

0820h **A51N-02** Climate/CH₄ interactions on 10-10,000-year timescales (*Invited*): **T A Sowers**

0840h **A51N-03** A twenty year record of the ¹³C isotopic composition of methane from Cape Meares, Oregon (1978-1998): **D Teama**, A L Rice

0855h **A51N-04** What do Observations Tell us About the Causes of Recent Increases in Atmospheric CH₄? **E J Dlugokencky**, L Bruhwiler, J W White, L K Emmons, P C Novelli, S A Montzka, K Masarie, P Lang, A M Crotwell, J B Miller, L Gatti

0910h **A51N-05** Recent findings on methane emissions from vegetation (*Invited*): **F Keppler**, T Roeckmann, I Vigano, J T Hamilton, A McLeod

0930h **A51N-06** Observation of diel patterns and episodic events in wetland methane efflux using automated chambers: **J P Goodrich**, R K Varner, S E Frolking, E Miranda, P M Crill
 0945h **A51N-07** Methane Fluxes in a Composite Landscape in the Sacramento-San Joaquin Delta: **A Guha**, M Detto, D D Baldocchi, A H Goldstein

Biogeosciences

B51A Moscone South: Poster Hall Friday 0800h
Carbon and Water Cycles: Interpreting and Assimilating From Leaf and Soil Column to Globe III Posters (*joint with H*)

Presiding: **A D Richardson**, Harvard University; **D Papale**, University of Tuscia

0800h **B51A-0288 POSTER** Diurnal Fluxes of Carbonyl Sulfide (COS) in a Subtropical Salt Marsh: **M Whelan**, D H Min, R C Rhew, Y Liu

0800h **B51A-0289 POSTER** The influence of drought on net ecosystem CO₂ exchange in the southeastern US: **N Pingintha**, M Y Leclerc, J P Beasley, G Zhang, C Senthong

0800h **B51A-0290 POSTER** Ten-year variability in fluxes, meteorology, and environmental conditions at a Colorado subalpine forest site: **S P Burns**, A Turnipseed, D R Bowling, J Hu, R K Monson

0800h **B51A-0291 POSTER** Linking fog water use by plants in the coastal Namib Desert to carbon and nitrogen cycles along aridity gradients: **S A Macko**, K Soderberg, J Henschel, K Billmark, R J Swap

0800h **B51A-0292 POSTER** Spatial Distribution of Methane in Surface Water at the Land-Ocean Interface: **K J Steele**, R K Varner, J Salisbury

0800h **B51A-0293 POSTER** Impact of Rice Grown on Surface Energy Balance in the Sacramento-San Joaquin Delta and the Sacramento Valley: **F Anderson**, M Detto, J G Verfaillie, D D Baldocchi, R L Snyder

0800h **B51A-0294 POSTER** Seasonal and interannual variations in carbon dioxide exchange over a cropland in the North China Plain: **H Lei**, D Yang

0800h **B51A-0295 POSTER** Seasonal Differences in the CO₂ Exchange of a Short-Hydroperiod Florida Everglades Marsh: **J L Schedlbauer**, S F Oberbauer, G Starr, K L Jimenez

0800h **B51A-0296 POSTER** Ecohydrology of a semi-arid forest: effects of precipitation pattern and canopy structure on forest productivity: **N Raz Yaseef**, E Rotenberg, G Schiller, D Yakir

0800h **B51A-0297 POSTER** Interpreting stem diameter changes: **T Hölttä**, S Sevanto, E Nikinmaa

0800h **B51A-0298** WITHDRAWN

0800h **B51A-0299 POSTER** Linear and Non-linear Effects of Atmospheric CO₂ and Soils on Plant Productivity and Soil CO₂ Efflux in Grassland and Switchgrass Monocultures: **P A Fay**, W Polley, V Jin, A Procter, R B Jackson

0800h **B51A-0300** WITHDRAWN

0800h **B51A-0301 POSTER** An Estimation of the Lagrangian Length Scale in a Forest Canopy: **S E Brown**, J S Warland, E A Santos, R M Staebler, P A Bartlett

0800h **B51A-0302 POSTER** Soil CO₂ Fluxes Following Wetting Events: Field Observations and Modeling: **F C O'Donnell**, K K Caylor

0800h **B51A-0303 POSTER** Demonstrating the incidence and coherence of horizontal carbon dioxide advection due to katabatic flow in a dense forest canopy: **A S Leitch**, Z Nestic, T A Black, A Christen, C Brummer, R S Jassal, S R Motta, N Grant, R Ketler, D Lessard, A Hum, K Liss

B51B Moscone South: Poster Hall Friday 0800h
Carbon and Water Cycles: Interpreting and Assimilating From Leaf and Soil Column to Globe IV Posters

Presiding: **P C Stoy**, University of Edinburgh; **M Reichstein**, Max-Planck-Inst. for Biogeo.

0800h **B51B-0304 POSTER** Uncertainty and heterogeneity for eddy covariance flux measurement: **W Kim**, D Komori, J Cho

0800h **B51B-0305 POSTER** Global warming increased by the response of land plants to CO₂: **L Cao**, G Bala, K G Caldeira, R R Nemani, G A Ban-Weiss

0800h **B51B-0306 POSTER** A large eddy simulation study of carbon dioxide and water vapor isotopes in the atmospheric boundary layer: **X Lee**, J Huang, E G Patton

0800h **B51B-0307 POSTER** Interpreting diel hysteresis between soil respiration and temperature: **N R Nickerson**, C L Phillips, D A Risk, B J Bond

0800h **B51B-0308 POSTER** Spatial and temporal variability of evapotranspiration derived from MODIS and FLUXNET over US from 2001 to 2008: **Y Ryu**, D D Baldocchi, J Li, K Jackson, C van Ingen, D Agarwal

0800h **B51B-0309 POSTER** An analytical model for the distribution of CO₂ sources and sinks, fluxes, and mean concentration within the roughness sub-layer: **M B Siqueira**, G G Katul

0800h **B51B-0310 POSTER** Estimating Parameters of a Forest Ecosystem C Model Using Multiple Stock and Flux Measurements as Joint Constraints: **A D Richardson**, M Williams, D J Moore, D Y Hollinger, E A Davidson, B Dail, N A Scott

0800h **B51B-0311 POSTER** Comparison of Three Modeling Approaches for Predicting Net Ecosystem Productivity in Slash Pine Plantation in North-Central FL: **H C Claudio**, W Cropper, R Bracho, G Starr

0800h **B51B-0312 POSTER** The Numerical Simulation of a Tracer-Release Field Project to Study Motion within the Nocturnal Boundary Layer: **D W Werth**, M Y Leclerc, R Buckley, M Parker, R Kurzeja, H F Duarte, G Zhang, D Durden

0800h **B51B-0313 POSTER** Integrating micrometeorological observations of water-carbon linkages across a climate gradient: **R G Anderson**, M L Goulden

0800h **B51B-0314 POSTER** The Role of Spatially Variable Soil Moisture in Modeling Landscape-Scale Soil Respiration: **B L McGlynn**, D A Riveros-Iregui, L A Marshall, D L Welsch, R E Emanuel, H E Epstein

0800h **B51B-0315 POSTER** Assimilating AmeriFlux Site Data into the Community Land Model with Carbon-Nitrogen Coupling via the Ensemble Kalman Filter: **J C Pettijohn**, B E Law, M D Williams, R Stoeckli, P E Thornton, T M Hudiburg, C K Thomas, J Martin, T C Hill

0800h **B51B-0316 POSTER** Evaluating Uncertainties in Sap Flux Scaled Estimates of Forest Transpiration, Canopy Conductance and Photosynthesis: **E J Ward**, D M Bell, J S Clark, H Kim, R Oren

B51C Moscone South: Poster Hall Friday 0800h
Characterization of Soil Organic Carbon in Agricultural Soils: Remote Sensing, Modeling, and in Situ Measurement Techniques Posters (joint with GC)

Presiding: E Podest, JPL; K C McDonald, Jet Propulsion Lab

0800h **B51C-0317 POSTER** Methods and Tools for Measurement, Monitoring and Verification for Soil Carbon Sequestration (*Invited*): **C W Rice**

0800h **B51C-0318 POSTER** Towards an Integrated Methodology for Measuring and Monitoring Soil Carbon at Regional Scales (*Invited*): **R C Izaurralde**

0800h **B51C-0319 POSTER** Estimating changes in soil organic carbon consistently from field to continental scales (*Invited*): **T O West**, C C Brandt, V Bandaru

0800h **B51C-0320 POSTER** Remote Sensing to Support Monitoring of Soil Organic Carbon (*Invited*): H McNairn, **A Pacheco**

0800h **B51C-0321 POSTER** Sensor Needs for Effective Measurement of Non-Photosynthetic Vegetation: **G Serbin**, E R Hunt, C S Daughtry, P C Doraiswamy

0800h **B51C-0322 POSTER** The Relationship Between Crop Residue Harvest, Erosion, Carbon and Nitrogen Cycles in the Kalamazoo Watershed: **J Gregg**

0800h **B51C-0323 POSTER** Soil Organic Carbon under Native and Cropped Land Use: **R F Follett**, J M Kimble, E Pruessner, S Samson-Liebig, S W Waltman

0800h **B51C-0324 POSTER** Restoration of soil organic carbon with cultivation of perennial biofuel crops: **S C Davis**, A Yannarell, M Masters, K Anderson-Teixeira, J E Drake, R Darmody, R Mackie, M David, E H DeLucia

0800h **B51C-0325 POSTER** Potential for Carbon Sequestration using Organic Amendments on Rangeland Soils: **R Ryals**, W L Silver

0800h **B51C-0326 POSTER** Circadian Variability in Methane Oxidation Activity in the Root Zone of Rice Plants: **M H Schroth**, R Cho, J Zeyer

0800h **B51C-0327 POSTER** Approaches for mitigation of greenhouse gas emission from agricultural fields: **S Sudo**, M Itoh

B51D Moscone South: Poster Hall Friday 0800h
North American Carbon Program Interim Synthesis Results and Similar Model-Data Comparisons I Posters

Presiding: D M Ricciuto, Oak Ridge National Laboratory; **K M Schaefer**; **P E Thornton**, Oak Ridge National Laboratory; **C Williams**, Clark University

0800h **B51D-0328 POSTER** Nebraska Energy Flux Measurement, Modeling and Research Network (NEBFLUX): **S Irmak**

0800h **B51D-0329 POSTER** Stable Carbon Isotope Ratios of Atmospheric CO₂ and Ecosystem Respiration in NACP Site Synthesis Study: **C Lai**, W J Riley, K Schaefer, C J Still, J Ehleringer

0800h **B51D-0330 POSTER** Using CarbonTracker carbon flux estimates to improve a terrestrial carbon cycle model: **W Peters**, M Krol, J B Miller, P P Tans, N Carvalhais, K Schaefer

0800h **B51D-0331 POSTER** Public Release of 30-year (1979-2008) NLDAS High-resolution Products - Analysis and Validation for Soil Moisture and Temperature: **Y Xia**, M B Ek, E F Wood, L Luo, J Sheffield, D P Lettenmaier, B Livneh, D M Mocko, B Cosgrove, C J Meng, H Wei, V Koren, J C Schaake, K C Mo, K Mitchell

0800h **B51D-0332 POSTER** North American Gross Primary Productivity: Regional Characterization and Interannual Variability: **I T Baker**, A Denning, R Stockli

0800h **B51D-0333 POSTER** Towards better-constrained assessments of the carbon balance of North America in the 21st Century: a comparison of recent model and inventory-based estimates: **D J Hayes**, D McGuire, W M Post, L S Heath, W Kurz, G Stinson, M Thornton, Y Wei, T O West

0800h **B51D-0334 POSTER** Convergence and Divergence in a Multi-Model Ensemble of Terrestrial Ecosystem Models in North America: **J L Dungan**, W Wang, H Hashimoto, A Michaelis, C Milesi, K Ichii, R R Nemani

0800h **B51D-0335 POSTER** The Influence of North American Carbon Flux Spatial Distribution on the Temporal Variability of Atmospheric Carbon Dioxide: **D N Huntzinger**, S Gourdji, A M Michalak

B51E Moscone South: Poster Hall Friday 0800h
North American Carbon Program Mid-Continent Intensive Campaign and Similar Regional CO₂ Flux Studies I Posters (joint with GC, A)

Presiding: A Denning, Colorado State University; **T O West**, Oak Ridge National Laboratory

0800h **B51E-0336 POSTER** Simulating regional CO₂ fluxes in the Mid-Continent Region using GEMS: Z li, **S Liu**, Z Tan

0800h **B51E-0337 POSTER** The Vulcan Project: Recent advances and emissions estimation for the NACP mid-continent intensive campaign region: **K R Gurney**, Y Zhou, S Geethakumar, A Godbole, D L Mendoza, M Vaidhyanathan, N Sahni

0800h **B51E-0338 POSTER** Mid-Continental Intensive Field Campaign Atmospheric CO₂ Observations Compared to Forward Models: **L I Diaz**, K J Davis, N L Miles, S Richardson, A E Schuh, A Denning, A E Andrews, A R Jacobson, K Corbin

0800h **B51E-0339 POSTER** Comparison of Regional Carbon Dioxide Fluxes from Atmospheric Inversions and Inventories in the Mid-Continent Intensive: **S M Ogle**, D S Cooley, A E Schuh, A Denning, K J Davis, T O West, F J Breidt

0800h **B51E-0340 POSTER** A Multi-Year Record of Airborne Continuous CO₂ in the U.S. Southern Great Plains: Observations and Mixing Across the PBL: **S Biraud**, W J Riley, I N Williams, M S Torn

0800h **B51E-0341 POSTER** Boundary Layer CO₂ budgets at long timescales: **I N Williams**, W J Riley, J A Berry, M S Torn, S Biraud

0800h **B51E-0342 POSTER** Constraints on CO₂ flux emissions: reconstructions of in-situ measurements from Lagrangian stochastic inversion: **I J Pizzo**, P K Patra, T Nakazawa, Y Sawa, T Machida, H Matsueda

0800h **B51E-0343 POSTER** Field testing and error analysis of cavity ringdown spectroscopy instruments measuring CO₂: **S J Richardson**, N L Miles, K J Davis, E Crosson, A D Van Pelt, E Wahl

0800h **B51E-0344 POSTER** Continuous Monitoring of Soil Respiration in Black Spruce Forest Soils, Interior Alaska: **Y Kim**, S Kim, W Kim

0800h **B51E-0345 POSTER** Environmental controls on carbon fluxes over three grassland ecosystems in China: **Y Fu**, Z Zheng, G Yu

0800h **B51E-0346 POSTER** Calculating Nitrogen Gas Fluxes from Agricultural Soils in the Central US: **S Del Grosso**, S M Ogle, W J Parton, F J Breidt

0800h **B51E-0347 POSTER** A Biophysical Modeling Framework for Assessing the Environmental Impact of Biofuel Production: **X Zhang**, C Izaurralde, D Manowitz, T O West, W M Post, A M Thomson, J Nichols, V Bandaru, J R Williams

B51F Moscone South: Poster Hall Friday 0800h
Soil Organic Matter and Carbon Sequestration: From Models to Mechanisms I Posters

Presiding: **K Lajtha**, Oregon State University; **N Cavallaro**

0800h **B51F-0348 POSTER** Modeling Soil Organic Carbon for Agricultural Land Use Under Various Management Practices:

V R Kotamarthi, **B Drewniak**, J Song, J Prell, R L Jacob

0800h **B51F-0349 POSTER** Seasonal and spatial variation in soil chemistry and anaerobic processes in an Arctic ecosystem: **D Lipson**, M Mauritz, F Bozzolo, T K Raab, M J Santos, E F Friedman, M Rosenbaum, L Angenent

0800h **B51F-0350 POSTER** Changes in the net carbon balance following a shelterwood harvest at Howland Forest in central Maine seven years after harvest: **N A Scott**, D Hollinger, E A Davidson, C Rodrigues, H Hughes, J T Lee, A D Richardson, B Dail

0800h **B51F-0351 POSTER** Cyanobacterial Soil Crust Distribution in the State of Qatar: **R A Richer**, D Anchassi, I El Assad, M El Matbouly, F Fares, J Metcalf, I Makki

0800h **B51F-0352 POSTER** Stand-scale soil respiration estimates based on chamber methods in a Bornean tropical rainforest:

T Kume, A Katayama, H Komatsu, M Ohashi, M Nakagawa, M Yamashita, K Otsuki, M Suzuki, T Kumagai

0800h **B51F-0353 POSTER** Using DayCENT and CN-CLASS to simulate carbon dynamics in C3 and C4 agricultural crop: **K Chang**, J S Warland, P A Bartlett, M A Arain, P Voroney, C Wagner-Riddle

0800h **B51F-0354 POSTER** Effects of Long-Term Prescribed Burning on Soil Physical and Chemical Properties in the Missouri Ozarks: **K Stephan**, J A Hubbart

0800h **B51F-0355 POSTER** Probabilistic inversion of temperature dependency of soil carbon turnover with long-term data and model fusion: **M Yokozawa**

0800h **B51F-0356 POSTER** Modeled carbon respiration of microbial communities with explicit enzyme representation: **K E Todd-Brown**, S D Allison

0800h **B51F-0357 POSTER** The abiotic litter decomposition in the drylands: **H Lee**, H Throop, T A Rahn

0800h **B51F-0358 POSTER** Equifinality and Uncertainty in Modeling Soil Respiration: **D Hui**, W Shen

0800h **B51F-0359 POSTER** Control mechanisms of soil particle size on the quality of soil organic matter: **A Coplin**, A M Faiia, K Aho, S Kelson, R A Virginia, X Xu, X Feng

0800h **B51F-0360 POSTER** Soil-Earthworm-Litter System Controls on the Stabilization of Soil Organic Carbon in Eastern Deciduous Forests: **Y Ma**, T R Filley, C T Johnston, K A Szlavecz, M McCormick

0800h **B51F-0361 POSTER** Limiting factors for carbon-mineral complexation: Responses to land use types and the implications for carbon sequestration: **C Chen**, K Yoo, A K Aufdenkampe

0800h **B51F-0362 POSTER** Impacts of leaves, roots, and earthworms on soil organic matter composition and distribution in sycamore maple stands: **N Rivera**, K E Mueller, C W Mueller, J Oleksyn, C Hale, K H Freeman, D Eissenstat

0800h **B51F-0363 POSTER** FTIR Evidence of Changes in Carbon Associated with Hydrophobicity in Wildfire Affected Soils Treated with Elevated Temperature, Acid Snow Melt, or UV-Light: **A R Jacobson**, A J Anderson, H Van Miegroet

0800h **B51F-0364 POSTER** Soil Respiration Measurements in a Temperate and a Tropical Forest: **S L Pitz**, K A Szlavecz, L Xia, Y Chen, J A Gupchup

0800h **B51F-0365 POSTER** Decay Rates and Semi-stable Fraction Formation after 12 years of Foliar Litter Decomposition in Canadian Forests: **J A Trofymow**, C Smyth, T Moore, C Prescott, B Titus, M Siltanen, S Visser, C M Preston, J Nault

0800h **B51F-0366 WITHDRAWN**

0800h **B51F-0367 POSTER** Detailed Mapping of Soil Organic Carbon Stocks in the United States Using SSURGO: **N B Bliss**, S W Waltman, L West

0800h **B51F-0368 POSTER** The Alaska Soil Carbon Database: A Powerful Database for Soil Carbon Synthesis and Modeling: **K D Johnson**, D Agarwal, J W Harden, D McGuire, C Swanston, C van Ingen

0800h **B51F-0369 POSTER** Effect of wetting and drying on deep soil CO₂ production and fluxes: **A A Berhe**, C M Khoi, H V Asperen, J Gillabel, J W Six

0800h **B51F-0370 WITHDRAWN**

B51G Moscone West: 3016 Friday 0800h
Stable Isotopes in Terrestrial Biogeosciences I (joint with A, H)

Presiding: **K P Tu**, UC Berkeley; **A Kahmen**, UC Berkeley; **T E Dawson**, Univ California Berkeley

0800h **B51G-01** Isotopic imprint of denitrification on the natural terrestrial biosphere (*Invited*): **B Z Houlton**, E Bai, Y Wang

0815h **B51G-02** Nitrifier denitrification can be a source of N₂O from soil: a revised approach to the dual isotope labelling method: **D M Kool**, N Wrage, S Zechmeister-Boltenstern, M Pfeffer, D Brus, O Oenema, J Van Groenigen

0830h **B51G-03** Using 15N₂O Pool Dilution to Understand N₂ and N₂O Dynamics in a Peatland Pasture: **W H Yang**, Y Teh, W L Silver

0845h **B51G-04** Stable N isotope values of black spruce ecosystem components integrate source N isotope values, soil fertility, and microbial biomass: a natural and experimental study from Alaska: **J R Mayor**, T Schuur, M C Mack, T Nettelton Hollingsworth, E Bååth

0900h **B51G-05** Tracing carbon and oxygen isotope signals from newly assimilated sugars in the leaves to the tree ring archive (*Invited*): **A Gessler**, E Brandes, N C Buchmann, G Helle, R L Barnard

0915h **B51G-06** Plant ecophysiological status and soil micro-organisms control the time-lagged response of ecosystem respiration to environmental changes: **Y Salmon**, R L Barnard, N C Buchmann

0930h **B51G-07** Environmental Controls on the Stable Isotopic Composition of Ecosystem Respiration in a High Elevation Subalpine Forest: **D A Riveros-Iregui**, J Hu, D R Bowling, R K Monson

0945h **B51G-08** The environmental signals that CAN and CANNOT be inferred from δ18O signals in plant cellulose: **A Kahmen**, D Sachse, S K Arndt, K P Tu, P Vitousek, T E Dawson

B51H Moscone West: 3018 Friday 0800h
Impacts of Disturbance on the North American Terrestrial Carbon Budget I

Presiding: **E S Kasischke**, University of Maryland; **D McGuire**, USGS/Alaska Cooperative Fish and Wildlife Research Unit

0800h **B51H-01** Magnitude and Carbon Consequences of Forest Management in North America: **J Masek**, W Kurz, B H de Jong

0815h **B51H-02** The Effects of Insect Outbreak Disturbances on the North American Carbon Cycle: A Review: **J A Hicke**, R J Hall, K Raffa, A R Desai, D Kashian

0830h **B51H-03** Projecting the past and future impacts of hurricanes on the carbon balance of eastern U.S. forests (1851-2100): **J Fisk**, G C Hurtt, J Q Chambers, H Zeng

0845h **B51H-04** Effect of disturbance data set selection on quantification of fire emissions (*Invited*): **T V Loboda**, E S Kasischke, N H French, L Giglio, W J de Groot, E Hoy, R D Ottmar

0915h **B51H-05** Assessment of burn severity from a large fire year in the Alaskan boreal forest: **K M Barrett**, E S Kasischke, E Hoy

0930h **B51H-06** Conterminous U.S. Forest Disturbance Dynamics Evaluated from Landsat Time Series Stacks: **S N Goward**, R E Kennedy, J Masek, W B Cohen, G G Moisen, C Huang, N Thomas, K Schleeweis

0945h **B51H-07** Disturbances and Carbon Sequestration: Tower Flux Data from North American Forests: **B D Amiro**, A G Barr, T A Black, M Brown, J Chen, K J Davis, A R Desai, M L Goulden, B Law, H A Margolis, T Martin, J H McCaughey, J T Randerson, J Xiao

Cryosphere

C51A Moscone South: Poster Hall Friday 0800h
Modeling the Spatial Dynamics of Permafrost and Seasonally Frozen Ground at Diverse Scales I Posters (*joint with GC, H, NH*)

Presiding: **S Gruber**; **S Marchenko**, University of Alaska Fairbanks; **T Zhang**, University of Colorado; **N I Shiklomanov**

0800h **C51A-0447 POSTER** The Annual Surface Energy Budget of a High-Arctic Permafrost Site on Svalbard, Norway: **K Piel**, **S Westermann**, J Lüers, M Langer, J Boike

0800h **C51A-0448 POSTER** Controlling Factors of Permafrost Temperatures at a High-arctic Site on Svalbard: **S Westermann**, M Langer, J Boike

0800h **C51A-0449 POSTER** Geophysical Imaging of Discontinuous Permafrost: Effects of Sub-grid Landcover Variability and Linear Disturbance: **M Hayashi**, L R Bentley, A F McClymont, W L Quinton

0800h **C51A-0450 POSTER** Investigating subsurface characteristics of thermokarst features using ground-penetrating radar: **E S Park**, J H Bradford, W B Bowden

0800h **C51A-0451 POSTER** Developing Three-Dimension Permafrost Maps to Support Site Characterization and Long-Term Monitoring, Fairbanks Alaska: **C Snyder**, **B Astley**

0800h **C51A-0452 POSTER** Spatial Probabilistic Assessment Of Near-Surface Permafrost Parameters For The North Slope Of Alaska: **D A Streletskiy**, N I Shiklomanov, F E Nelson

0800h **C51A-0453 POSTER** Numerical Modeling of Permafrost Dynamics in Alaska using a High Spatial Resolution Dataset:

E E Jafarov, S S Marchenko, N Fresco, V E Romanovsky, S Rupp

0800h **C51A-0454 POSTER** Thermally-Conditioned Paleo-Permafrost Variations from Global Climate Modeling: **K Saito**, S S Marchenko, N H Bigelow, V E Romanovsky, K Yoshikawa, J E Walsh

0800h **C51A-0455 POSTER** Coupled Hydrological and Thermodynamical Modelling of Permafrost Dynamics: Implications for Northern Peatlands: **D Wisser**, S S Marchenko, C C Treat, V E Romanovsky, S E Frolking

0800h **C51A-0456 POSTER** Modelling the spatial variability of the depth of ground thaw in a continuous permafrost, arctic tundra landscape: **P Marsh**, **S Endrizzi**, W L Quinton, R Thorne, M Dall'Amico

0800h **C51A-0457 POSTER** Modeling short wave radiation and ground surface temperature: a validation experiment in the Western Alps: **P Pogliotti**, E Cremonese, M Dall'Amico, S Gruber, M Migliavacca, U Morra di Cella

0800h **C51A-0458 POSTER** The Aiguille du Midi (Mont Blanc massif, European Alps): a unique high-Alpine site to study bedrock permafrost: **P Deline**, R Böhlert, V Coviello, E Cremonese, S Gruber, S Jailliet, M Krautblatter, U Morra di Cella, J Noetzli, P Pogliotti, L Ravel, B Sadier, S Verleysdonk

0800h **C51A-0459 POSTER** MODELING STEEP BEDROCK PERMAFROST FROM NEAR-SURFACE TEMPERATURE MEASUREMENTS IN THE SOUTHERN ALPS OF NEW ZEALAND: **S K Allen**, S Gruber, I Owens

0800h **C51A-0460 POSTER** A view on global permafrost distribution: **S Gruber**

0800h **C51A-0461 POSTER** The First Application and Validation of the Hydrologic Model WaSiM-ETH at a Watershed Underlain by Permafrost: **A K Liljedahl**, J Schulla, L D Hinzman

C51B Moscone South: Poster Hall Friday 0800h
Remote Sensing of the Cryosphere III Posters

Presiding: **M Tedesco**; **T H Painter**, Snow Optics Laboratory

0800h **C51B-0462 POSTER** Automatic Ice Thickness Estimation from Polar Subsurface Radar Imagery: **C M Gifford**, G Finyom, M Jefferson, **M A Reid**, E L Akers, A Agah

0800h **C51B-0463 POSTER** NPOESS/NPP VIIRS Sea Ice Concentration Algorithm: **R L Mahoney**

0800h **C51B-0464 POSTER** Validating the EUMETSAT HSAF Snow Recognition Product over Mountainous Areas of Turkey: **S Surer**, Z Akyurek, A U Sorman

0800h **C51B-0465 POSTER** Low-frequency radar sounder over Glaciers in Alaska, Greenland and Antarctica: **J Mouginot**, E J Rignot, Y Gim, D L Kirchner, S Merritt, W T Robison

0800h **C51B-0466 POSTER** Developing a water clear of sea ice algorithm over Canadian Arctic sea ice from QuikSCAT and AMSR-E measurements: **S Howell**, C Derksen

0800h **C51B-0467 POSTER** Evaluation of shifts in snow metamorphism patterns by joint analysis of RadarSat-1 and ICESat-1 data: **B S Yurchak**, W Abdalati

0800h **C51B-0468 POSTER** Analysis of Springtime Lake-Ice Coverage on the Western Arctic Coastal Plain of Northern Alaska Using Historical Landsat Imagery: **B S Winston**, K M Hinkel, C A Shah, E A Lyons

0800h **C51B-0469 POSTER** A New MODIS Mosaic of Antarctica: MOA-2009: **J A Bohlander**, T Scambos, T M Haran

0800h **C51B-0470 POSTER** Surface Meltwater Lakes in Greenland Observed through ICESat Repeat-track Analysis: **L Li**, H A Fricker

0800h **C51B-0471 POSTER** Comparison between ASTER and MODIS Melt Pond Surface and Volume Estimates and Trends on the Western Margin of Greenland: **G Stovall**, M Tedesco

0800h **C51B-0472 POSTER** Analysis of the variability of ice phenology on Great Bear Lake and Great Slave Lake, 2002-2009, from AMSR-E measurements: **K Kang**, C R Duguay, S Howell

0800h **C51B-0473 POSTER** Application of a Bayesian snow water equivalent reconstruction technique to a mountainous basin in the Sierra Nevada: **M Giroto**, S A Margulis, M T Durand, N P Molotch

0800h **C51B-0474 POSTER** Estimating Fractional Snow Cover from MODIS Imagery Across Northern Canada: **C Derksen**, **L Wang**, S Metsamaki

0800h **C51B-0475 POSTER** Possible Sources of Error When Applying Traditional Passive Microwave SWE Retrieval Algorithms to Snowpacks on Brackish and Fresh Water Lake Ice: **G E Gunn**, C R Duguay, C Derksen

0800h **C51B-0476 POSTER** A systematically-derived global glacier map derived from MODIS: **M Brodzik**, T H Painter, R L Armstrong

0800h **C51B-0477 POSTER** Surface mass balance of Greenland mountain glaciers and ice caps: **R J Benson**, J E Box, D H Bromwich, J M Wahr

0800h **C51B-0478 POSTER** Examining the Relationship between Surface Melt Magnitude and Outlet Glacier Terminus Changes using coupled MODIS Optical and Thermal Signatures and LANDSAT over Vatnajökull Ice Cap from 2000-2008: **D J Lampkin**, D K Hall, T Korkmaz

0800h **C51B-0479 WITHDRAWN**

0800h **C51B-0480 POSTER** FRACTIONAL SNOW COVER ESTIMATION IN COMPLEX ALPINE-FORESTED ENVIRONMENTS USING IKONOS/QUICKBIRD, LANDSAT AND MODIS: **E H Czymowska**, K K Hirschboeck, W T Wisniewski

0800h **C51B-0481 POSTER** Improving Approaches for Determining Ice Volume Change on the Greenland Ice Sheet Margin using ASTER and SPOT Digital Elevation Models and Spectral Masking: **K N Johnson**, T Rhodes, S M Tulaczyk, A Finck, L Lajoie

0800h **C51B-0482 POSTER** Evaluating the Contribution of Image Fusion into the Snow Mapping in Mountainous Terrain Using Euclidean Distance: **Z Akyurek**, S Surer

0800h **C51B-0483 POSTER** The 2009 Ground Passive and Active Snow (GAPS) Experiment: N Steiner, **M Tedesco**, H Marshall, E G Josberger

0800h **C51B-0484 POSTER** A radial basis interpolation algorithm for estimating Cloud-free Daily Snow-Covered Area (SCA) from MODIS: **Q Xia**, X Gao, S Sorooshian

0800h **C51B-0485 POSTER** Modeling Greenland Ice Sheets Using ALOS Polarimetric InSAR Data: **A C Chen**, H A Zebker

0800h **C51B-0486 POSTER** The generation of DEM from ALOS in the Himalayas: **Q YE**

0800h **C51B-0487 POSTER** Arctic Sea Ice and Its Changes during the Satellite Period: **X Wang**, Y Liu, J R Key

0800h **C51B-0488 POSTER** Precise and Accurate High-Altitude Waveform Lidar Mapping of Greenland Land and Arctic Sea Ice in Support of Operation IceBridge: **M A Hofton**, S B Luthcke, J B Blair, D Rabine, C McIntosh

0800h **C51B-0489 POSTER** An Artificial Neural Network Approach to Surface Melt Magnitude Retrieval over West Antarctic Ice Shelves Using Coupled MODIS Optical and Thermal Satellite Measurements: **C C Karmosky**, D J Lampkin

0800h **C51B-0490 POSTER** Glacier Velocities and Elevation Change of the Juneau Icefield, Alaska: **A K Melkonian**, M J Willis, M E Pritchard, S Bernstein

C51C Moscone South: Poster Hall Friday 0800h
The Changing Cryosphere and Hydrosphere Through Remote Sensing, Geodesy, and Modeling II Posters (*joint with G, GC, H, NG*)

Presiding: **R R Muskett**, University of Alaska Fairbanks; **G Grosse**, University of Alaska Fairbanks; **S Marchenko**, University of Alaska Fairbanks

0800h **C51C-0491 POSTER** Estimating seasonal changes of land cover, surface wetness and latent heat flux of wet polygonal tundra (Samoylov Island, Lena-Delta, Siberia) with high-resolution aerial and hyperspectral CHRIS Proba satellite imagery: **S Muster**, M Langer, J Boike

0800h **C51C-0492 POSTER** Application of an active layer monitoring scheme based on the MODIS-LST product at a polygonal tundra site in Siberia: **M Langer**, S Westermann, J Boike

0800h **C51C-0493 POSTER** Gravity Recovery and Climate Experiment (GRACE) Derived Water Equivalent Changes of the Arctic Watersheds: **R R Muskett**, V E Romanovsky

0800h **C51C-0494 POSTER** Assessing the Impact of Permafrost Degradation on Lake Dynamics at Pan-Arctic Scale: **C A Shah**, Y Sheng, L C Smith, J Li, E A Lyons

0800h **C51C-0495 POSTER** The Impact of Natural Hydrologic Variability on the Accuracy of Remote Sensing Pond Surface Area Change Detection Studies Within the Canadian Subarctic: **J A Parrott**, M L Macrae, C R Duguay

0800h **C51C-0496 POSTER** InSAR measurements of permafrost deformation on the North Slope of Alaska: **L Liu**, T Zhang, J M Wahr

0800h **C51C-0497 POSTER** Evaluation of the MODIS L2 LST Products Using Thermal Camera Systems at two Different Permafrost Sites: J Boike, **S Westermann**, M Langer, N Bornemann

0800h **C51C-0498 WITHDRAWN**

0800h **C51C-0499 POSTER** PERSPECTIVES AND FEASIBILITY OF DERIVING MASS BALANCE OF MID LATITUDE MOUNTAIN GLACIERS FROM DIRECT GLACIOLOGICAL MEASUREMENTS, REPEATED OPTICAL IMAGERY AND DEMS: **A Fischer**

0800h **C51C-0500 POSTER** Regional differences in Austria's glacier mass changes based on ERA40-reanalysis and a gridded precipitation dataset: **J Abermann**, M H Kuhn, A Lambrecht, A Fischer

0800h **C51C-0501 POSTER** Satellite observations of sediment plumes: an alternative metric for Greenland Ice Sheet ablation onset and cessation: **D McGrath**, K Steffen, I Overeem, U K Rick, J L Bamber

0800h **C51C-0502 POSTER** Widespread and Accelerated Glacier Thinning in the Svalbard Archipelago: a New Estimate of Sea-Level Contributions: **T D James**, T Murray, N Barrand, A Fox, A J Luckman, H J Sykes

0800h **C51C-0503 POSTER** Combining ICESat altimetry and SPIRIT SPOT5 DEMs to detect recent elevation changes of Svalbard glaciers: G Moholdt, **C Nuth**, A Käab, J Kohler

0800h **C51C-0504 POSTER** Recent elevation change of Vestfonna, Svalbard Archipelago, comparing surface DGPS campaigns with ICESat and NASA altimetry: **V A Pohjola**, R Pettersson, G Moholdt, C Nuth, J C Moore

0800h **C51C-0505 POSTER** Glacier Fluctuations in the Hindu Raj, Western Himalaya: **M P Bishop**, M A Sarikaya, J F Shroder

0800h **C51C-0506 POSTER** Space-Based Observations of Eastern Hindu Kush Glaciers between 1992 and 2007, Afghanistan and Pakistan: **M A Sarikaya**, M P Bishop, J F Shroder, J A Olsenholler

0800h **C51C-0507 POSTER** Impact of Climate Change on Glacier Health and Water Resources in the Indus Watershed, NW Himalaya: **M Asay**, M N Koppes, S Rupper, A McKean, E Parks

0800h **C51C-0508 POSTER** Afghanistan - Debris Covered Glaciers, Supraglacial Lakes, and the Potential for Catastrophic Flooding (Jökulhlaups): **B F Molnia**

0800h **C51C-0509 POSTER** Effect of en-glacial water on ice sheet temperatures in a warming climate - a model approach: **T P Phillips**, H Rajaram, K Steffen

0800h **C51C-0510** POSTER A NEW INSAR DERIVED DEM OF BLACK RAPIDS GLACIER: **D H Shugar**, B Rabus, J J Clague
 0800h **C51C-0511** POSTER Assessment Of Errors In Long-Term Mass Balance Records From Alaska, USA: **R S March**, A E Van Beusekom, S O'Neel

C51D Moscone West: 3003 Friday 0800h
East Antarctica: Climate, Glaciology, and Geoscience in Earth's Farthest Frontier II (*joint with GC, A, EP*)

Presiding: **A Muto**, NSIDC, CIRES, University of Colorado;
Z Courville, CRREL

0800h **C51D-01** South Pole Queen Maud Land Traverses, 1964-68 (*Invited*): **C R Bentley**
 0810h **C51D-02** Radioglaciology on the Queen Maud Land Traverses 1964-1968 (*Invited*): **J W Clough**
 0820h **C51D-03** Queen Maud Land Traverses: Surface Glaciology (*Invited*): **R L Cameron**
 0830h **C51D-04** Surface mass balance studies by the Norwegian-US scientific traverse in East Antarctica: **K Mueller**, A K Sinisalo, H Anschuetz, S Hamran, J Hagen, J R McConnell, D R Pasteris
 0845h **C51D-05** Shallow Firn Properties and Accumulation Rates at Sites in East Antarctica: **M R Albert**, Z Courville, E M Bell, K Muller, H Anschuetz, S Tronstad
 0900h **C51D-06** Firn Properties and Satellite Imagery: Early Results from the Norwegian-US Scientific Traverse of East Antarctica: **E M Bell**, M R Albert, Z Courville, K Muller, S Tronstad
 0915h **C51D-07** High-Resolution Accumulation and Aerosol Records during the Past 2000 Years from an East Antarctic Ice Core Array: **J R McConnell**, R Edwards, H Anschuetz, R Banta, M M Bisiaux, D Pasteris, K M Sterle, T Neumann
 0930h **C51D-08** High-resolution acidity in Antarctic ice cores over the past two millennium: **D Pasteris**, J R McConnell, R Edwards, J R Banta
 0945h **C51D-09** A 300 yr ice-core black carbon record from Queen Maud Land, East Antarctic: **M M Bisiaux**, R Edwards, J R McConnell, H Anschuetz

C51E Moscone West: 3014 Friday 0800h
Sea Ice Processes and Properties II

Presiding: **J K Hutchings**, University of Alaska Fairbanks;
D L Feltham, University College London

0800h **C51E-01** Arctic Sea Ice Sensitivity and Recovery Potential due to Atmospheric Conditions in the Community Climate System Model (CCSM): **B Blazey**, J A Maslanik, J C Stroeve, M M Holland, J Cassano
 0815h **C51E-02** Tracking the Evolution of Arctic Sea Ice Albedo: **M A Tschudi**, J A Maslanik, J C Stroeve
 0830h **C51E-03** Transmission of sunlight through melting Arctic sea ice (*Invited*): **B Light**, D K Perovich, T C Grenfell, K Runciman
 0845h **C51E-04** The Temporal Evolution of the Albedo of Seasonal Sea Ice: **D K Perovich**, C Polashenski, H Eicken, T C Grenfell
 0900h **C51E-05** Albedo and the Mechanisms of Melt Pond Evolution on Seasonal Ice: **C Polashenski**, Z Courville, D K Perovich, D C Finnegan, M Sturm, M Druckenmiller, H Eicken, C Petrich
 0915h **C51E-06** A spatial melt pond model for ice with surface and bottom height variations: **E D Skillingstad**, C Paulson
 0930h **C51E-07** Modelling the Areal Evolution of Arctic Melt Ponds on Sea Ice: **D L Feltham**, F Scott

0945h **C51E-08** The effect of spatially variable surfaces on PAR transmission, solar heating and primary production under first-year sea ice during advanced stages of melt: **A Rossnagel**, D G Barber, C J Mundy, J Ehn, M Gosselin

Education and Human Resources

ED51A Moscone South: Poster Hall Friday 0800h
Representing Geoscience Data: For Research, Instruction, and Communicating With the Public I Posters (*joint with A, B, IN, DI, OS, MR, H, T, EP, V*)

Presiding: **D W Mogk**, Montana State University

0800h **ED51A-0512** POSTER Using Research Cruise Data to Improve Group Activities: **D B King**
 0800h **ED51A-0513** POSTER Community Based Informatics Education: Geographical Information Systems, Remote Sensing and Ontology collaboration: **B D Branch**, R Raskin, B Rock, M T Gagnon, S Hale, L B Hayden
 0800h **ED51A-0514** POSTER A model for preparing geoscience representations for effective instructional use: S Willard, **J Wertheim**
 0800h **ED51A-0515** POSTER Observed Human Errors in Interpreting 3D visualizations: implications for Teaching Students how to Comprehend Geological Block Diagrams: **K G Bemis**, E Pirl, J Chiang, M Tremaine
 0800h **ED51A-0516** POSTER The role of image design in communicating the plate tectonic model: **S K Clark**
 0800h **ED51A-0517** POSTER The Evaluation of the Communication Function of TV Weather Maps: **M Niroumand**, H Helali
 0800h **ED51A-0518** POSTER A Framework for the Abstraction of Mesoscale Modeling for Weather Simulation: V Limpasuvan, **B E Ujich**
 0800h **ED51A-0519** POSTER Wallace Creek Virtual Field Trip: Teaching Geoscience Concepts with LiDAR: **S E Robinson**, R Arrowsmith, C J Crosby
 0800h **ED51A-0520** POSTER It's our Fault: Immersing Young Learners in Authentic Practices of Seismology: **D L Kilb**, T Moher, J Wiley
 0800h **ED51A-0521** POSTER Project MAGE: Google Earth used for Geo-, Paleo- and Rock magnetism: **T Hatakeyama**
 0800h **ED51A-0522** POSTER Dagik Earth: An affordable three-dimensional presentation of global geoscience data in classrooms and science museums: **A Saito**, M Takahashi, T Tsugawa, N Nishi, Y Odagi, D Yoshida
 0800h **ED51A-0523** POSTER Biosphere2 and Earthbuzz: **J C Washburne**

ED51B Moscone South: Poster Hall Friday 0800h
Simulations, Animations, and Interactive Multimedia for Planetary Sciences Teaching and Learning I Posters (*joint with P*)

Presiding: **R M Russell**, UCAR

0800h **ED51B-0524** POSTER Addressing Learning Strategies for the Next Generation: **P A Morris**, P H Reiff, C Sumners
 0800h **ED51B-0525** POSTER Simulating the Tragedy of the Commons with the Fishing Game: **W A Prothero**
 0800h **ED51B-0526** POSTER Building an Interactive Educational Exercise Using the Open-Source Eclipse Rich Client Platform: **B Banz**, G Bohling, J H Doveton

0800h **ED51B-0527 POSTER** An Impact Cratering Interactive Website Used for Outreach and in Professional Development Workshops for Middle School Science Teachers: **S K Croft**, E Pierazzo, T Canizo, L A Lebofsky

0800h **ED51B-0528 POSTER** Development of the Elastic Rebound Strike-slip (ERS) Fault Model for Teaching Earthquake Science to Non-science Students: **G B Glesener**, G Peltzer, I Stubailo, E S Cochran, J F Lawrence

0800h **ED51B-0529 POSTER** Numerical Simulations of Conduction-Advection Problems in Excel 2007 for Students and Teachers: **C J Grose**

0800h **ED51B-0530 POSTER** Worldwide Telescope as an earth and planetary science educational platform: **D R Fatland**, K Rush, C van Ingen, C Wong, J Fay, Y Xu, D Fay

ED51C Moscone West: 3020 Friday 0800h
Public Participation in Research: Engaging Citizen Scientists in Geoscience Research I (*joint with PA*)

Presiding: S Henderson, UCAR; A L Schloss

0800h **ED51C-01** Examining Models of Public Participation in Scientific Research: A Tool for Design and Evaluation of Projects (*Invited*): **H L Ballard**, R Bonney, C Wilderman

0815h **ED51C-02** "The Volunteer Monitor" Newsletter: A National Publication for Citizen Scientists (*Invited*): **E Ely**

0830h **ED51C-03** The Quake-Catcher Network: An Innovative Community-Based Seismic Network: **J Saltzman**, E S Cochran, J F Lawrence, C M Christensen

0845h **ED51C-04** Forest Watch: A K-12 Outreach Program to Engage Pre-College Students in Authentic, Hands-On Science: M T Gagnon, **B N Rock**

0900h **ED51C-05** Thirty Years of Participatory Watershed Research: Engaging Citizen Scientists Through the NH Lakes Lay Monitoring Program (*Invited*): **J A Schloss**

0915h **ED51C-06** Watching the sky for science: the S'COOL Rover project (*Invited*): **L H Chambers**, T M Rogerson, K A Ludwig, P M Lewis, J Madigan, S W Moore, J D Fischer

0930h **ED51C-07** The Zooniverse: **K D Borne**, L Fortson, P Gay, C Lintott, M J Raddick, J Wallin

0945h **ED51C-08** Measuring the Environment through Digital Images: **J Pickle**, A L Schloss

Earth and Planetary Surface Processes

EP51A Moscone South: Poster Hall Friday 0800h
Earth and Planetary Surface Processes and Landscapes
General Contributions: Hillslopes Posters (*joint with C, GC, H*)

Presiding: A M Anders, University of Illinois

0800h **EP51A-0569 POSTER** Landslides caused by extremely heavy rainfall —A Case Study of Typhoon Morokat, southern Taiwan 2009 Jiun-Chuan Lin Department of Geography National Taiwan University, Taipei, Taiwan, 106 E-mail: jclin@ccms.ntu.edu.tw: **J Lin**

0800h **EP51A-0570 POSTER** Geochemical Variability and Process Recognition from Soils in the Maritime Provinces, Canada: **E C Grunsky**

0800h **EP51A-0571 POSTER** Experimental study of rock erodibility – diagenetic grade relationship, application to the Annot sandstone, French-Italian Alps: **P Steer**, R Cattin, B Gibert, P Labaume, D Loggia, R Soliva, A Taboada, M Jolivet, J Lavé, J Sizun

0800h **EP51A-0572 POSTER** Analogue modelling of slope deformation patterns prior to failure: **N J Rosser**

0800h **EP51A-0573 POSTER** Entropy Approach in Investigating The Interaction Between Human Disturbance and Soil Erosion: **M Tu**, B P Wilcox, W Fox

0800h **EP51A-0574 POSTER** Differential erosion by different-sized glaciers as reflected in ¹⁰Be-derived erosion rates of glacier valley walls, Kichatna Mts., Alaska: **D Ward**, R S Anderson

0800h **EP51A-0575 POSTER** Dependence of Glacial Erosion on Rock Type: Results From Cosmogenic Dating and Numerical Modeling: **M Duehnforth**, R S Anderson, D Ward, G M Stock

0800h **EP51A-0576 POSTER** Rainsplash-induced mound development beneath desert shrubs: Modulation of sediment transport and storage, with implications for hillslope evolution: **A S Roberts**, D J Furbish

0800h **EP51A-0577 POSTER** Effects of Moisture and Grain Sizes on Rainsplash Transport with Implications for Desert Plant-Soil Interactions: **S R Taube**, D J Furbish, A S Roberts

0800h **EP51A-0578 POSTER** Water dynamics in hyperarid soils of Antarctica including water adsorption and salt hydration: **B Hagedorn**, R S Sletten

0800h **EP51A-0579 POSTER** Using surface curvature to map geomorphic process regimes in a bedrock landscape, Henry Mountains, Utah: **S Corbett**, L S Sklar, J Davis

0800h **EP51A-0580 POSTER** Solar-induced Thermal Stresses in Surface Rocks: P Mackenzie-Helnwein, **B Hallet**, K Hankins

0800h **EP51A-0581 POSTER** Role of fluid overpressure and river incision on landslides: field work and experimental modeling: B Vendeville, **A Lacoste**, L Loncke

0800h **EP51A-0582 POSTER** Seismic and Acoustic Records of the March 2009 Ahwiyah Point Rock Fall, Yosemite Valley, California: **V Zimmer**, G M Stock, N Sitar

0800h **EP51A-0583 POSTER** The relation between geochemical characteristics and landslide in Hungtsaiping area, Nantou, Taiwan: **P Lin**, L Tsai

EP51B Moscone South: Poster Hall Friday 0800h
Sediment Supply, Storage, and Delivery as Controlled by Hillslope-Channel Coupling I Posters (*joint with H*)

Presiding: M B Singer, University of St Andrews; **E J Gabet**, San Jose State University; **S M Mudd**, University of Edinburgh

0800h **EP51B-0584 POSTER** Interpreting the suspended sediment dynamics in a mesoscale river basin of Central Mexico using a nested watershed approach: **C Duvert**, J Némery, N Gratiot, C Prat, L Collet, M Esteves

0800h **EP51B-0585 POSTER** Spatial and temporal dynamics of sediment in contrasted mountainous watersheds (Mexican transvolcanic belt and French Southern Alps) combining river gauging, elemental geochemistry and fallout radionuclides: **O Evrard**, O Navratil, N Gratiot, J Némery, C Duvert, S Ayrault, I Lefèvre, C Legout, P Bonté, M Esteves

0800h **EP51B-0586 POSTER** Quantifying Coarse Sediment Connectivity in a High Mountain Geosystem: T Heckmann, M Thiel, **F Haas**, M Becht

0800h **EP51B-0587 POSTER** Controls of hillslope-channel coupling on coarse sediment supply in a semi-arid catchment: K Michaelides, **M B Singer**, G J Martin

0800h **EP51B-0588 POSTER** Sediment fluxes through headwater valley floor deposits of two contiguous reaches in the Oregon Coast Range: **W T Frueh**, S T Lancaster

0800h **EP51B-0589 POSTER** Constraining the characteristics of sediment released from tectonically-perturbed catchments: **A C Whittaker**, M Attal, P A Allen, P A Cowie

0800h **EP51B-0590 POSTER** Sediment fluxes in French rivers: Is hillslope erosion the dominant sources?: **M Delmas**, O Cerdan, J Mouchel, A Coynel

0800h **EP51B-0591 POSTER** Skiff-based Sonar/LiDAR Survey to Calibrate Reservoir Volumes for Watershed Sediment Yield Studies: Carmel River Example: **D P Smith**, R Kvitek, S Quan, P Iampietro, E Paddock, S F Richmond, K Gomez, I W Aiello, P Consulo

0800h **EP51B-0592 POSTER** Testing Conditions for Valley Networks Formation by Discrete Erosional Events: **E Shelef**, G E Hilley

0800h **EP51B-0593 POSTER** Geochemical and Morphologic Evolution of Soil-Covered Hillslopes in the Feather River Basin, California: Responses to Channel Incision: **B Weinman**, K Yoo, S M Mudd, M D Hurst, K Mayer, K Maher

0800h **EP51B-0594 POSTER** The Effect of Erosion Rate on Hillslope Rock Fragment Production: Implications for Supply of Bedload Material to Channels: **J A Marshall**, M Attal, L S Sklar, C S Riebe, M D Hurst, S M Mudd, K Yoo

0800h **EP51B-0595** WITHDRAWN

0800h **EP51B-0596** WITHDRAWN

0800h **EP51B-0597 POSTER** The creation and evacuation of a large-volume sediment bar in a coastal ephemeral stream, NW Israel: **N Bergman**, N Greenbaum

0800h **EP51B-0598 POSTER** *In Situ*-produced vs. Meteoric ^{10}Be in Hillslope Soils: One Isotope, Two Tracers, Different Stories: **M C Jungers**, P R Bierman, A Matmon, R Cox, M Pavich, R C Finkel

0800h **EP51B-0599 POSTER** Assessment of Ridge Denudation Using Cosmogenic Radionuclides and Hillslope Deposits in the Teton Range, Wyoming: **L M Tranel**, J A Spotila, S Binnie

0800h **EP51B-0600 POSTER** Hillslope-channel coupling in a cuesta landscape (Swabian Alb, Germany): N Meyer, **T Hoffmann**, R Bell, J Blöthe

0800h **EP51B-0601 POSTER** Episodic Sediment Supply from Mountains and Downstream Emplacement within Large Lowland Basins: Seeking a Sink-to-Source Synthesis: **R E Aalto**

0800h **EP51B-0602 POSTER** Effects of Road Treatments on Road-Stream Connectivity: **L H MacDonald**, A Donnellycolt, A Stafford, D B Coe

0800h **EP51B-0603 POSTER** Investigating the effects of land management practices on rill erosion using a state-of-the-art laser scanner technique: **D C Dermisis**, T Papanicolaou

0800h **EP51B-0604 POSTER** Inferring landscape response to climate from the relation between mean hillslope angle and channel steepness: **M W Rossi**, K X Whipple, R A DiBiase

EP51C Moscone South: Poster Hall Friday 0800h
Young Valley Features on Mars and the Martian Fluvial Record I Posters (*joint with P*)

Presiding: **A D Howard**, Univ of Virginia; **C Fassett**, Brown University; **J Moore**, NASA

0800h **EP51C-0605 POSTER** Young Mid-latitude Martian Valleys: Evidence from Newton and Gorgonum Basins: **A D Howard**, J M Moore

0800h **EP51C-0606 POSTER** Small Glaciofluvial Valleys on Amazonian Mars: **C Fassett**, J Dickson, J W Head, J S Levy, D R Marchant

0800h **EP51C-0607 POSTER** Examining formation mechanisms of Martian gullies using Mars Reconnaissance Orbiter Context imagery: **S Araki**, R Williams, A J Dombard

0800h **EP51C-0608 POSTER** THE FORMATION OF WATER ESCAPE STRUCTURES DUE TO THE FLUIDIZATION OF PURE KAOLIN CLAY: **A G Tsakiris**, T Papanicolaou

EP51D Moscone West: 2002 Friday 0800h
Orographic Rainfall: Observations, Models, and Implications for Landscape Evolution I (*joint with H, H*)

Presiding: **G Roe**, University of Washington; **D W Burbank**

0800h **EP51D-01** Relationships between topography and precipitation at very high resolution in the tropics: insights from Tropical Rainfall Measuring Mission (TRMM) precipitation radar data (*Invited*): **A M Anders**, S W Nesbitt

0815h **EP51D-02** WITHDRAWN

0830h **EP51D-03** The Impact of Orographic Rainfall on Discharge and Erosion in the Andes and Himalaya (*Invited*): **B Bookhagen**

0845h **EP51D-04** Decoupling of Monsoon Precipitation and Erosion Rates along the Eastern Nepal Himalaya: **I Haviv**, J Avouac, K A Farley, M T Harrison, M T Heizler, G Mahéo, N C Prabhat

0900h **EP51D-05** Isotopic proxy records of orographic precipitation (*Invited*): **A Mulch**, C P Chamberlain, H Mix

0915h **EP51D-06** Andean Surface Uplift, Climate Change, and the Evolution of Precipitation $\delta^{18}\text{O}$ (*Invited*): C J Poulsen, N Insel, T A Ehlers, C Sturm, R Simon

0930h **EP51D-07** Why we need large spatial and temporal coverage of stable isotopic proxy records for reconstructing past precipitation patterns in orogens: **C P Chamberlain**, A Mulch, H Mix, M L Kent-Corson, S J Davis, S A Graham

0945h **EP51D-08** Orographic versus non-orographic precipitation isotopic elevation gradients: Implications for paleoaltimetry of continental plateaus: **A R Lechler**, N A Niemi

EP51E Moscone West: 2008 Friday 0800h
Processes in the Critical Zone: Interaction of Rock, Water, and Life I (*joint with B, H*)

Presiding: **S P Anderson**, Univ of Colorado; **E Kirby**, Penn State University

0800h **EP51E-01** History Matters: The Large Scale Landscape Setting of the Boulder Creek Critical Zone Observatory (*Invited*): **R S Anderson**, C W Wobus, M M Berlin, M Duehnforth, G E Tucker, S P Anderson

0815h **EP51E-02** Variations in rock-fragment abundance and bulk geochemistry of soils across the Southern Sierra Nevada CZO: Implications for hillslope-channel coupling (*Invited*): **C S Riebe**, C T Hunsaker, D W Johnson, B Jessup

0830h **EP51E-03** What controls the composition of weathered materials transported by large river systems (*Invited*): **J Gaillardet**, J Bouchez, C France-Lanord, L Maurice

0845h **EP51E-04** Relationship of Integrated Landscape Dynamics to Water Quality in Lake Maumelle, Arkansas: **A C Robinson**, M E McMillan, D Johnson, C Stites

0900h **EP51E-05** Interaction of rock, water, and plants in central Siberia (Russia) dominated by continuous permafrost: biotic versus abiotic fluxes: **J Viers**, O S Pokrovsky, A S Prokushkin, E Beaulieu, B Dupre

0915h **EP51E-06** Predicting Soil Production in Diverse Landscapes: **S G Riggins**, S P Anderson, R S Anderson

0930h **EP51E-07** A Numerical Model of Bedrock Erosion by Tree Throw: The Humped Soil Production Function as an Emergent Property in Coupled Bio-Geomorphologic Systems: **E J Gabet**, S M Mudd

0945h **EP51E-08** Regolith production rates calculated with Uranium-series isotopes at Shale Hills Critical Zone Observatory: implications on chemical weathering and landscape evolution: **L Ma**, F J Chabaux, E Pelt, E Blaes, L Jin, S L Brantley

Geodesy

G51A Moscone South: Poster Hall Friday 0800h **GRAV-D: Gravity Data Collection for Geoid Enhancement I Posters** (joint with T)

Presiding: T M Diehl, NOAA- National Geodetic Survey

0800h **G51A-0650 POSTER** Geometrical Method for the Calculation of Spherical Harmonics up to an Arbitrary Degree and Order: **D Svehla**

0800h **G51A-0651 POSTER** Validation and inter-comparison of GRAV-D airborne gravity anomalies at three flight altitudes over the coast of Western Florida and Alabama: J Saleh, **Y M Wang**, D R Roman, X Li

0800h **G51A-0652 POSTER** Geophysical and Geodetic Analysis of Airborne Gravity Data from GRAV-D in Alaska: **T M Diehl**, S Preaux, V A Childers

0800h **G51A-0653 POSTER** On the Kernel Modification of Alaska Geoid Computation: **X Li**, D R Roman, Y M Wang

0800h **G51A-0654 POSTER** Preliminary Results of a Recent Gravity Survey Across the Border Ranges Fault System, Central Kenai Peninsula, Alaska: **N Mankhemthong**, D I Doser, M R Baker, G M Kaip, B Eslick

0800h **G51A-0655 POSTER** Secular absolute gravity trends in the northern Cascadia Subduction Zone: **J A Henton**, A Lambert, N Courtier, S Mazzotti, H Dragert

0800h **G51A-0656 POSTER** The Kauring Airborne Gravity Test Site, Western Australia: **R J Lane**, M Grujic, T Aravanis, R Tracey, M Dransfield, D Howard, B Smith

G51B Moscone South: Poster Hall Friday 0800h **Ground-Based Geodetic Techniques and Science Applications I Posters** (joint with NH, H, C, PP)

Presiding: B Brooks, University of Hawaii; **D A Phillips**, UNAVCO; **G W Bawden**, US Geological Survey

0800h **G51B-0657 POSTER** Terrestrial Laser Scanning Activities at UNAVCO: New Support Resources and Project Highlights: **D A Phillips**, C M Meertens, G E Tucker, K W Hudnut, B J Douglas, C M Rubin, M Okal, B Johns

0800h **G51B-0658 POSTER** Terrestrial Laser Scanning Support in Polar Regions, UNAVCO pilot projects 2008-2009: M Okal, **D A Phillips**, B Johns, C M Meertens, P R Kyle

0800h **G51B-0659 POSTER** Effects of the past- and present-day ice melting on observed uplift rates in Southeast Alaska: **T Sato**, C F Larsen, S Miura, Y Ohta, H Fujimoto, W Sun, T Sugano, A M Kaufman, R J Motyka, J T Freymueller

0800h **G51B-0660 POSTER** Characterizing the geomorphic setting of precariously balanced rocks using terrestrial laser scanning technology: **D E Haddad**, R Arrowsmith

0800h **G51B-0661 POSTER** Modeling right-lateral offset of a Late Pleistocene terrace riser along the Polaris fault using ground based LiDAR imagery: **J F Howle**, G W Bawden, L E Hunter, R S Rose

0800h **G51B-0662 POSTER** Impact of survey workflow on precision and accuracy of terrestrial LiDAR datasets: **P O Gold**, E Cowgill, O Kreylos

0800h **G51B-0663 POSTER** Temporal and Spatial Variations in Plate Motion Across a Ridge-Transform Intersection, Northern Iceland: **C A O'Hara**, P C LaFemina, K P Furlong

0800h **G51B-0664 POSTER** Reconstructing flood basalt lava flows using terrestrial laser scanning and GSI3D software: **C E Nelson**, D A Jerram, R W Hobbs

0800h **G51B-0665 POSTER** Continuous terrestrial geodetic monitoring of the 2007 Lava Fan in the Sciara de Fuoco (Stromboli volcano, Italy): G Puglisi, **A Bonforte**, M Cantarero, A Spata

G51C Moscone West: 3022 Friday 0800h **Quantifying Sea Level Change I** (joint with PA, OS, GC, H)

Presiding: R E Riva, Delft University of Technology; **R J Bingham**, M E Tamisiea, Proudman Oceanographic Lab.; **E W Leuliette**, NOAA/Lab for Satellite Altimetry

0800h **G51C-01** Anthropogenic forcing dominates sea level rise since 1850: **S Jevrejeva**, A Grinsted, J C Moore

0815h **G51C-02** Warming or Melting? Dissecting the Causes of Sea Level Rise over the Past 16 Years (*Invited*): **J K Willis**

0830h **G51C-03** Global Mean Sea Level during 2004-2008 from Jason, GRACE, and Argo: A Discussion of Systematic Errors (*Invited*): **R D Ray**, B D Beckley, J Boy, S Jacob, F G Lemoine, S B Luthcke, N P Zelensky

0845h **G51C-04** Estimates of ice sheet and glacier mass losses and their contributions to sea level from a fingerprinting analysis: **N J White**, J A Church, J X Mitrovica, J G Cogley, N A Gomez, E Morrow

0900h **G51C-05** Sea Level Budget Closure Over the GRACE Era: The Importance and Magnitudes of the Corrections for Quaternary Ice-Age Influence (*Invited*): **W R Peltier**

0915h **G51C-06** Changes in Sea Levels around the British Isles Revisited (*Invited*): **F N Teferle**, D N Hansen, R M Bingley, S D Williams, P L Woodworth, W R Gehrels, S L Bradley, P Stocchi

0930h **G51C-07** Is sea level rise larger near the coast?: **R Scharroo**, E W Leuliette, L Miller

0945h **G51C-08** Importance of self-attraction and loading in the annual cycle of ocean bottom pressure: N T Vinogradova, R M Ponte, **M E Tamisiea**, J L Davis, E M Hill

Global Environmental Change

GC51A Moscone South: Poster Hall Friday 0800h **High-Latitude Environmental Change Posters** (joint with C, H, B, PP)

Presiding: M S Murray, University of Alaska Fairbanks; **J W White**; **J J Gascard**, University Pierre&Marie Curie; **S Gearheard**

0800h **GC51A-0705 POSTER** Holocene Vegetation and Climate History on the Zoige Plateau in the Eastern Tibetan Plateau: **Y Zhao**, Z Yu, F Chen, W Zhao

0800h **GC51A-0707 POSTER** Sedimentological control on arctic gas-hydrate-bearing deposits: **Y Peng**, J Behresesht, S L Bryant, W J Winters

0800h **GC51A-0708 POSTER** A Yukon River Basin Landsat Mosaic for Assessing Environmental Change: **M A Bouchard**, J L Dwyer, B Granneman

0800h **GC51A-0709 POSTER** Photosynthetic response of Eriophorum vaginatum to in situ shrub shading in tussock tundra of northern Alaska: **A Anderson-Smith**, R Pattison, P Sullivan, J M Welker

0800h **GC51A-0710 POSTER** Warmer summers combined with increases in rain lead to major changes in the trace gas feedbacks from high arctic polar semi-deserts in NW Greenland to the atmosphere: **E D Sharp**, J M Welker, P Sullivan

0800h **GC51A-0711 POSTER** Herbivores modify the carbon cycle in a warming arctic: **S M Cahoon**, P Sullivan, J M Welker, E Post

0800h **GC51A-0712 POSTER** Implications for an Enhanced Biological Pump in the Sea-Ice Reduction Region of the Western Arctic Ocean: **S Nishino**, K Shimada, M Itoh, M Yamamoto-Kawai, S Chiba

0800h **GC51A-0713 POSTER** A Novel Approach to Mapping Vegetation Cover in Alaska Using the Multi-angular Imaging SpectroRadiometer (MISR): **D Selkowitz**

0800h **GC51A-0714 POSTER** Stable carbon isotopes of zooplankton lipid components as a tool to differentiate between pelagic and ice algae as a food source for zooplankton in the Arctic Ocean:

J A Bendle, **H Moossen**, R Jamieson, A Wold, S Falk-Peterson

0800h **GC51A-0715 POSTER** Confluence and mixing of Atlantic, Pacific, and Siberian shelf water masses around the Mendeleyev Ridge of the Arctic Ocean: **T Kikuchi**, S Nishino, R A Woodgate, B Rabe, U Schauer, S Pisarev

0800h **GC51A-0716 POSTER** Atmospheric Inversion Strength over Polar Oceans in Winter Regulated by Sea Ice: **T M Pavelsky**, J Boe, A Hall, E Fetzer

0800h **GC51A-0717 POSTER** Interaction between Northern hemisphere snow and preceding summer Arctic sea ice: **D Ghatak**, A Frei, G Gong, J C Stroeve, D A Robinson

0800h **GC51A-0718 POSTER** A Remote Sensing based Regional Lake Surface Area Analysis for the Arctic Environment: **P Noojipady**, J R Townshend, M Carroll, C Dimiceli, R A Sohlberg

0800h **GC51A-0719 POSTER** International Study of Arctic Change: **M S Murray**, M K Tjernstrom

0800h **GC51A-0720 POSTER** Surface radiation over the pan-Arctic land region: temporal variability and trends: **X Shi**, M Wild, D P Lettenmaier

0800h **GC51A-0721 POSTER** Atmospheric Circulation Attribution to Recent Intensification of Arctic Hydrological Cycle: **X Zhang**, J He, L D Hinzman, I Polyakov, J E Walsh, J Inoue, P Wu

0800h **GC51A-0722 POSTER** SEARCH: Study of Environmental Arctic Change—A System-scale, Cross-disciplinary, Long-term Arctic Research Program: **H V Wiggins**, P Schlosser, S E Fox

0800h **GC51A-0723 POSTER** The Arctic Research Consortium of the United States (ARCUS): S E Fox, H V Wiggins, **K R Creek**

0800h **GC51A-0724 POSTER** Interdisciplinary Graduate Training in Polar Environmental Change: Field-based learning in Greenland: R A Virginia, K Holm, S Whitecloud, L Levy, **M A Kelly**, X Feng, L Grenoble

0800h **GC51A-0725 POSTER** Permafrost Degradation Risk Zone Assessment using Numerical Models: **R P Daanen**, T Ingeman-Nielsen, N Foged, S S Marchenko, V E Romanovsky, M Stendel, J H Christensen, K Hornech Svendsen

0800h **GC51A-0726 POSTER** NuukBasic – Climate effects monitoring in low arctic Greenland: **P Aastrup**, J Nyman, K Raundrup, M P Tamstorf, M C Forchhammer, N M Schmidt, T L Lauridsen

0800h **GC51A-0727 POSTER** The Biological Currency of Climate Change Effects?: **M C Forchhammer**, T V Callaghan, E Post

0800h **GC51A-0728 POSTER** Current and future contributions of older C pools to soil respiration from High Arctic tundra in NW Greenland - first ¹⁴C-based assessments: **C I Green**, J M Welker, E D Sharp

0800h **GC51A-0729 POSTER** Year-Round Major Ion Measurements at Greenland Environmental Observatory, Summit (GEOSummit): **J R Banta**, R C Bales, J R McConnell, L Zhao, C Moon

0800h **GC51A-0730 POSTER** CCSM3 simulation of climatic impact by volcanism during mid-late 13th century: **Y Zhong**, G H Miller, B L Otto-Bliesner, D P Schneider, C M Ammann

0800h **GC51A-0731 POSTER** Characterization of submarine glacial landforms and lowstand fluvial systems from western Campbell Island, New Zealand: H L Fraser, **A R Gorman**, G S Wilson, S Preskett

0800h **GC51A-0732 POSTER** Linkages between Gulf Stream behaviour and ice-marginal landsystems during the deglaciation of northern Scotland: **D McCormack**, D Irving, S H Brocklehurst

0800h **GC51A-0733 POSTER** Preliminary ALOS Data Analysis of Thaw Lakes, Aeolian Dunes, and Polygonal Ground in the Kobuk River Valley, Alaska: **D M Hooper**, M Necsoiu, C L Dinwiddie, R N McGinnis, G R Walter

0800h **GC51A-0734 POSTER** Linking slope stability and climate change: the Nordfjord region, western Norway, case study: **K Vasskog**, N Waldmann, D Ariztegui, G Simpson, E Støren, E Chapron, A Nesje

0800h **GC51A-0735 POSTER** Deglaciation of the western coastal margin of Greenland: an insight through the latest integrated studies: **Y Gorokhovich**, V R Rinterknecht

0800h **GC51A-0736 POSTER** A Model of Active Layer Dynamics: **I Ossola**, B J Travis

0800h **GC51A-0737 POSTER** Periodicity in Sediments from the Baltic Sea and in Greenland Ice as Climate Signals for the Late Quaternary: **J Harff**, R Endler, S Kotov, T Leipe, A Witkowski

0800h **GC51A-0738 POSTER** Arctic Warming Phenomena 90 Years Ago: **A Bernaerts**

GC51B Moscone West: 3001 Friday 0800h
SI-Traceable Climate Measurements From Space:
Requirements, Methods, and Information Content of
Proposed CLARREO Measurements II

Presiding: **D F Young**, NASA Langley Research Center; **A A Lacis**, NASA-GISS

0800h **GC51B-01 CLARREO Mission Overview:** **B A Wielicki**

0815h **GC51B-02 Technology Investments Supporting Radiative Science:** **A L Walton**, G Komar, K Murray

0830h **GC51B-03 The predicted CLARREO sampling error of the inter-annual SW variability:** **D R Doelling**, D F Keyes, C Nguyen, D MacDonnell, D F Young

0845h **GC51B-04 Information Content and Polarization of Light Reflected by the Earth:** **A A Lacis**, B Cairns, M I Mishchenko

0900h **GC51B-05 CLARREO Short-Wave Photopolarimeter:** **M I Mishchenko**, B Cairns, A A Lacis

0915h **GC51B-06 CLARREO/RSIS Reference Inter-Calibration Ability and Requirements:** **C Lukashin**, D MacDonnell, C Roithmayr, P Speth, B Wielicki

0930h **GC51B-07 Detecting Aerosols and Greenhouse Gases Forcings using Shortwave CLARREO Spectra:** **D Feldman**, W Collins

0945h **GC51B-08 Detecting Land Surface and Cloud Feedbacks using Shortwave CLARREO Spectra:** **W Collins**, D Feldman, C Algieri

Hydrology

H51A Moscone South: Poster Hall Friday 0800h
Assessing Forms, Processes, and Habitats in Freshwater
Environments Using High-Resolution Remote Sensing I
Posters (joint with EP)

Presiding: **P Carbonneau**, Durham University; **M A Fonstad**; **C J Legleiter**, University of Wyoming; **H Piégay**, CNRS

0800h **H51A-0739 POSTER** Bathymetric mapping using remote sensing on the McKenzie River, Oregon: **S C Walther**, W A Marcus, M A Fonstad

0800h **H51A-0740 POSTER** The Fluvial Information System: **S J Dugdale**, P Carboneau, S Clough

0800h **H51A-0741 POSTER** 2D Biotope Mapping Using Combined LIDAR, Topographic Survey And Segmented 1D Flow Modelling: **N S Entwistle**, G L Heritage, D J Milan

0800h **H51A-0742 POSTER** Distributed temperature sensing (DTS) as an ecological assessment tool in stream environments: **C E Hatch**, S W Tyler, D Boughton, L Belica

0800h **H51A-0743 POSTER** Characterizing the morphological complexity of North American beaver (*Castor canadensis*) habitats using ground-based LiDAR: **S B Welsh**, J M Wheaton, N W Bouwes, M M Pollock, K G Demeurichy

0800h **H51A-0744 POSTER** Remotely Sensed, catchment scale, estimations of flow resistance: **P Carboneau**, S J Dugdale

0800h **H51A-0745 POSTER** Using High Resolution Balloon Photography to Provide Topographic Data: **K Russell**, T Bauer

0800h **H51A-0746 POSTER** Braided rivers corridor characterization at a regional scale based on high resolution archived aerial photos (example of the Rhône network, France): **B Belletti**, S Dufour, H Piégay

0800h **H51A-0747 POSTER** Hillslopes to hollows to first order channels: identification of transitions and characteristics of process domains in headwater catchments: **K Williams**, W W Locke

0800h **H51A-0748 WITHDRAWN**

0800h **H51A-0749 POSTER** Intercomparison of algorithms to estimate river depth from SWOT observations of slope and width: **M T Durand**, M A Fonstad, T M Pavelsky, D Alsdorf

0800h **H51A-0750 POSTER** Habitat Modeling in Complex Streams: Comparison of Terrestrial Laser Scanning and Traditional Surveying Techniques for Topographic Surface Generation: **W C Hession**, J L Kozarek, J P Resop

0800h **H51A-0751 POSTER** An improved three-band semi-analytical model based on MERIS channels for estimating chlorophyll-a in highly turbid waters: **W Yang**, B Matsushita, J Chen, T Fukushima

0800h **H51A-0752 POSTER** Applicability of three-band model for estimating chlorophyll-a concentration in two Asian lakes (Lake Kasumigaura, Japan and Lake Dianchi, China): **B Matsushita**, W Yang, J Chen, T Fukushima

0800h **H51A-0753 POSTER** Investigation of knickpoint propagation in tributaries to the South Fork Eel River, northern California, using 10-m and LiDAR-derived digital elevation models: **M A Foster**, H M Kelsey

H51B Moscone South: Poster Hall Friday 0800h
Evaporation and Water Transport Dynamics in the Atmospheric Boundary Layer I Posters (*joint with A, B*)

Presiding: **E Bou-Zeid**, Princeton University; **M L Roderick**, The Australian National University

0800h **H51B-0754 POSTER** The Aerodynamics of Pan Evaporation: **W Lim**, M L Roderick, G D Farquhar, C S Wong, P J Groeneveld, M T Hobbs, F Sun

0800h **H51B-0755 POSTER** Changes of the variances of global precipitation based on the IPCC AR4 Climate Models: **F Sun**, M L Roderick, G D Farquhar, W Lim, N Bennett, S H Roxburgh

0800h **H51B-0756 POSTER** Variation trends of meteorological variables in the Laoha river basin and their impacts on pan evaporation: **X Wang**

0800h **H51B-0757 POSTER** The Land Surface Energy Balance and Regional Climate over a Heterogeneous Landscape in the Northeastern U.S.: **J K Yeung**, J A Smith, M L Baek, G Villarini

0800h **H51B-0758 POSTER** Effects of Coordinate Rotation and Averaging Period on Energy Closure Characteristics of Eddy Covariance Measurements over Mountainous Terrain: M Li, **Y CHEN**

0800h **H51B-0759 POSTER** Overcoming the Challenges of Estimating Water Use in Temperate, Mixed Deciduous Forest of S. Korea: **E JUNG**, O Otieno Dennis, J D Tenhunen

0800h **H51B-0760 POSTER** Characterization of the Regional Hydrological Cycle of the La Plata Basin: **M L Quadro**, L Goncalves, A Drumond, M Silva Dias, D L Herdies, E H Berbery

0800h **H51B-0761 POSTER** Mapping Evapotranspiration using MODIS and Meteorological Model Data over the Northeast Asia: **K Jang**, S Kang, S Jung, J Kim, C Lee, J Kim

0800h **H51B-0762 POSTER** Quantifying soil moisture effects on the atmospheric boundary layer under strong and weak synoptic forcing over complex terrain: **M H Daniels**, F K Chow

0800h **H51B-0763 POSTER** Investigating the impact of soil moisture and atmospheric stability on cloud development and distribution using a coupled large eddy simulation-land surface model: **S A Margulis**, H Huang

0800h **H51B-0764 POSTER** Turbulence Characteristics and Behavior of Fluxes Measured Over Complex Forested Terrain Of Mica Creek Watershed in Northern Idaho: **R J Qualls**, A B Arogundade, W Zhao, Y G Getahun

0800h **H51B-0765 POSTER** The impact of heterogeneous soil moisture content on surface flux distribution and turbulence in the stable boundary layer: **J Stoll**, N Shingleton

0800h **H51B-0766 POSTER** Transpirational water use and its regulation in the mountainous terrain of S. Korea: **O Otieno Dennis**, J Eunyong, K Sinkyu, J D Tenhunen

0800h **H51B-0767 POSTER** Evaluation of Evapotranspiration Component in Global Climate Model: **S Kumar**, V Merwade

0800h **H51B-0768 WITHDRAWN**

0800h **H51B-0769 POSTER** A Simple Model for Estimating Evapotranspiration Based Solely on Remote Sensing: Algorithm and Application: **Z Sun**, Q Wang, B Matsushita, T Fukushima, Z Ouyang, M Gebremichael

0800h **H51B-0770 POSTER** Impact of atmospheric boundary layer temperature variations on moisture venting from fractures and cracks: **M I Dragila**, N Weisbrod

0800h **H51B-0771 POSTER** Historical estimates of spatial reference evapotranspiration for the Central Valley of California: **M Falk**, R L Snyder, M Orang, S Hayes

0800h **H51B-0772 POSTER** Combining Remote Sensing and Climate Reanalysis Data to Estimate Evapotranspiration in sub-Saharan Africa: **M T Marshall**, C Funk, K P Tu, J Michaelsen

0800h **H13C-0960 POSTER** Numerical Analysis of coupled liquid water, water vapor and heat transport in a sandy loam soil: **M K Shukla**, S Deb, P Sharma

H51C Moscone South: Poster Hall Friday 0800h
Evaporation From Lakes, Reservoirs, and Wetlands II Posters (*joint with A*)

Presiding: **S Assouline**, A.R.O. - Volcani center; **G G Katul**, Duke University

0800h **H51C-0773 POSTER** Regional and local controls on evaporation from a small reservoir in northern Ghana: **J R Liebe**, N Van De Giesen, M Andreini, M T Walter, T S Steenhuis

0800h **H51C-0774 POSTER** Lake water level modeling using an LSM and lake bottom topography data: **H Liu**, J S Famiglietti

0800h **H51C-0775 POSTER** SURFACE WATER AND GROUND WATER QUALITY MONITORING FOR RESTORATION OF URBAN LAKES IN GREATER HYDERABAD, INDIA: **A K Mohanty**

0800h **H51C-0776 POSTER** Changes in wintertime evaporation and surface energy budget in 2007 and 2008 over an open water surface in Mississippi, U.S.A: **H Liu**, Y Zhang

0800h **H51C-0777 POSTER** Investigation of evaporate deposits in the “Great Ear” area of Lop Nor salt plain, Xinjiang Province, China: **L Ma**, B Li, P Jiang, T K Lowenstein, J Zhong, J Sheng, H Wu

0800h **H51C-0778 POSTER** Lake Evaporation On the Arctic Coastal Plain of Alaska: Results From an Energy Balance Study of a Thermokarst Lake Near Barrow, Alaska: **N C Healey**, J D Lenters, K M Hinkel, A Irmak, S L Jones, E F Maurer, Y Sheng, L C Smith, B S Winston, B L Potter

0800h **H51C-0779 POSTER** A Paleoevaporation Proxy Using Compound Specific Stable Isotope Measurements from Peatland Biomarkers: **J Wang**, **J E Nichols**, Y Huang

H51D Moscone South: Poster Hall Friday 0800h
Functional Links Between Fluvial Geomorphic and Ecologic Processes: Quantifying Thresholds and Reference Conditions I Posters

Presiding: **A Simon**, USDA-ARS National Sedimentation Laboratory; **H J Moir**, The Macaulay Institute; **P W Downs**, Stillwater Sciences; **T J Beechie**, NOAA Fisheries

0800h **H51D-0780 POSTER** Multi-scale geomorphic and climatic controls on riparian vegetation patterns in the Columbia River basin, USA: **T J Beechie**, H Imaki

0800h **H51D-0781 POSTER** Predicting historic riparian vegetation in the Columbia River basin: **H Imaki**, T J Beechie

0800h **H51D-0782 POSTER** The effects of hydraulics, geomorphology, and storm events on metabolism rates in an agricultural river: **B L O'Connor**, J W Harvey, L E McPhillips

0800h **H51D-0783 POSTER** Seagrass-sediment feedbacks in shallow coastal lagoons: **J A Carr**, P D'Odorico, K McGlathery, P Wiberg

0800h **H51D-0784 POSTER** Spatial hierarchical geomorphic controls on salmonid spawning habitat: using geomorphic parameters to set ecological status targets: **H J Moir**

0800h **H51D-0785 POSTER** Channel dynamics and habitat complexity in a meandering, gravel-bed river: **L R Harrison**, C J Legleiter, L Pecquerie, T Dunne

0800h **H51D-0786 POSTER** Characterizing Geohydrologic Linkages using Process Domains for Monitoring Aquatic Ecosystems: **A Weekes**, C Torgersen, D R Montgomery, A Woodward, S Bolton

0800h **H51D-0787 POSTER** Evaluating the Impacts of Land Use Change on Stream Morphology in Coastal Maine: **A Kasprak**, F J Magilligan, K H Nislow, N P Snyder

0800h **H51D-0788 POSTER** Investigating fish hydraulic habitat preferences using a passive integrated transponder antenna network: Scope on spatial scales and individual mobility: **M L Roy**, A G Roy

0800h **H51D-0789 POSTER** Using remote-sensing products to identify velocity thresholds on submerged aquatic vegetation cover in the Sacramento-San Joaquin Delta: **E L Hestir**, J A Greenberg, D H Schoellhamer, T Morgan

0800h **H51D-0790 POSTER** How coarse is too coarse for salmon spawning substrates?: **J K Wooster**, C S Riebe, F K Ligon, B T Overstreet

0800h **H51D-0791 POSTER** Measuring the Spatial Extent of Riparian Dis-Connectivity Following Flow Regulation by Dams: **F J Magilligan**, K Abengoza, C Renshaw, K Nislow, C Marks, W Dade

0800h **H51D-0792 POSTER** Identifying data gaps and prioritizing restoration strategies for Fremont cottonwood using linked geomorphic and population models: **E B Harper**, J C Stella, A K Fremier

0800h **H51D-0793 POSTER** Comparison of rapid assessment techniques for signatures of dynamic equilibrium in a disturbed stream: **S S Blersch**, M Habberfield

0800h **H51D-0794 WITHDRAWN**

0800h **H51D-0795 POSTER** Predicting the Linkages Between Geomorphic Evolution and Ecological Outcomes in a Developing Watershed: **C B Bowles**, C Campbell, M Wacker, S Christensen

0800h **H51D-0796 POSTER** A Continuous Simulation Model of Fluvial Geomorphic and Ecologic Processes: **J F Rodriguez**, G A De Almeida

0800h **H51D-0797 POSTER** The Vertical Mixing in Wetlands Caused by Wind Waving Vegetation: **D M Kahler**, Z J Kabala

H51E Moscone South: Poster Hall Friday 0800h
Quickflow and Quicksilver? Export of Mercury From the Terrestrial Landscape I Posters (joint with B)

Presiding: **J B Shanley**, U. S. Geological Survey; **S J Nelson**, University of Maine

0800h **H51E-0798 POSTER** Mercury Inputs, Outputs, Cycling, and Ambient Concentrations under the Forest Canopy in the Adirondacks of New York: **H Choi**, T Holsen

0800h **H51E-0799 POSTER** Mercury Deposition Through Litterfall and Subsequent Accumulation in Soils: Influence of Forest Community Type: **J I Juillerat**, D S Ross

0800h **H51E-0800 POSTER** Seasonal atmospheric mercury fluxes in Shenandoah National Park: A Converse, **T M Scanlon**, A Riscassi

0800h **H51E-0801 POSTER** Topographical and Hydrological Influences on the Spatial Distribution of Mercury at the Catchment Scale: **T Gunda**, A Converse, A Riscassi, T M Scanlon

0800h **H51E-0802 POSTER** Are We Under-Estimating Mercury in Soils? Experimental Acidification and Sample Collection Timing Demonstrate Variability in Estimates of Mercury in O-Horizon Soils at a Maine Site: **S J Nelson**, K B Johnson

0800h **H51E-0803 POSTER** Comparison of mercury emission flux from the land surface to the atmosphere via water column, vegetative, and sediment column pathways: **S C Peters**, J Wollenberg, M L Bubb

0800h **H51E-0804 WITHDRAWN**

0800h **H51E-0805 POSTER** Estimating Mercury-Binding Ligand Concentrations in Freshwater Wetland Porewaters Using the “Tin-Reducible-Mercury” Titration Method: **J E Creswell**, C Babiarz, M M Shafer, D E Armstrong

0800h **H51E-0806 WITHDRAWN**

0800h **H51E-0807 POSTER** Migration And Entrapment Of Mercury In The Subsurface: **D M**, I M Nambi

0800h **H51E-0808 POSTER** The Role of Nanocrystalline Mackinawite in the Biogeochemical Cycling of Mercury in Sulfidic Sediments: **S Bone**, G Sposito, J Bargar

0800h **H51E-0809 POSTER** Impact of Forest Harvesting Operations on the Export of Total Mercury and Methylmercury to Aquatic Ecosystems: R Sorensen, **K Eklof**, M Meili, S Akerblom, K Bishop

0800h **H51E-0810 POSTER** Mercury Export from the Yukon River, Alaska: Correlations to organic carbon and terrestrial landscape sources: **P F Schuster**, R G Striegl, M Dornblaser, G Aiken, D P Krabbenhoft, J F DeWild, M M Reddy

0800h **H51E-0811 POSTER** Factors Controlling Streamwater Mercury-DOC Relations Across Watersheds: **J B Shanley**, G Aiken, J A Dittman, C T Driscoll, A Riscassi, D A Burns, K H Bishop, K Eklof

H51 F Moscone South: Poster Hall Friday 0800h
Remote Sensing and Hydrogeophysics Applications for Modeling of Land Surface Hydrological Processes I Posters
(joint with NS)

Presiding: **D Ryu**, The University of Melbourne; **A S Ward**, Pennsylvania State University; **C Rudiger**, The University of Melbourne; **J M Jacobs**, University of New Hampshire

0800h **H51F-0812 POSTER** INVESTIGATING THE SOURCE OF THERMAL ANOMALIES IN THE NORTHERN UNITED ARAB EMIRATES (UAE) DESERT USING GEOPHYSICAL METHODS:

K M Al Bloushi, E A Atekwana, M Meju, E Ghoneim, F El-Baz

0800h **H51F-0813 POSTER** Combining SEBAL model and NMCGA algorithm for the estimation of effective soil hydraulic properties: **Y Shin**, B P Mohanty, A M Ines

0800h **H51F-0814 POSTER** The Contribution Of Sampling Errors In Satellite Precipitation Estimates To High Flood Uncertainty In Subtropical South America: **E M Demaria**, J B Valdes, B Nijssen, D Rodriguez, F Su

0800h **H51F-0815 POSTER** Mapping the Riparian Vegetation Using Multiple Hyperspectral and Thermal Infrared Airborne Imagery over the Republican River, Nebraska: **O Z Akasheh**, A Irmak, D Martin, S Irmak, T Awada, X Zhou, J Huddle

0800h **H51F-0816 POSTER** Access, Visualization, Analysis and Usage of Terrestrial Hydrological Data From NASA's Hydrology Data and Information Services Center (HDISC): **H Fang**, H K Beaudoin, D M Mocko, M Rodell, W L Teng, B Vollmer

0800h **H51F-0817 POSTER** Correction of temperature and bulk electrical conductivity effects on dielectric permittivity measurements using ECH2O EC-5, TE and 5TE sensors:

U Rosenbaum, H R Bogen, J A Huisman, J Vrba, H Vereecken

0800h **H51F-0818 POSTER** Multi-Scale Drought Analysis using Thermal Remote Sensing: A Case Study in Georgia's Altamaha River Watershed: **J M Jacobs**, S Bhat, M Choi, J R Mecikalski, M C Anderson

0800h **H51F-0819 POSTER** Representation of Anthropogenic Effects in Land Surface Model: Application of GRACE: **M Lo**, J S Famiglietti

0800h **H51F-0820 POSTER** A Method to Estimate Crop Effects in Passive Microwave Soil Moisture Retrieval Above C-band: **Z Zhang**, Y Xu, J Shi

0800h **H51F-0821 POSTER** An Exploration of Distributed Leaf Wetness and Dew Detection Using Inexpensive Radios: **J J Niemeier**, T L Rowlandson, A Kruger, B K Hornbuckle

0800h **H51F-0822 POSTER** Improving a modelling of the Ob river, in western Siberia, by assimilating wide swath altimetry data: **S Biancamaria**, M T Durand, K Andreadis, P D Bates, A Boone, N M Mognard, E Rodriguez, D E Alsdorf, D P Lettenmaier

0800h **H51F-0823 POSTER** Discharge of the Congo River Estimated from Satellite Measurements: **L Schaller**, M T Durand, D E Alsdorf, H Jung, H Lee

0800h **H51F-0824 POSTER** Terrestrial Water Dynamics in the Congo Basin Using Satellite Radar Altimetry and GRACE: **H Lee**, D Alsdorf, J Duan, M T Durand, J Guo, H Jung, L Schaller, C Shum

0800h **H51F-0825 POSTER** Integrating GRACE measured water storage change observations into the Hillslope River Routing (HRR) in the Amazon and Congo River Basins: **R E Beighley**, Y He, R L Ray, J Guo, C Shum

0800h **H51F-0826 POSTER** Investigating interannual land water dynamics at the regional scale using GRACE data: **M J Van Camp**, O de Viron

0800h **H51F-0827 POSTER** Peatland Surface Monitoring and Analysis using Global Positioning Systems: **L Allen**, A S Reeve, P H Glaser

0800h **H53L-08 POSTER** Comparison of EnKF and Particle Filter-based Assimilation Algorithms for Improved Estimation of Root-Zone Soil Moisture under Dynamic Vegetation Conditions: **K Nagarajan**, A Monsivais-Huertero, J Judge, W D Graham

H51 G Moscone South: Poster Hall Friday 0800h
Impacts of Environmental Changes on Hydrologic and Ecobiologic Processes in Large River Basins I Posters (joint with PA)

Presiding: **Z Yu**, University of Nevada Las Vegas; **F W Schwartz**, The Ohio State University

0800h **H51G-0828 POSTER** Quantifying and Predicting Hydrologic Pathways in Subtropical Depressional Isolated Wetlands: **J Min**, D B Perkins, J W Jawitz

0800h **H51G-0829 POSTER** Drought Monitoring Based on Multi Measuring Indices for the Huihe River Basin, China: **W Wang**, Y Liu, F Zhou

0800h **H51G-0830 POSTER** Impact of Watershed Development on Sediment Transport and Seasonal Flooding in the Main Stream of the Mekong River: **S Kameyama**, S Nohara, T Sato, Y Fujii, K Kudo

0800h **H51G-0831 POSTER** Analysis on Characteristics of Regional Climate Changes with Wavelet Analysis and Statistic Methods: **Z Hao**, W Jiang, Z Yu

0800h **H51G-0832 POSTER** Development of a 1 D hydrodynamic habitat model for the Hippopotamus amphibious as basis for sustainable exploitation of hydroelectric power: **D Y Manful**, G Kaule, S Wieprecht, J Rees, W Hu

0800h **H51G-0833 POSTER** Development of coupled atmospheric-hydrologic-hydraulic flood forecasting system driven by ensemble weather predictions: **H Bao**, Z Li, Z Yu

0800h **H51G-0834 POSTER** Seasonal Hydrologic Trends in Iowa Watersheds Over the Last Half of the 20th Century: **K J Conrad**, K Franz

0800h **H51G-0835 POSTER** Grid-Xinjiang Distributed Hydrologic Model: **Z Li**, C Yao, Z Yu

0800h **H51G-0836 POSTER** Regional Impacts of Miscanthus Biofuel Feedstock Production on the Hydrologic Cycle: **A D VanLooke**, T E Twine, C Bernacchi

0800h **H51G-0837 POSTER** Development and Application of Grid-GA Model in a Semi-Humid and Semi-Arid Basin: **L Wang**, Z Li, H Bao, Z Yu

0800h **H51G-0838 POSTER** Impact of Climate Change on frozen soil parameterization in the Source Region of Yellow River: **X Zhang**, Z Hao, L Zhang, L Wang, W Jiang, X Shi, Z Yu

0800h **H51G-0839 POSTER** Spatially Distributed Exposure Assessment of Pesticide Sources in the Central Valley, California, USA: **Y Luo**, M Zhang

0800h **H51G-0840 POSTER** SCIMAP: Modelling Diffuse Pollution in Large River Basins: **D Milledge**, L Heathwaite, S N Lane, S M Reaney

0800h **H51G-0841** *POSTER* Mesoscale hydrometeorological simulations over large river basins in China through a coupled land-surface and hydrology model system: **F Yuan**, L Ren, Z Yu, H G Kunstmann, C Yang, B Fersch

0800h **H51G-0842** *POSTER* Mussel-based Biosensing for Hydrologic and Eco-biologic Processes: **N J Sitter**, J J Niemeier, A Kruger, C L Just

0800h **H51G-0843** *POSTER* On Evaluating circulation and temperature stratification under changing water levels in Lake Mead with a 3D hydrodynamic model: **Y Li**, K Acharya, D Chen, M Stone, Z Yu, M Young, J Zhu, D S Shafer, J J Warwick

0800h **H51G-0844** *POSTER* Human Interventions versus Climate Change: Impacts on Water Management: **M R Gautam**, K Acharya

0800h **H51G-0845** *POSTER* Evaluation of runoff responses to land use/land cover changes in the upper Huaihe river basin, China: **S Qu**, W Bao, P Shi, Z Yu, B Zhang

0800h **H51G-0846** *POSTER* Quantifying Hydroecologic Change in a Degraded Wetland with Remote Sensing, Field Based Monitoring, and Modeling Approaches: **N Pathak**, S P Loheide

0800h **H51G-0847** *POSTER* Nitrogen and phosphorus transfer under intensive agricultural production in eastern China: **X Chen**, Z Yu

0800h **H51G-0848** *POSTER* Dynamic residence time distributions of sinuosity-driven hyporheic zones: **J D Gomez**, J L Wilson, M B Cardenas

0800h **H51G-0849** *POSTER* Analysis of Average Water Table Depth in TOPMODEL: **P Deng**, Z Li, Z Yu

0800h **H51G-0850** *POSTER* Integrating geomorphic and habitat assessments to classify streams using artificial neural networks: **N Fytilis**, B R Mathon, D M Rizzo, L Stevens, L A Morrissey

0800h **H51G-0851** *POSTER* Simulating non-point source pollution with an integrated surface-subsurface hydrologic approach in an agricultural watershed: **L Xiang**, L Chen, Z Yu

0800h **H51G-0852** *POSTER* Monitoring roadside ditches for antibiotic resistant E. coli in forest and agricultural landscapes: **S Storrer**, J A Archibald

0800h **H51G-0853** *POSTER* Effects of small sediment barrier removal on geomorphic complexity and habitat diversity: **J P Zunka**, D Tullos, S T Lancaster

H51H Moscone South: Poster Hall Friday 0800h
User and Developer Perspectives on Cyberinfrastructure in Hydrologic Science Posters (*joint with IN*)

Presiding: **R P Hooper**, J L Goodall, University of South Carolina; **M Piasecki**

0800h **H51H-0854** *POSTER* Sharing Hydrologic Data with the CUAHSI Hydrologic Information System (*Invited*): **D G Tarboton**, D R Maidment, I Zaslavsky, J S Horsburgh, T Whiteaker, M Piasecki, J L Goodall, D W Valentine, T Whitenack

0800h **H51H-0855** *POSTER* Hydrological Information Systems an Australian Perspective: **P Fitch**, D Lemon, J Perraud

0800h **H51H-0856** *POSTER* From Data to Information and Knowledge through Cyberinfrastructure-based Observatories (*Invited*): **M Muste**, D Kim, N Arnold

0800h **H51H-0857** *POSTER* A Cloud Computing Service for Remote Sensing Data Reprojection and Science Reduction: **J Li**, Y Ryu, K Jackson, D Agarwal, M Humphrey, C van Ingen

0800h **H51H-0858** *POSTER* INRA Constellation of Experimental Watersheds: Cyberinfrastructure to Support Publication of Water Resources Data: **J S Horsburgh**, D G Tarboton, K Schreuders, D P Ames, J P McNamara, L A Marshall, B L McGlynn, D L Kane, A Tidwell, J Boll, N W Hinman, M E Barber

0800h **H51H-0859** *POSTER* The Design and Application of a Chesapeake Bay Environmental Observatory: **W P Ball**, R Burns, B E Cuker, D M Di Toro, W M Kemp, L Murray, M Piasecki, I Zaslavsky, M Aguayo, J Bosch, D C Brady, R Murphy, E Perlman, M Rodriguez, J M Testa, T Whitenack

0800h **H51H-0860** *POSTER* Hydrologic Information Science (*Invited*): **D R Maidment**

0800h **H51H-0861** *POSTER* Archiving and Near Real Time Visualization of USGS Instantaneous Data: **I Zaslavsky**, D Ryan, T Whitenack, D W Valentine, M Rodriguez

0800h **H51H-0862** *POSTER* Introducing the CUAHSI Hydrologic Information System Desktop Application (HydroDesktop) and Open Development Community: **D Ames**, J Kadlec, J S Horsburgh, D R Maidment

0800h **H51H-0863** *POSTER* Restoration Hydrology: Synthesis of Hydrologic Data for Historical Analysis: **J R Hunt**, D Agarwal, C van Ingen

0800h **H51H-0864** *POSTER* Seasonal and annual trends in terrestrial water storage in South Carolina watersheds: J L Goodall, **M M Billah**

H51I Moscone South: Poster Hall Friday 0800h
Water Quality of Hydrologic Systems Posters

Presiding: **E W Boyer**, Penn State University; **K C Rice**, USGS

0800h **H51I-0865** *POSTER* Analysis of Spatial and Temporal Variability of Enterococci Concentrations at Santa Monica Municipal Pier, California: **A R Thomas**, N Corbin, E Chin, J Jay, T Warren, G Imamura, C Lee, V Thulsiraj

0800h **H51I-0866** *POSTER* Analysis of Spatial and Temporal Variability of Enterococci Concentration at Santa Monica Municipal Pier, California: **E Chin**, N Corbin, A R Thomas, T Warren, G Imamura, C Lee, V Thulsiraj, J Jay

0800h **H51I-0867** *POSTER* Sediment/Aqueous Partitioning of Fecal Indicator Bacteria in Spring Meltwater: **W Schnabel**, E Mutter, G Myerchin

0800h **H51I-0868** *POSTER* Fecal coliform and Enterococci relationships to rainfall and runoff in a rural watershed reveal intrinsic differences between these fecal pollution indicators: **H L Albritton**, C J Schulz, G W Childers

0800h **H51I-0869** *POSTER* Influence of bird feces to water quality in paddy fields during winter season: **H Somura**, I Takeda, T Masunaga, Y Mori, J Ide

0800h **H51I-0870** *POSTER* Study of turbidity Simulation in an oxbow lake considering sediment particle distribution: **H Yokoyama**, T Murase, S Yamashita

0800h **H51I-0871** *POSTER* Water Quality Effects of Miscanthus as a Bioenergy Crop: **T Ng**, J W Eheart, X Cai

0800h **H51I-0872** *POSTER* Statistical Analysis and water Quality Modeling for a Drinking Water Source Watershed for the City of Houston, Texas: **A Teague**, P Bedient, B E Vieux

0800h **H51I-0873** *POSTER* Effects of Modeling Variable Source Area Hydrology on Flow and Phosphorous Transport Predicted by a SWAT model for the Cannonsville Watershed: **J Woodbury**, C A Shoemaker, D Cowan, Z M Easton

0800h **H51I-0874** *POSTER* Optical teledetection of the suspended sediment in reservoirs during typhoon events: **C Chang**, C Liu, C Liu

0800h **H51I-0875 POSTER** Laboratory Evaluation of Sulfur Modified Iron for Use as a Filter Material to Treat Agricultural Drainage Waters: **B J Allred**

0800h **H51I-0876 POSTER** Estimating the Contributions of Surface Wash-off and Channel Erosion to Total Sediment and Solute Loads in a Small Mixed Land Use Watershed: **J Nipper**, W B Bowden

0800h **H51I-0877 POSTER** Evaluation of the effects of agricultural conservation practices on sediment yield in the Colusa Basin, California: **S E Gatzke**, M Zhang

0800h **H51I-0878 POSTER** Quantifying Forested Riparian Buffer Ability to Ameliorate Stream Temperature in a Missouri Ozark Border Stream of the Central U.S.: **E A Bulliner**, J A Hubbard

0800h **H51I-0879 POSTER** A review of vegetated buffers and a meta-analysis of their mitigation efficacy in reducing non-point source pollution: **X Zhang**, X Liu, M Zhang, R A Dahlgren, M Eitzel

0800h **H51I-0880 POSTER** An inverse modeling approach to estimate groundwater flow and transport model parameters at a research site at Vandenberg AFB, CA: **E Rasa**, L Foglia, D M Mackay, T R Ginn, K M Scow

0800h **H51I-0881 POSTER** Evaluation of Hydrochemical and Hydrogeological Characteristics of Riverbank Filtration Aquifer: **K Ko**, H Suk

0800h **H51I-0882 POSTER** Using Stable Water Isotopes to Differentiate Source Flows in the Santa Monica Mountains, Southern California: **W Hu**, B J Hibbs

0800h **H51I-0883 POSTER** Mercury Transport Modeling of the Carson River System, Nevada: An Investigation of Total and Dissolved Species and Associated Uncertainty: **R W Carroll**, J J Warwick

0800h **H51I-0884 POSTER** Surface water and groundwater chemical interaction in the Wairarapa valley, New Zealand: **M Guggenmos**, B M Jackson, C Daughney

0800h **H51I-0885 POSTER** Anaerobic Digesters Change the Phosphorus Leaching Behavior of Dairy Manure: **R Marjerison**, C Gooch, J Pronto, M T Walter

0800h **H51I-0886 POSTER** Choice of reference levels for dissolved organic carbon – a critical step for acidification assessments: **M Erlandsson**, N Cory, J Fölster, S Köhler, H Laudon, G Weyhenmeyer, K Bishop

0800h **H51I-0887 POSTER** SEASONAL VARIATION IN PESTICIDE LOADS AND TRENDS IN THE CENTRAL VALLEY, CALIFORNIA: CALCULATED USING TWO PARAMETRIC METHODS: **D Saleh**, J L Domagalski, H M Johnson, D J Lorenz

0800h **H51I-0888 POSTER** Parameterization Method for Compartmental Water Quality Models with Respect to River Network Structure and Parameter Variability: **J Riml**, A Wörman

0800h **H51I-0889 POSTER** Hydrologic and Hyporheic Controls on Nutrient and Dissolved Ion Fluxes in Glacial Meltwater Streams at Daily, Seasonal, and Inter-annual Timescales in the McMurdo Dry Valleys, Antarctica: **M R Weaver**, M N Gooseff, D M McKnight

0800h **H51I-0890 POSTER** Contamination by Arsenate in Oxidizing Groundwater, Southern Gulf Coast Aquifer System, Texas: **J B Gates**, J Nicot, R C Reedy, B R Scanlon

0800h **H51I-0891 POSTER** Effect of Particles on Fenton Oxidation of Organic Contaminated Groundwater: **J Lee**, Y Kim, J Gwak, C Lee, J Ha

0800h **H51I-0892 POSTER** Integration of Large-Scale Optimization and Game Theory for Sustainable Water Quality Management: **J Tsao**, J Li, C Chou, C Tung

0800h **H51I-0893 WITHDRAWN**

0800h **H51I-0894 POSTER** Using Hydrochemistry and Stable Isotopes to Indicate Groundwater-Surface Water Interaction at Lake Pyhäjärvi, SW Finland: **K Korkka-Niemi**, A Rautio, P Niemistö

0800h **H51I-0895 POSTER** Speciation and Source Identification for Arsenic in the Southern High Plains Aquifer: **K Venkataraman**, K Rainwater, W A Jackson, M K Ridley

0800h **H51I-0896 POSTER** Sources and Using a Simple Estuary Model to Simulate Dynamics of Selenium in NSFB: **L Chen**, S Meseck, S Roy, T Grieb, B Baginska

0800h **H51I-0897 POSTER** Differences in Sulfate Behavior along a North-South Gradient of Unglaciated Eastern U.S. Catchments: **K C Rice**, B J Cosby, F A Deviney, J R Webb

0800h **H51I-0898 POSTER** Climate change and increased zinc concentrations in a Rocky Mountain acid rock drainage stream: **C M Crouch**, A S Todd, D M McKnight

0800h **H51I-0899 POSTER** Natural Attenuation of Arsenic, Cadmium, Lead, and Zinc Using Hydrograph Separation: **J E Burrows**, S C Peters

0800h **H51I-0900 POSTER** Montane wetland water chemistry, Uinta Mountains, Utah: **K S Severson**, M Matyjasik, R L Ford, M W Hernandez, S B Welsh, S Summers, L M Bartholomew

0800h **H51I-0901 POSTER** Humic substances and the biogeochemical arsenic cycle in groundwater of the Blackfoot Disease endemic area, southwestern Taiwan: **T R Kulp**, J Jean

0800h **H51I-0902 POSTER** Reliability of Approaches Used to Quantify Surface Water-Groundwater Interactions: **N M Schmadel**, B T Neilson, D K Stevens

0800h **H51I-0903 POSTER** Concentration-Discharge relationships in a mine-impacted catchment, New River, Tennessee: Comparison across spatial and temporal scales using time-series analysis: **J Murphy**, G M Hornberger

0800h **H51I-0904 POSTER** Groundwater recharge and agricultural contamination in alluvial fan of Eastern Kofu basin, JAPAN: **T Nakamura**

0800h **H51I-0905 POSTER** Estimating Effective Stream Shade in Riparian Areas: **L Sydow**, T E Link, J A Gravelle

0800h **H51I-0906 POSTER** Impacts of the 2006 Day Fire on water quality in Piru Creek watershed, California: **L K Rademacher**, M P Burke, T S Hogue, J A Jay

0800h **H51I-0907 POSTER** Sr Isotope Quantification of Deep Brine and Shallow Acidic Coal Mine Drainage Inputs to High TDS Gas Well Discharges in Western Pennsylvania: **E Chapman**, R Capo, B W Stewart, R Hedin, T Weaver

0800h **H51I-0908 POSTER** Using Wavelets to Evaluate Persistence of High Frequency Hydrologic and Hydrochemistry Signals: **S R Koirala**, R W Gentry

0800h **H51I-0909 POSTER** Shell chemistry used to identify essential habitat for Bay Scallops in Nantucket, MA: **B Broadaway**, R E Hannigan

H51J Moscone West: 3005 Friday 0800h
Detecting and Attributing Change in Coupled Human-Hydrologic Systems: Foundations for Successful Prediction and Adaptation II (*joint with B, IN, GC, NH, EP, V, PA*)

Presiding: **B A Pellerin**, US Geological Survey; **C M Hermans**, City University of New York

0800h **H51J-01** Humans Transforming the Water Cycle and the 500-Year Challenge: **C J Vorosmarty**, M B Green, C M Hermans

0815h **H51J-02** Evaluation of the Anthropogenic Influence on Continental Streamflow with a Prospective Reservoir Operation Scheme: **L P Van Beek**, Y Wada, M F Bierkens

0830h **H51J-03** Evolving demand for ecosystem services and their impact in a coastal New England watershed: **W M Wollheim**, M B Green, B A Pellerin, J M Duncan, G M Gettel, C Hopkinson, C Polsky, R Pontius

0845h **H51J-04** A window to the landscape of Chesapeake's past: Reconstructing nitrogen dynamics and hydrologic conditions using stable isotope geochemistry and palynology: **E M Elliott**, G S Brush

0900h **H51J-05** Nineteenth Century Harbors: Accounting for Coastal Urban Development in Hydrologic Change:

K M Schlichting, C M Ruffing, S M McCormack, T Urbanova, L J Powell, C M Hermans

0915h **H51J-06** Regional lead dynamics in the Northeastern United States - Local versus regional industrial influences: **A J Wreschnig**, D J Bain, M B Green, C M Ruffing, L E Adams

0930h **H51J-07** Water Scarcity in the Northeast Corridor During the Nineteenth Century and its Correlation to Infrastructure Development: **A Munoz Hernandez**, J S Arrigo, L E Adams, D J Bain, E N Bray, M B Green, M Huang, J Wilson, W M Wollheim

0945h **H51J-08** The Hydromorphology of Human-Hydrologic Interactions (*Invited*): **R M Vogel**

H51K Moscone West: 301 I Friday 0800h
General Hydrogeophysics I (*joint with NS*)

Presiding: **R L Van Dam**, Michigan State University; **T C Johnson**, Idaho National Laboratory; **M Looms**, University of Copenhagen; **R Deiana**, University of Padova

0800h **H51K-01** Characterization and calibration of seawater intrusion models using electrical resistivity tomography (*Invited*): **F H Nguyen**, A Kemna, A Antonsson, P K Engesgaard, J Beaujean

0820h **H51K-02** River flood events as natural tracers for investigating the hydrological dynamics of a coupled river-aquifer system: preliminary results from 3D crosshole electrical resistivity monitoring: **I Coscia**, S A Greenhalgh, N Linde, J Doetsch, T Vogt, A G Green

0835h **H51K-03** Combined high resolution imaging and inversion of multiple geophysical data for aquifer characterization at a restored river section: **J Doetsch**, N Linde, M Pessognelli, T Günther, T Vogt, A G Green

0900h **H51K-04** Impact of ERT data inversion uncertainty on the assessment of local hydraulic properties from tracer test experiments: **R Deiana**, **M Camporese**, G Cassiani, P Salandin

0915h **H51K-05** Benchmarking ERT-derived petrophysical parameters and solute transport characteristics using a set of numerical tracer displacement experiments in unsaturated porous media: **J K Koestel**, S Garre, M Bechtold, J Vanderborght, M Javaux, T Günther, H Vereecken

0930h **H51K-06** 2D ERT imaging of tracer dispersion in laboratory experiments: **G Iekmine**, M Pessel, H auradou

0945h **H51K-07** Analysis of upward transport in a laboratory soil using electrical resistivity tomography (ERT) and transport models: **M Bechtold**, J Vanderborght, M Herbst, L Weihermueller, R Kasteel, T Guenther, H Vereecken

H51L Moscone West: 3009 Friday 0800h
Shallow and Deep Geothermal Energy I (*joint with NS, NG, MR*)

Presiding: **P Bayer**, ETH Zurich; **P Blum**, University of Tuebingen

0800h **H51L-01** Thermal Springs Distribution in the Canadian Cordillera (*Invited*): **S Grasby**, G A Ferguson

0820h **H51L-02** SHALLOW GEOTHERMAL ENERGY ACROSS CANADA AS DERIVED FROM WELL TEMPERATURE LOGS AND SURFACE AIR TEMPERATURE TIME SERIES SHOWS GAINS DUE TO RECENT WARMING: **J A Majorowicz**, W Skinner, J Safanda, S Grasby

0835h **H51L-03** Evaluating Importance of Heat Transport Mechanisms Neglected in Design of Low Temperature Geothermal Systems: C D Langevin, **M C Sukop**

0855h **H51L-04** Infrared Spectroscopy for Rapid Characterization of Drill Core and Cutting Mineralogy: **W M Calvin**, C Kratt, F A Kruse

0910h **H51L-05** Thermal Insulation by Carbonaceous Sediments: Implications for Geothermal Energy: **J A Nunn**

0925h **H51L-06** Microbiological monitoring in geothermal plants: **M Alawi**, S Lerm, A Vetter, A Vieth, A Seibt, M Wolfram, H Würdemann

0940h **H51L-07** A comparison of remote sensing data sets for geothermal exploration over northern Fish Lake Valley, Nevada: **E F Littlefield**, W M Calvin

H51M Moscone South: 104 Friday 0800h
Science, Management, and Restoration of Aquatic Systems in Arid and Semiarid Basins I (*joint with A, B, GC, PA*)

Presiding: **J Lee**, Univ Missouri-Kansas City; **M L Hughes**, The Klamath Tribes; **M W Gannett**, USGS; **D M Tratt**, The Aerospace Corporation

0800h **H51M-01** Will Restoring Wet Meadows Increase Stream flow?: **G E Grant**, J S Selker

0815h **H51M-02** Streamflow Response to Climate in the Klamath Basin Region: **T D Mayer**, S W Naman

0830h **H51M-03** WITHDRAWN

0830h **H53G-1011** Preliminary Study of the Effect of the Long Lake Valley Project Operation on the Transport of Larval Suckers in Upper Klamath Lake, Oregon: **T M Wood**

0845h **H51M-04** Simulation of Groundwater/Surface-Water Interaction to Inform Groundwater Management in the Upper Klamath Basin, Oregon and California: **M W Gannett**, B Wagner

0900h **H51M-05** A field-based investigation of hydrogeologic impacts on the Lake Chad basin: **J Lee**, I B Goni, J Grindley, B Bura, V Mulugeta, M L Banks, G G Ndunguru, S J ADISA, J O Adegoke

0920h **H51M-06** Understanding and Managing Natural and Human-Induced Pressures on Ecosystem Health and Environmental Sustainability in the Lake Chad Basin (LCB): **J O Adegoke**, J Lee, I B Goni, A Iliya, S Muhammad, S Bassi

0940h **H51M-07** Findings from a study of phosphorus storage and bioavailability in sediments of Upper Klamath Lake, Oregon, USA: Possible applications to other aquatic systems: **N S Simon**, S Y Ingle, A A Ali

H51N Moscone West: 3007 Friday 0800h
Uncertainty Analysis and Risk Assessment in Groundwater Modeling II

Presiding: **M Ye**, Florida State University; **P D Meyer**, Pacific Northwest National Lab

0800h **H51N-01** Elements of a Comprehensive Approach for Modeling Uncertainty (*Invited*): **Y Rubin**, F de Barros, H Murakami, X Chen, M S Hahn

0815h **H51N-02** Bayesian Inversion in the Age of Large Data Sets and High Performance Computing (*Invited*): **P K Kitaniadis**

0830h **H51N-03** Multiple Scale Studies to Understand Mass Transfer Controlled Uranium Migration in a Dynamic Groundwater Plume Influenced by Water Table Fluctuations (*Invited*): **J M Zachara**

0845h **H51N-04** Issues of model accuracy and uncertainty evaluation in the context of multi-model analysis: **M C Hill**, L Foglia, S Mehl, P Burlando

0900h **H51N-05** Does Your Hydraulic Containment System Really Capture Everything?: **M J Chu**, C M Stubbs

0915h **H51N-06** Practical post-calibration uncertainty analysis: Yucca Mountain, Nevada, USA: **S C James**, J Doherty, A Eddebbarh

0930h **H51N-07** Assessment of Contaminant Fate in Heterogeneous Porous Media using Importance Sampling Monte Carlo Methods: **Z Lu**, A V Wolfsberg, C Lu

0945h **H51N-08** A Real-Time Groundwater Management Model Using Data Assimilation: **W Cheng**, M Putti, D Kendall, W W Yeh

Earth and Space Science Informatics

IN51A Moscone South: Poster Hall Friday 0800h
Future Challenges for Informatics in Geophysical Sciences Posters

Presiding: **P A de Souza**

0800h **IN51A-1033 POSTER** Visualization of 3 Dimensional Seismic Vector Fields: **E McQuinn**, A Chourasia, J H Minster, J Schulze

0800h **IN51A-1034 POSTER** Community Based Informatics: Geographical Information Systems, Remote Sensing and Ontology collaboration - A technical hands-on approach: **B D Branch**, R G Raskin, B Rock, M Gagnon, M A LeCompte, L B Hayden

0800h **IN51A-1035 POSTER** Cloud Computing for Supporting Earth Sciences: a GMU CISC Practice: **C Yang**, P Houser

0800h **IN51A-1036 POSTER** Service-oriented infrastructure for scientific data mashups: **C Baru**, S Krishnan, K Lin, J L Moreland, D R Nadeau

IN51B Moscone South: Poster Hall Friday 0800h
Semantic eScience Posters (*joint with A, B, C, GP, P, OS, H, GC, S, EP, V, SM, SH, SA*)

Presiding: **D L McGuinness**, Rensselaer Polytechnic Institute and McGuinness Associates; **P A Fox**, Rensselaer Polytechnic Inst.; **T W Narock**, University of Maryland, Baltimore County

0800h **IN51B-1037 POSTER** Enabling Interoperability - Supporting a Diversity of Search Paradigms Using Shared Ontologies and Federated Registries: **J S Hughes**, D J Crichton, S H Hardman, C A Mattman, P M Ramirez

0800h **IN51B-1038 POSTER** Building a Semantic Framework for eScience: **S Movva**, R Ramachandran, M Maskey, X Li

0800h **IN51B-1039 POSTER** Geoscience Challenges and Semantic Web Approach: **B Ritschel**

0800h **IN51B-1040 POSTER** An Ontology for Representing Geoscience Theories and Related Knowledge: **B Brodaric**

0800h **IN51B-1041 POSTER** A Collaborative Environment for Knowledge Base Development: **W Li**, C Yang, R Raskin, D D Nebert, H Wu

0800h **IN51B-1042 POSTER** The Semantic eScience Framework: **P A Fox**, D L McGuinness

0800h **IN51B-1043 POSTER** Considerations for Semantic e-Science: **S J Graves**

0800h **IN51B-1044 POSTER** Context and Subjectivity in Semantic e-Science: V Yoon, **T W Narock**

0800h **IN51B-1045 POSTER** U-Science (*Invited*): **K D Borne**

0800h **IN51B-1046 POSTER** Towards a shared scientific observation model: **M Schildhauer**, D L McGuinness, L E Bermudez, M Jones

IN51C Moscone South: I02 Friday 0800h
Open-Source Remote Sensing Software and Applications for Earth and Environmental Science II (*joint with B, C, GC, EP, V, OS, H*)

Presiding: **A N Pilant**, US EPA R&D; **P A Fox**, Rensselaer Polytechnic Inst.

0800h **IN51C-01** Web-based spatial analysis with the ILWIS open source GIS software and satellite images from GEONETCast: **R Lemmens**, B Maathuis, C Mannaerts, T Foerster, B Schaeffer, A Wytzisk

0815h **IN51C-02** Internet-Based Software Tools for Analysis and Processing of LIDAR Point Cloud Data via the OpenTopography Portal: V Nandigam, **C J Crosby**, C Baru, R Arrowsmith

0830h **IN51C-03** The Development of an Interoperable Open Source Geographic Information Technology Stack for Ingest, Management, and Delivery of Earth Observation and Geospatial Products: **K K Benedict**, R Sanchez-Silva, J A Cavner, W B Hudspeth

0845h **IN51C-04** Your Personal Analysis Toolkit - An Open Source Solution: **T Mitchell**

0900h **IN51C-05** WITHDRAWN

0915h **IN51C-06** Processing Large LiDAR datasets for Forest Canopy Metrics Using 64-bit GRASS GIS (*Invited*): **D Newcomb**, H Mitasova

0930h **IN51C-07** GLIDER: Free tool imagery data visualization, analysis and mining: **R Ramachandran**, S J Graves, T Berendes, M Maskey, C Chidambaram, P Hogan, T Gaskin

0945h **IN51C-08** Environmental and Landscape Remote Sensing Using Free and Open Source Image Processing Tools: **A N Pilant**, D Worthy, D Wilhelm

Natural Hazards

NH51A Moscone South: Poster Hall Friday 0800h
Diplomacy Through Earth Sciences Posters (*joint with PA*)

Presiding: **T J Casadevall**, USGS; **G S Plumlee**, U.S. Geological Survey

0800h **NH51A-1047 POSTER** Diplomacy Through Earth Sciences: An Overview of US Geological Survey Technical Assistance Regarding the Ongoing LUSI Mud Eruption, East Java, Indonesia: **T J Casadevall**

0800h **NH51A-1048 POSTER** Science Diplomacy: U.S. Response to the LUSI Disaster, Sidoarjo, East Java, Indonesia: **C R McClelland**, J Loree, V Williams

0800h **NH51A-1049 POSTER** Organic chemical composition of mud from the LUSI mud volcano, Sidoarjo, East Java, Indonesia: R J Rosenbauer, **P Campbell**, A Lam

0800h **NH51A-1050 POSTER** Chemical, mineralogical, and isotopic characteristics of mud from the LUSI mud volcano, Sidoarjo, East Java, Indonesia: implications for the environment, public health, and eruption processes: **G S Plumlee**, T J Casadevall, H T Wibowo, R J Rosenbauer, C A Johnson, G N Breit, P L Hageman, R E Wolf, S A Morman

0800h **NH51A-1051** WITHDRAWN

0800h **NH51A-1052 POSTER** Estimating the longevity of the LUSI mud volcano, East Java: **R E Swarbrick**, R Davies, M R Tingay

0800h **NH51A-1053** POSTER “Can LUSI be stopped? – A case study and lessons learned from the relief wells”: **E Sutrisna**

0800h **NH51A-1054** POSTER Latest Subsidence Pattern At Lusi And Implications For Mitigation: **V S Williams**, H T Wibowo

0800h **NH51A-1055** POSTER Sidoarjo mudflow phenomenon and its mitigation efforts: **H T Wibowo**, V Williams

NH51B Moscone South: Poster Hall Friday 0800h
Land-Ocean-Atmospheric Processes Associated With Natural and Man-Made Hazards I Posters (*joint with A, H, OS, S*)

Presiding: **F R Rack**, University of Nebraska-Lincoln; **Y A Kontar**, University of Illinois at Urbana-Champaign; **R P Singh**

0800h **NH51B-1056** POSTER OCEAN-BOTTOM BROADBAND SEISMIC STATIONS AS TOOLS TO IDENTIFY AND MONITOR SEISMIC HAZARD IN COASTAL ZONES (*Invited*): **D Dolenc**, B A Romanowicz

0800h **NH51B-1057** POSTER Characterization of an active offshore coast-parallel fault system on the shallow SE continental shelf of New Zealand's South Island: **A R Gorman**, C Bruce, Z Reid-Lindroos, S Preskett

0800h **NH51B-1058** POSTER Liming Induced Changes in Arsenic Dissolution from Mine Wastes: **L M Dudley**

0800h **NH51B-1059** WITHDRAWN

0800h **NH51B-1060** POSTER TRACKING IN REAL-TIME THE PROPAGATION OF PYROCLASTIC DENSITY CURRENTS BY INFRASONIC ARRAY: **M Ripepe**, S De Angelis, G Lacanna, P Poggi, E Marchetti, D Delle Donne, G Olivieri

0800h **NH51B-1061** POSTER Anticipating the Next Large Silent Earthquake in Mexico: **N Cotte**, M Campillo, V Kostoglodov, A Walpersdorf, M M Vergnolle, I Manighetti, J Santiago, E Pathier, M Radiguet, F Cotton

0800h **NH51B-1062** POSTER Drilling and monitoring of natural and man-made landslide trigger mechanisms at the Ligurian slope (Mediterranean Sea): the tsunamigenic 1979 Nice Airport landslide, southern France: **A Kopf**, S Stegmann, C Proponents

0800h **NH51B-1063** POSTER In-situ long-term pore pressure measurements and Cone Penetration Tests in a coastal aquifer – an hydro-geological investigation related to the sedimentary stability of the Nice Slope (Eastern Mediterranean): **S Stegmann**, N Sultan, A Kopf

NH51C Moscone South: Poster Hall Friday 0800h
Development and Characterization of Natural Hazard Catalogs I Posters (*joint with A, H, S*)

Presiding: **R J Murnane**, BIOS; **A H Knap**

0800h **NH51C-1064** POSTER On the identification of flood prone areas from national scale territorial information: the case study of Italy: **A C Taramasso**, G Roth, R Rudari, M Lomazzi, T Ghizzoni

0800h **NH51C-1065** POSTER Estimating rates of land falling US hurricanes on a 5-year timescale: applications for catastrophe risk modelling: **J Turner**, K Coughlin, T Laepple, S Jewson, E Bellone, D Rowlands

0800h **NH51C-1066** POSTER The USGS Earthquake Scenario Project: **D J Wald**, M D Petersen, L A Wald, A D Frankel, V R Quitoriano, K Lin, N Luco, S Mathias, D Bausch

0800h **NH51C-1067** POSTER Homogenization of the Japanese Damaging Earthquakes List in the Chronological Scientific Tables: **K Koketsu**, T Yoshii

0800h **NH51C-1068** POSTER Global Flood and Landslide Catalog: Compilation and Applications: **P Adhikari**, Y Hong, D B Kirschbaum, R F Adler

0800h **NH51C-1069** WITHDRAWN

NH51D Moscone West: 2006 Friday 0800h
Extreme Natural Hazards: Risk Assessment, Forecasting, and Decision Support II (*joint with A, B, IN, P, OS, NG, H, G, S, V*)

Presiding: **H Plag**; **B D Malamud**, King's College London; **I Zaliapin**, University of Nevada; **A Ismail-Zadeh**, Karlsruhe University

0805h **NH51D-01** Extreme Climatic Events: Understanding, Modeling and Predicting Them (*Invited*): **M Ghil**

0825h **NH51D-02** Assessment of volcanic hazards, vulnerability, risk and uncertainty (*Invited*): **R S Sparks**

0845h **NH51D-03** Quantifying the humanitarian and economic impact of earthquakes on South American capital cities (*Invited*): **M L Zoback**, C Cabrera, A Pomonis, A Baca, I Brunner, G Cheung, A Chen, B Nagel, S Carrasco

0905h **NH51D-04** Changing Global Risk Landscape – Challenges for Risk Management (*Invited*): **F Wenzel**

0925h **NH51D-05** Coastal Zone Hazards Related to Groundwater-Surface Water Interactions and Groundwater Flooding: **Y A Kontar**, Y R Ozorovich, A T Salokhiddinov

0940h **NH51D-06** Do We Need Better Climate Predictions to Adapt to a Changing Climate? (*Invited*): **S Dessai**, M Hulme, R Lempert, R Pielke, Jr.

Ocean Sciences

OS51A Moscone South: Poster Hall Friday 0800h
Ocean Sciences General Contributions: Physical Oceanography II Posters

Presiding: **P Marchese**, CUNY-QCC; **R P Mied**, Naval Research Laboratory; **R Robertson**, UNSW@ADFA

0800h **OS51A-1080** WITHDRAWN

0800h **OS51A-1081** POSTER On the Southern Ocean response to poleward intensifying winds: Coarse versus eddy-permitting simulations: **P J Spence**, J C Fyfe, A J Weaver, A Montenegro

0800h **OS51A-1082** POSTER Long-term Variability and Dynamic Mechanism of the Kuroshio-induced Atmospheric Convergence Zone: **J Pan**, W Huen, H Lin

0800h **OS51A-1083** POSTER SST anomaly persistence in North Pacific from winter to summer: **Q Liu**, J Guo, S Wu

0800h **OS51A-1084** POSTER A Monte Carlo Method for Projecting Uncertainty in 2D Lagrangian Trajectories: **A Robel**, S Lozier, S F Gary

0800h **OS51A-1085** POSTER Subtidal Variability in the Virginia Coast Reserve Lagoon: **R P Mied**, R Handler, C Snow, R Fusina, J Porter

0800h **OS51A-1086** POSTER Assessment of the hindcast, nowcast and forecast capabilities of the Mercator-Ocean high resolution ocean forecasting system in the Atlantic and Mediterranean basins: **J Lellouche**, M Benkiran, B L'Hévéder, L Mortier, P Testor, E Dombrowsky

0800h **OS51A-1087** POSTER Spontaneous Layer Formation in Salt Fingering Simulations: **A L Traxler**, S Stellmach, P Garaud, T Radko, N Brummell

0800h **OS51A-1088** POSTER Diapycnal mixing in an Arctic coastal polynya: P Bouruet-Aubertot, **F Jardon**, F Vivier, A Lourenço, Y Cuyper

0800h **OS51A-1089** POSTER Preliminary Results from a High Resolution 0.1° Global Coupled Ocean-Ice Simulation: **D P Ivanova**, J McClean, E C Hunke, D Bader, M E Maltrud

0800h **OS51A-1090 POSTER** Fully nonlinear Boussinesq equations for waves propagating in a two-fluid system: **C Liu**

0800h **OS51A-1091 POSTER** Tropical response to extratropical forcing in a coupled climate model: A comparison between the Atlantic and Pacific Oceans: **H Yang**, L Wang

0800h **OS51A-1092 POSTER** The deepening of the wind-mixed layer in the southern part of the California Current: **J Gomez-Valdes**, G Jeronimo

0800h **OS51A-1093 POSTER** Numerical modeling of the Filchner overflow: **A V Wilchinsky**, D L Feltham

0800h **OS51A-1094 POSTER** Sea ice Thermodynamic Budgets comparing a 'stationary brine' model with a model allowing porous flows through the ice and across the ice-ocean interface: **E J Hudier**, J Gosselin

0800h **OS51A-1095 POSTER** An unusual case of one sine wave dominating the westward propagation of altimetric sea level over an extended period and area: **C Tai**

0800h **OS51A-1096 POSTER** Variability of the mixed layer depth in the Western Pacific marginal seas: **Y Ro**

0800h **OS51A-1097 POSTER** Exact Solutions for Wind-Driven Coastal Upwelling and Downwelling over Sloping Topography: P Choboter, **D Duke**, J Horton, P Sinz

0800h **OS51A-1098 POSTER** Strong Diurnal Surface Currents in the Bay of La Paz, Mexico: **O V Zaitsev**, A Rabinovich, R Thomson, N Silverberg

0800h **OS51A-1099 POSTER** Dependency on stability of turbulent diffusivity of passive and active scalars: **S Hirabayashi**, T Sato

0800h **OS51A-1100 POSTER** Numerical Experiment on the Wintertime Water exchange between the Yellow Sea and the East China Sea: **S Lee**, H Lie, C Cho

0800h **OS51A-1101 POSTER** The Hydrography in Shen-ao Bay, North Taiwan, without Thermal Plume: **C Wu**, J Hu, C Lee

0800h **OS51A-1102 POSTER** Evolution of offshore wind waves tracked by surface drifters with a point-positioning GPS sensor: **K Komatsu**

0800h **OS51A-1103 POSTER** Thermal structure and inertial inertia oscillations after a typhoon passage in the East China Sea: H Lie, **K Oh**, S Lee, K Song, S Kang, C Cho

0800h **OS51A-1104 POSTER** Numerical modeling of the seasonal circulation off the northern Baja California and southern California coasts: **E Mateos**, S G Marinone, A Pares-Sierra

0800h **OS51A-1105 POSTER** Flow control and mixing response of Saemangeum lake and coastal waters: **C S Kim**, H Lim, J Kim, S Lee

0800h **OS51A-1106 WITHDRAWN**

0800h **OS51A-1107 POSTER** Role of coastlines, dissipation and frequency of perturbation on internal wave propagation examined in a Finite Element Ocean Model: **S Bora**, S Danilov, G Lohmann

0800h **OS51A-1108 POSTER** Ocean response to arbitrary wind perturbations in the low-frequency approximation: implications for ENSO and decadal climate variability: **M K Parker**, A V Fedorov

0800h **OS51A-1109 POSTER** Comparison of ROMS Turbulence Closure Schemes in Hydrodynamic Models of the Narragansett Bay System: **C Balt**, C R Kincaid, D S Ullman

0800h **OS51A-1110 POSTER** Direct Measurements of Deep Flow in the California Current System: **C A Collins**, U Zamora, T Margolina

0800h **OS51A-1111 POSTER** The Internal tide at San Esteban sill in the Gulf of California: **A Filonov**

0800h **OS51A-1112 POSTER** The Effect of Mid-latitude Atmospheric Variability on Warm Pool El Niño: **J Yoon**, S Yeh

0800h **OS51A-1113 POSTER** The skill of different ocean tracers in reducing uncertainties about projections of the Atlantic Meridional Overturning Circulation: **M P Goes**, N M Urban, R Tonkonojnikov, M Haran, K Keller

0800h **OS51A-1114 POSTER** Correlation of Deep Water Chlorophyll Concentration Fluctuation with Cyclone Energy: **P Marchese**, D Cotten, D Sunil, E Cheung, T Holden, T Nasar, T Cheung

0800h **OS51A-1115 POSTER** Future Altimeter Missions Capability in the Coastal Zone: P A Berry, R G Smith, **J J Benveniste**

0800h **OS51A-1116 WITHDRAWN**

Planetary Sciences

P51A Moscone South: Poster Hall Friday 0800h
Focus on Enceladus III Posters

Presiding: Y Jia, IGPP/UCLA

0800h **P51A-1117 POSTER** Constraining Enceladus's ice shell thickness using tidally driven Coulomb failure models of the tiger stripe fractures: **J G Olgin**, B R Smith-Konter, R T Pappalardo

0800h **P51A-1118 POSTER** Radiative transfer through cracks on icy moons – an observable transient phenomenon?: **M L Rudolph**, M Manga

0800h **P51A-1119 POSTER** Before the Tiger Stripes: A History of Fracturing in the South Polar Terrain of Enceladus: **D A Patthoff**, S A Kattenhorn

0800h **P51A-1120 POSTER** Surface Texture Analysis of Enceladus' South Polar Region: **J P Chang**, B J Buratti, M Hicks, J Mosher, B Landry

0800h **P51A-1121 POSTER** Crustal structures on Saturn's icy satellite Enceladus produced by active and paleo diapirism: **C B Beddingfield**, A S Yoshinobu

0800h **P51A-1122 POSTER** Second Release of the High-Resolution Enceladus Atlas derived from Cassini-ISS images: **T Roatsch**, E Kersten, M Waehlich, A Hoffmeister, G Neukum, P Helfenstein, C Porco

0800h **P51A-1123 POSTER** Revealing the Neutral Composition of Enceladus' Plume: **B Magee**, J H Waite

0800h **P51A-1124 POSTER** Latest Measurements of the Enceladus Plume: MHD model of field and plasma: **Y Jia**, C T Russell, K K Khurana, R L Tokar, N Omid, T I Gombosi, M K Dougherty

0800h **P51A-1125 POSTER** Ion Composition near Enceladus during Cassini Flybys: Measurements and Chemical Model: **R Goldstein**, D C Boice, D B Reisenfeld, R L Tokar, D T Young

0800h **P51A-1126 POSTER** Electrons at Enceladus: recent encounters: **A J Coates**, G H Jones, C S Arridge, A Wellbrock, D T Young, F J Crary, R L Tokar, R E Johnson, T W Hill, C S Paty

P51B Moscone South: Poster Hall Friday 0800h
Planetary Rings: Theory and Observation I Posters

Presiding: L W Esposito; L J Spilker, JPL

0800h **P51B-1127 POSTER** Exploration of zodiacal dust environment at Saturn by CASSINI-CDA: **N Altobelli**, V Sterken, S Kempf, G Moragas-Klostermeyer, R Srama, G H Schwehm, E Gruen

0800h **P51B-1128 POSTER** VIS-IR spectrophotometric indicators for Saturn's rings and spokes: **G Filacchione**, F Capaccioni, P Cerroni, E D'Aversa, R N Clark, J N Cuzzi, P D Nicholson, R H Brown, A Coradini

0800h **P51B-1129 POSTER** Cassini INMS Observations of Neutral Molecules in the E-Ring: **M Perry**, H Smith, B D Teolis, B A Magee, R L McNutt, J H Waite, G Fletcher

0800h **P51B-1130 POSTER** Stochastic events lead to accretion in Saturn's rings: **L W Esposito**

0800h **P51B-1131 POSTER** Saturn Ring Temperatures at Equinox with Cassini CIRS: **L J Spilker**, A Flandes, R Morishima, N Altobelli, C LEYRAT, S Pilorz, C C Ferrari, S Edgington, S M Brooks

0800h **P51B-1132 POSTER** Jovian ring and halo models: comparing predictions for the Juno mission: **A Juhasz**, M Horanyi

0800h **P51B-1133 POSTER** Temperature Contrasts across Saturn's Rings through Equinox with Cassini CIRS: **S M Brooks**, L J Spilker, S Pilorz, S Edgington, R Morishima, A Flandes

0800h **P51B-1134 POSTER** Brightness of the Main Rings of Saturn from High Solar Elevation angles to Equinox: **A Flandes**, L J Spilker, S Pilorz, C LEYRAT, R Morishima, S Edgington, S M Brooks, N Altobelli

P51C Moscone South: Poster Hall Friday 0800h
Saturn's Family of Moons II Posters (*joint with C, SM*)

Presiding: **A J Coates**, Mullard Space Science Laboratory, UCL

0800h **P51C-1135 POSTER** Saturn's magnetosphere interaction with Titan for T9 encounter: 3D hybrid simulation and comparison with CAPS's observations: **D G Simpson**, A S Lipatov, E C Sittler, R E Hartle

0800h **P51C-1136 POSTER** Titan below Saturn's magnetodisc: Results from 3D hybrid simulations and Cassini MAG observations: **S Simon**, U M Motschmann, F M Neubauer, A Wennmacher, J S Saur, M K Dougherty

0800h **P51C-1137 POSTER** Examining Titan's atmospheric conductivity profile using Cassini radio occultations: **D Ionita**, C S Paty, P G Steffes

0800h **P51C-1138 POSTER** Geomorphic Analysis of North Polar Channel Networks on Titan, and Implications for Active Tectonics and Persistence of Relief Structures: **R Cartwright**, J A Clayton

0800h **P51C-1139 POSTER** Fast forward modeling of Titan's infrared spectra to invert VIMS/CASSINI hyperspectral images: **S Rodriguez**, S Le Mouélic, P Rannou, J Combe, L Le Corre, C A Griffith, G Tobie, J W Barnes, C Sotin, R H Brown, K H Baines, B J Buratti, R N Clark

0800h **P51C-1140 POSTER** Where has all the Nitrogen Gone?: **A Eviatar**, H Smith, R Goldstein, D T Young, E C Sittler

0800h **P51C-1141 POSTER** Impact of ion-neutral chemistry in the Enceladus plume on the global plasma interaction: a hybrid simulation approach: **H Kriegel**, S Simon, U M Motschmann, J S Saur, J Mueller, C Koenders, K Glassmeier, M K Dougherty

0800h **P51C-1142 POSTER** A moon's spiky tail: Low energy electron enhancements in the plasma wake of Enceladus: **S J Kanani**, G H Jones, J S Leisner, G Lewis, C S Arridge, C T Russell, M K Dougherty, E Roussos

0800h **P51C-1143 POSTER** Rhea's interaction with Saturn's magnetosphere: Evidence for a plasma source: **G H Jones**, E Roussos, A J Coates, C S Arridge, S J Kanani, D T Young, N Krupp, S M Krimigis, R A Baragiola, J Berthelier, M H Burger, J F Cooper, F J Cray, R E Johnson, H R Martens, D B Reisenfeld, R L Tokar, R J Wilson

0800h **P51C-1144 POSTER** Statistical Clustering and Compositional Modeling of Iapetus VIMS Spectral Data: **N Pinilla-Alonso**, T L Roush, G Marzo, C M Dalle Ore, D P Cruikshank

0800h **P51C-1145 POSTER** Fates of Ejecta from Tethys: **J L Alvarellos**, A R Dobrovolskis, K J Zahnle, J J Lissauer

0800h **P51C-1146 POSTER** Fates of ejecta from co-orbital satellites: Tethys, Telesto, and Calypso: **A R Dobrovolskis**, J L Alvarellos, K J Zahnle, J J Lissauer

0800h **P51C-1147 POSTER** Properties of the Thermal Ion Plasma Near Rhea as Measured by the Cassini Plasma Spectrometer: **R J Wilson**, R L Tokar, W S Kurth, A M Persoon

0800h **P51C-1148 POSTER** The Ganymede, Titan, Callisto, Iapetus Trend: Interpretation of Iapetus' Composition: **P R Estrada**, I Mosqueira, S Charnoz

P51D Moscone South: Poster Hall Friday 0800h
The Atmosphere of Mars: New Findings From Modeling and Observations I Posters (*joint with A, SA*)

Presiding: **R Urata**, University of Colorado

0800h **P51D-1149 POSTER** Thermophoresis and Wind Lifting Particles on Mars: 1st Order Approximation: **J R Buzan**

0800h **P51D-1150 POSTER** Dust Devils Simulation at the Phoenix Mars Lander Site: **B T Gheynani**, P Taylor

0800h **P51D-1151 POSTER** A search for radio impulses from dust-storm-induced lightning at Mars: **W Farrell**, D A Gurnett, J R Espley, D D Morgan, B A Cantor

0800h **P51D-1152 POSTER** Variations in the Depth of the Convective Boundary Layer on Mars: **D P Hinson**, S Tellmann, M Paetzold, G L Tyler, B Haeusler

0800h **P51D-1153 POSTER** Strategies to Improve the Accuracy of Mars-GRAM Sensitivity Studies at Large Optical Depths: **H L Justh**, C G Justus, A M Badger

0800h **P51D-1154 POSTER** Analysis and Interpretation of Mars Dayglow Altitude Profiles: **D L Huestis**, T G Slinger, B Sharpee, J L Fox

0800h **P51D-1155 POSTER** Visible Dayglows of the CO₂ Planets: **T G Slinger**, K Kalogerakis, C Romanescu, L C Lee, M Ahmed, K R Wilson

0800h **P51D-1156 POSTER** The Kinetics of Oxygen Atom Recombination in the Presence of Carbon Dioxide: **C S Jamieson**, R M Garcia, D Pejakovic, K Kalogerakis

0800h **P51D-1157 POSTER** Modeling the Martian climate with a new general circulation model: **R Urata**, O B Toon

0800h **P51D-1158 POSTER** Energy exchange between O, H, and N atoms in the Martian upper atmosphere: **V Kharchenko**, P Zhang, A Dalgarno

0800h **P51D-1159 POSTER** Climate Dynamics of Atmospheric Collapse on Ancient Mars: **A Soto**, M A Mischna, M I Richardson

0800h **P51D-1160 POSTER** Atmospheric Production of Perchlorate on Earth and Mars: **M Claire**, D C Catling, K J Zahnle

0800h **P51D-1161 POSTER** Modeling rainout on ancient Mars as a function of atmospheric forcings: **J Breiner**, S D Domagal-Goldman, M Claire

0800h **P51D-1162 POSTER** Global Mars Multiscale Model water cycle validation using results from the Phoenix Mars lander mission: A Akingunola, **V Hipkin**, A Maksymchak, A Zent

P51E Moscone South: Poster Hall Friday 0800h
The Galilean Satellites: 400 Years of Discovery I Posters (*joint with C, SM*)

Presiding: **P Schenk**, Lunar and Planetary Institute

0800h **P51E-1163 POSTER** New calibrated dataset of the Galileo-NIMS observations of the Jovian satellite Ganymede and mapping of its water ice grain sizes and non-ice components: **G B Hansen**, T B McCord

0800h **P51E-1164 POSTER** A Scattered Light Correction to Color Images Taken of Europa by the Galileo Spacecraft: Initial Results: **C B Phillips**, M Valenti

0800h **P51E-1165 POSTER** The Case for Europa's Finite Obliquity From Cycloids and Strike-Slip Faults: **A Rhoden**, T A Hurford, B Militzer, E Huff, M Manga, M A Richards

0800h **P51E-1166 POSTER** A Detailed Comparison of Europa's Global Lineaments to Non-synchronous Rotation Stresses: **Z Selvans**, A S Wolf, R T Pappalardo

0800h **P51E-1167 POSTER** Europa Geology from Global to Local Scales and Implications for Future Exploration: **D A Senske**

0800h **P51E-1168 POSTER** Investigating ice shell convection with a lower boundary defined by changes in phase and composition: Implications for Europa: **M K Bunte**, A K McNamara, R Greeley

0800h **P51E-1169 POSTER** A GLOBAL GEOLOGIC MAP OF GANYMEDE: **G Patterson**, G C Collins, J W Head, R T Pappalardo, L M Prockter, B K Lucchitta

0800h **P51E-1170 POSTER** Relaxation of "Fresh" Large Craters on the Icy Galilean Satellites and the Depths to Their Oceans: **A J Dombard**, P Schenk, E P Turtle, A P Lederer

0800h **P51E-1171 WITHDRAWN**

0800h **P51E-1172 POSTER** Galilean Satellites Gravity Investigations and Interior Structure with Future Missions: **S Asmar**, W M Folkner, L Iess, P Tortora

0800h **P51E-1173 POSTER** Librations and Interior Structure of the Galilean Satellites: **T Van Hoolst**, R Baland, O Karatekin, N Rambaux

0800h **P51E-1174 POSTER** Multifrequency Electromagnetic Sounding of the Galilean Satellites' Interiors: **M Seufert**, J S Saur, F M Neubauer

0800h **P51E-1175 POSTER** In-situ composition analysis of dust particles originating from Europa and Ganymede in future missions and its scientific value: **Z Sternovsky**, E Gruen, F Postberg, R Srama, S Kempf, M Horanyi

0800h **P51E-1176 POSTER** Jovian's plasma torus interaction with Europa: 3D hybrid kinetic simulation: **A S Lipatov**, J F Cooper, W R Paterson

0800h **P51E-1177 POSTER** HST observations of Europa's atmospheric UV emission: **J S Saur**, P D Feldman, D F Strobel, K D Retherford, L Roth, M A McGrath, J M Gerard, D C Grodent, N Schilling

0800h **P51E-1178 POSTER** THE JOINT ESA-NASA EUROPA JUPITER SYSTEM MISSION (EJSM): **J Lebreton**, R T Pappalardo, M Blanc, E J Bunce, M K Dougherty, C Erd, O GRASSET, R Greeley, T V Johnson, K B Clark, L M Prockter, D A Senske

0800h **P51E-1179 POSTER** Outreach goals of the Europa Jupiter System Mission: A Coustenis, **M Blanc**, R Greeley, L M Prockter

P51F Moscone South: Poster Hall Friday 0800h
Time of Day at Saturn: Bulk Rotation, Atmospheric, and Plasmaspheric Motion I Posters (*joint with A*)

Presiding: **C J Alexander**, Jet Propulsion Laboratory; **K H Baines**, JPL

0800h **P51F-1180 POSTER** Nonlinear Saturation of Shear Instabilities and Meandering Zonal Jets: **K M Sayanagi**, A P Ingersoll

0800h **P51F-1181 POSTER** Looking for non-axisymmetry in Saturn's magnetic field and the implications for its rotation rate: **G Sterenborg**, J Bloxham

0800h **P51F-1182 POSTER** Lightning on Saturn observed by Cassini ISS and RPWS during 2006-2009: **U Dyudina**, A P Ingersoll, S P Ewald, C Porco, G Fischer

0800h **P51F-1183 POSTER** Rotating Asymmetries in Saturn's Ring Current Population: Radial Dependencies: D G Mitchell, **P C Brandt**, J F Carbary, C Paranicas, S M Krimigis

0800h **P51F-1184 POSTER** Jupiter, Saturn, Uranus, and Neptune: Rotation Periods and Shapes: **R Helled**, G Schubert, J D Anderson

0800h **P51F-1185 POSTER** Dual Periodicity in the Rotational Modulation of Saturn Narrowband Emissions: **S Ye**, D A Gurnett, J Groene, Z Wang

P51G Moscone South: Poster Hall Friday 0800h
Titan and Lakes: Geography, Limnology, and Astrobiological Potential I Posters

Presiding: **O Bourgeois**, Universite de Nantes - CNRS; **S C Rafkin**, Southwest Research Institute

0800h **P51G-1186 POSTER** Constraints on Titan's topography through fractal analysis of shorelines and comparison with terrestrial analogues: **P Sharma**, S Byrne

0800h **P51G-1187 POSTER** Modeling Specular Reflections from Hydrocarbon Lakes on the Surface of Titan: **J M Soderblom**, J W Barnes, R H Brown, L A Soderblom, C A Griffith, K Stephan, R Jaumann, C Sotin, P D Nicholson

0800h **P51G-1188 POSTER** The Carbon Budget of Titan and its Effect on the Organic Landscape of Titan's Surface: **E H Wilson**, S K Atreya

0800h **P51G-1189 POSTER** Titan Tholin Production Through Ion-Neutral Chemistry: Data and Model: **J H Westlake**, J H Waite, F J Crary, B A Magee, K E Mandt, D T Young

0800h **P51G-1190 POSTER** Acetylene fermentation: An Earth-based analog of biological carbon cycling on Titan: **L G Miller**, S M Baesman, S E Hoeft, J Kirshtein, K Wolf, M A Voytek, R S Oremland

0800h **P51G-1191 POSTER** Mapping Glacial Lakes on the Tibetan Plateau with Landsat TM/ETM+ Imagery: **J Li**, Y Sheng

0800h **P51G-1192 POSTER** Does Titan have an Active Surface?: **R Nelson**

0800h **P51G-1193 POSTER** Origin of Titan's dunes: noncohesive sand in bidirectional winds or sticky sand in unidirectional winds?: **D M Rubin**

0800h **P51G-1194 POSTER** Some observations on Titan's fluvial networks and channel/valley delineation using Cassini radar imagery: **D Viola**, D M Burr, C B Phillips

0800h **P51G-1195 POSTER** Cassini Imaging of Titan's North Polar Cloud With the Visual and Infrared Mapping Spectrometer: **S Le Mouél**, P Rannou, S Rodriguez, C Sotin, L Le Corre, J W Barnes, R H Brown, C A Griffith, K H Baines, B J Buratti, R N Clark, P Nicholson

0800h **P51G-1196 POSTER** The Seasonal Response of Temperatures in Titan's Troposphere and Stratosphere: **F M Flasar**, P J Schinder, R K Achterberg, E A Marouf, R G French, A J Kliore, N J Rappaport
0800h **P51G-1197 POSTER** Titan's Carbon Isotopic Ratio: A Clue To Atmospheric Evolution?: **C A Nixon**, D E Jennings, P N Romani, A Jolly, N A Teanby, P G Irwin, B B&eacut;ard, S Vinatier, A Coustenis, F M Flasar

0800h **P51G-1198 POSTER** Negative ions at Titan - density trends: **A Wellbrock**, A J Coates, G H Jones, C S Arridge, G Lewis, B Magee, J H Waite, E C Sittler, F J Crary, D T Young

0800h **P51G-1199 POSTER** Titan Mare Explorer (TiME): A Discovery Mission to Titan's Hydrocarbon Lakes: **R D Lorenz**, E R Stofan, J I Lunine, R L Kirk, P R Mahaffy, B Bierhaus, O Aharonson, B C Clark, B Kantsiper, M A Ravine, J H Waite, A Harri, C A Griffith, M G Trainer

0800h **P51G-1200 POSTER** Titan Submersible Explorer - The Case for Subsurface Sampling of Titanian Lakes: **M E Epperly**, J H Waite, T Brockwell, K Klaus

0800h **P51G-1201 POSTER** Lab-on-a-Chip Instrument Development for Titan Exploration: **P A Willis**, F Greer, A Fisher, R P Hodyss, F Grunthaner, H Jiao, D Mair, J Harrison

0800h **P51G-1202 POSTER** Temperature dependence of $^{13}\text{CH}_4$ line shapes broadened by N_2 : **K Sung**, A M Mantz, L R Brown, M H Smith, D C Benner, V Devi, T J Crawford

P15-O1 Moscone South: 307 Friday 0800h
Recent Results in Planetary Science and Their Impact on Future Science and Mission Priorities II (*joint with A, B, G, GP, SM, SA*)

Presiding: **S W Squyres**, Cornell University; **L A Soderblom**

0800h **P51H-01** Mercury, Venus and the Moon: The Next Decade (*Invited*): **E R Stofan**, S J Mackwell, B A Cohen, M S Gilmore, L S Glaze, D H Grinspoon, S A Hauck, A Howard, C R Shearer, D Stetson, E M Stolper, A H Treiman

0824h **P51H-02** The Exploration of Mars: Recent Discoveries and Future Directions (*Invited*): **P R Christensen**, W M Calvin

0848h **P51H-03** Giant Planets: **M Marley**

0912h **P51H-04** Future Exploration of the Outer Planet Satellites: A Decadal Perspective (*Invited*): **J R Spencer**, G Fountain, C A Griffith, K K Khurana, C P McKay, F Nimmo, L M Prockter, G Schubert, T R Spilker, D J Stevenson, E P Turtle, J H Waite

0936h **P51H-05** Exploring and Understanding the Primitive Bodies of the Solar System: Progress Report from the Primitive Bodies Panel of the Decadal Survey. (*Invited*): **J Veverka**, H Y McSween

Paleoceanography and Paleoclimatology

PP51A Moscone West: 2004 Friday 0800h
Take it From the Top: Climate Variability in the Arctic and Sub-Arctic During the Holocene II (*joint with GC*)

Presiding: **W J D'Andrea**, University of Massachusetts Amherst; **Y Axford**, University of Colorado

0800h **PP51A-01** Holocene Arctic climate variability: forcing, proxies and relationship to lower latitude climate (*Invited*): **R S Bradley**

0815h **PP51A-02** Holocene thinning of the Greenland Ice Sheet (*Invited*): B M Vinther, S L Buchardt, H B Clausen, D Dahl-Jensen, **S J Johnsen**, D A Fisher, R M Koerner, D P Raynaud, V Lipenkov, K K Andersen, T Blunier, S O Rasmussen, J P Steffensen, A Svensson

0830h **PP51A-03** Holocene climate variability in the European Arctic reconstructed from multiple proxy indicators and sites simultaneously using Bayesian multi-scale smoothing (*Invited*): **A Korhola**, J Weckström, P Erästö, L Holmström

0845h **PP51A-04** ...the Middle and the Bottom - Holocene Arctic sea ice variations based on the sedimentary occurrences of the biomarker IP_{25} (*Invited*): **S Belt**, G G Masse, L Vare, T Brown, J T Andrews

0900h **PP51A-05** Holocene Sea-ice History in the Arctic Ocean: **T M Cronin**, L Gemery

0915h **PP51A-06** A Signal of Persistent Multidecadal Variability in Atlantic Arctic Sea Ice, from Historical and High-Resolution Paleo Proxy Time Series: **M W Miles**

0930h **PP51A-07** Late Holocene Climatic Conditions in the Fram Strait: a Multiproxy Study: G Rueda, **A Rosell Mele**, K Werner, R F Spielhagen

0945h **PP51A-08** Recent warming reverses long-term Arctic cooling (*Invited*): **D S Kaufman**

SPA - Aeronomy

SA51A Moscone South: Poster Hall Friday 0800h
The ITM System From Solar Maximum to Solar Minimum: Recent Progress and Outstanding Questions III Posters

Presiding: **A G Burns**, NCAR; **Y Zhang**, Johns Hopkins University Applied Physics Laboratory

0800h **SA51A-1203 POSTER** Tides and Gravity Wave Interactions in the Mesopause Region over Maui, Hawaii: **A Z Liu**, X Lu, S Franke

0800h **SA51A-1204 POSTER** SABER Mesosphere Radiative Cooling Results from Solar Max to Solar Min: **L A Hunt**, M G Mlynczak, C J Mertens, B T Marshall, M Lopez-Puertas, P P Wintersteiner, J R Winick, R H Picard, J M Russell

0800h **SA51A-1205 POSTER** Lower thermosphere molecular oxygen derived from the volume emission rate of the Atmospheric band: W R Skinner, R Niciejewski, **Q Wu**, D A Ortland, A Marshall, M Cooper

0800h **SA51A-1206 POSTER** Retrievals of Mesospheric Atomic Oxygen From SABER Measurements: **H Nair**, J Yee, J M Russell, M G Mlynczak, J C Mast, W R Skinner

0800h **SA51A-1207 POSTER** Mesospheric OH Airglow Zonal Trends and Periodicities Observed from SABER: **A E Pound**, B T Svedin, N M Erni, D J Baker, G A Ware, M G Mlynczak, J M Russell

0800h **SA51A-1208 POSTER** Additional Radiative Cooling of the Mesopause Region due to Small-Scale Temperature and [O] Fluctuations Associated with Gravity Waves: **A Kutepov**, U Berger, A Feofilov, M Kaufmann, A S Medvedev

0800h **SA51A-1209 POSTER** Comparative study of middle atmosphere temperature at Rothera with Lidar and SABER, and the effect of the Antarctic Vortex: **B Tan**, L Harvey, X Chu, P J Espy, C S Gardner

0800h **SA51A-1210 POSTER** Climatology of plasmaspheric TEC obtained from Jason-1: **J Shim**, L Scherliess

0800h **SA51A-1211 POSTER** Nitric Oxide Emissions in the Thermosphere during the January 2005 Solar Storm: **T Peng**, J L Gardner, M Lopez-Puertas, B Funke, M G Mlynczak, J M Russell, S M Miller, R D Sharma, J R Winick

0800h **SA51A-1212 POSTER** Upper Mesospheric and Lower Thermospheric Temperature Effects Caused by Energetic Particle Precipitation During the 2003 Halloween Storm: **J Stadsnes**, H N Tyssøy, F Soraas, M Sørbo, C J Mertens, D S Evans

0800h **SA51A-1213 POSTER** The effect of the characteristics of solar flares on the thermospheric response: **D J Pawlowski**, A J Ridley

0800h **SA51A-1214 WITHDRAWN**

0800h **SA51A-1215 POSTER** A Spectral Parameterization of Drag, Eddy Diffusion and Wave Heating for a Three-Dimensional Flow Induced by Breaking Gravity Waves: **X Zhu**, J Yee, W H Swartz, E R Talaat, L Coy

0800h **SA51A-1216 POSTER** Statistical properties of lower atmospheric gravity wave spectra derived from COSMIC measured temperature profiles: **W H Swartz**, X Zhu, E R Talaat, J Yee

SA51B Moscone South: Poster Hall Friday 0800h
Variation of the Low- and Middle-Latitude Ionosphere During Solar Cycle 23 II Posters

Presiding: **S Oh**, SELab; **J Comberiate**, JHU/APL

0800h **SA51B-1217 POSTER** Distributions of TEC Fluctuations and Losses of Lock Associated with Equatorial Plasma Bubbles: **H Nakata**, H Kikuchi, T Tsugawa, Y Otsuka, T Takano, S Shimakura, K Shiokawa, T Ogawa

0800h **SA51B-1218 POSTER** Statistical study of the storm-time ionospheric disturbances observed by GPS receiver network: **Y Wu**, C Lin, R Hsu, J G Liu, Y Chen

0800h **SA51B-1219 POSTER** Negative Ionospheric Storm observed by GPS and Ionosonde in Korea: **J Chung**, E Kim, G Jee, Y Kim, J Cho

0800h **SA51B-1220 POSTER** Generation of equatorial ionospheric bubbles in the presence of thermospheric tidal winds and gravity waves: **M J Keskinen**, S Vadas

0800h **SA51B-1221 POSTER** Three-dimensional equatorial spread F modeling: Zonal neutral wind effect: **G R Joyce**, J Huba, S L Ossakow, J Krall, S England

0800h **SA51B-1222 POSTER** The solar cycle dependence variability of the occurrence pattern of the equatorial plasma bubbles retrieved from TIMED/GUVI nightglow images: **S Oh**, H Kil, L J Paxton, Y Kim

0800h **SA51B-1223 POSTER** Regional Dependence of Equatorial Plasma Density Irregularities: **E V Dao**

0800h **SA51B-1224 POSTER** RELEVANT ASPECTS OF MEDIUM-SCALE TIDs RELATED WITH MIDLATITUDES SPREAD- F OBSERVED BY ALL-SKY IMAGING SYSTEM IN THE SOUTHERN HEMISPHERE OVER TWO FULL SOLAR CYCLES: **A A Pimenta**

0800h **SA51B-1225 POSTER** Investigation of the dayside ionosphere using EUV airglow: **A W Stephan**, R L Bishop, J Picone, S A Budzien, A B Christensen, P R Straus, Z Van Epps

0800h **SA51B-1226 POSTER** Uncertainties in EUV and XUV ionospheric heating over solar cycle 23: **W K Peterson**, E Stavros, P Richards, P C Chamberlin, T Woods, S Bailey, S C Solomon

0800h **SA51B-1227 POSTER** Seasonal variation of the ionospheric F2-layer intensity at midlatitudes during the solar cycle 23: **W Lee**, H Kil, Q Wu, J Chung, S Cho, J Park

0800h **SA51B-1228 POSTER** The low-latitude ionospheric plasma caves underneath the equatorial ionization anomaly discovered by FORMOSAT-3/COSMIC: **I Lee**, J G Liu, C Lin

0800h **SA51B-1229 POSTER** Assessment of GPS Global Ionosphere Maps over the Ocean by Comparing with TOPEX/Jason TEC measurements: A Climatological Study: **G Jee**, H Lee, Y Kim, J Chung, J Cho

0800h **SA51B-1230 POSTER** Daily variations of the global post-sunset equatorial anomaly: **C Coker**, K Dymond, S A Budzien, D H Chua

0800h **SA51B-1231 POSTER** Solar Cycle Variations of the Lower Ionosphere Detected by VLF Remote Sensing: **G Jin**, M Spasojevic, U S Inan

0800h **SA51B-1232 POSTER** Current System in the Daytime and Post-sunset Ionosphere: **T Fang**, A D Richmond, A I Maute

0800h **SA51B-1233 POSTER** Airglow Depletion Zonal Velocities over Ascension Island: **N P Chapagain**, M J Taylor

0800h **SA51B-1234 POSTER** The Variability of the Zonal Plasma Drift in the Equatorial F Region: **H Kil**, C Kang, S Oh, Y Kwak, W Lee, L J Paxton

SPA - Solar and Heliospheric Physics

SH51A Moscone South: Poster Hall Friday 0800h
Fine Structure of Solar Magnetic Fields: First-Light Scientific Results From the 1.6-Meter New Solar Telescope in Big Bear I Posters (joint with A)

Presiding: **P R Goode**, BBSO/NJIT; **T Rimmele**, National Solar Observatory

0800h **SH51A-1254 POSTER** On the evaluation of image quality of Hinode Solar Optical Telescope: **Y Suematsu**

0800h **SH51A-1255 POSTER** Moving Magnetic Features and the Flow Pattern around Sunspots: **H J Hagenaar**, R A Shine

0800h **SH51A-1256 POSTER** Turbulence in the solar photosphere as derived from NST observations of the granulation: **V Abramenko**

0800h **SH51A-1257 POSTER** Newly Observed Small-Scale Structures in the Quiet Sun and Their Connection to Solar Oscillations: **A Andic**

0800h **SH51A-1258 POSTER** NST observations of H alpha features and the non-hydrostatic support of the solar chromosphere: **J Chae**

0800h **SH51A-1259 POSTER** Magnetic and Dynamical Properties of Intensity Oscillations in the Lower Solar Atmosphere: **A C Cadavid**, J K Lawrence

0800h **SH51A-1260 POSTER** Coronal response to the dynamic evolution of the quiet-Sun magnetic field observed by Hinode/SOT: **S Regnier**

0800h **SH51A-1261 POSTER** Scientific Instruments of 1.6 m New Solar Telescope in Big Bear: **W Cao**

0800h **SH51A-1262 POSTER** FeXVII Emission Lines Seen in the Hinode/EIS Observing Wavelengths: **T Watanabe**, N Yamamoto, D Kato, H A Sakaue, I Murakami

0800h **SH51A-1263 POSTER** Analysis of Supergranulation Pattern: the Void Probability Function of Solar Magnetograms: **F Berrilli**, S Giordano, D Del Moro

0800h **SH51A-1264 POSTER** Photospheric Signatures of Incoherent Magnetic Flux Emergence: **J Chen**, V Kunkel

0800h **SH51A-1265 POSTER** First Light with SHAZAM (the Stereoscopic High-speed Zeeman Magnetograph): **C E DeForest**, J Peterson

0800h **SH51A-1266 POSTER** Fine Structures and Kinematics of an Intriguing Chromospheric Jet Observed by Hinode Solar Optical Telescope: **W Liu**, T E Berger, A M Title, T D Tarbell

0800h **SH51A-1267 POSTER** Radiative MHD simulation of an Emerging Flux Region: **C Cheung**, M Rempel, A M Title, M Schuessler

0800h **SH51A-1268 POSTER** Evolution of Fine Structures in an Eruptive Active Region: Hinode (SOT/SP) Observations: **S K Tiwari**, P Venkatakrishnan

0800h **SH51A-1269 POSTER** Spectropolarimetry with IBIS at NSO/DST: Evolution of Bright Points in the Quiet Sun: **M Stangalini**, B Viticchiè, D Del Moro, R Piazzesi, F Berrilli

SH51B Moscone South: Poster Hall Friday 0800h
Scientific Uses of Heliophysics Virtual Observatories I Posters (joint with SA, SM)

Presiding: **M Weiss**, Johns Hopkins University Applied Physics Laboratory; **D Roberts**, NASA GSFC

0800h **SH51B-1270 POSTER** SPASE 2.0: A Scientific View Along the SPASE Data Model Trail: **J R Thieman**, T A King, R J Walker, J H King

0800h **SH51B-1271 POSTER** Multispacecraft Observations of Solar Wind Gradients Near L1: VHO Case Studies: **A Szabo**, J Merka, T W Narock

0800h **SH51B-1272 POSTER** "Persistence" in Solar Wind Fluctuations: A Virtual Observatory Assisted Study: **D Roberts**

0800h **SH51B-1273 POSTER** Use of the Virtual ITM Observatory for Scientific Research: **M Weiss**, D Morrison, E Immer, M Potter, D Patrone, C Colclough, R Holder, R J Barnes

0800h **SH51B-1274 POSTER** Facilitating Heliophysics Research by the Virtual Wave Observatory (VWO) Context Data Search Capability: **S F Fung**, X Shao, L N Garcia, I A Galkin, R F Benson

0800h **SH51B-1275 POSTER** Enabling Science with the Virtual Modeling Repository: **D De Zeeuw**, A J Ridley, L Rastaetter

0800h **SH51B-1276 POSTER** Computer Vision for the Solar Dynamics Observatory: **P C Martens**

0800h **SH51B-1277 POSTER** The SDO Flare Detective: **P C Grigis**, A R Davey, P C Martens, Y Su, P Testa, R P Timmons

0800h **SH51B-1278 POSTER** The SolarMonitor Active Region Tracking (SMART) Algorithm: Variation of magnetic feature properties through solar cycle 23: **P Higgins**, P Gallagher, R mcateer, D Bloomfield

0800h **SH51B-1279 POSTER** Helioviewer.org: Browsing Very Large Image Archives Online Using JPEG 2000: **V K Hughitt**, J Ireland, D Mueller, G Dimitoglou, J Garcia Ortiz, L Schmidt, B Wamsler, J Beck, A Alexanderian, B Fleck

0800h **SH51B-1280 POSTER** NMDB: towards a global neutron monitor database: **C T Steigies**

0800h **SH51B-1281 POSTER** Access to space weather model data provided by the Community Coordinated Modeling Center: **A Chulaki**, D Berrios, M Hesse, M M Kuznetsova, P J MacNeice, M Maddox, L Rastaetter, A Taktakishvili

0800h **SH51B-1282 POSTER** Putting Space Physics Data Facility (SPDF) Services to Good Use: **R M Candey**, D Bilitza, R Chimiak, J F Cooper, L N Garcia, B Harris, R C Johnson, J H King, T Kovalick, H Leckner, M Liu, R E McGuire, N E Papitashvili, A Roberts

0800h **SH51B-1283 POSTER** Custom auroral electrojet indices calculated by using MANGO value-added services: **L F Bargatze**, W B Moore, T A King

0800h **SH51B-1284 POSTER** Getting data into NASA's HPDE Virtual Observatories: **S P Joy**, R J Walker, J Merka, T A King, L F Bargatze, P J Chi, J M Weygand, T W Narock

0800h **SH51B-1285 POSTER** Science, VxOs and Just In Time Information: **T A King**, R J Walker, J Merka, R D Bentley, A Roberts, R Rankin, R M Candey, T W Narock

0800h **SH51B-1286 POSTER** Towards a Unified Heliophysics Data Environment: **T W Narock**, J Merka, A Szabo

0800h **SH51B-1287 POSTER** DataShop and HelioLib - a Service and a Library for Uniform Access to Heliophysics Data: **J D Vandegriff**, L E Brown

SH51C Moscone South: 301 Friday 0800h
Solar Wind Turbulence: Advances in Theory and Observations I (joint with SM, NG)

Presiding: J J Podesta, Los Alamos National Laboratory; **C W Smith**, University of New Hampshire

0800h **SH51C-01** Exact vectorial law for axisymmetric MHD turbulence: **S Galtier**

0815h **SH51C-02** The role of magnetic field in solar wind turbulent cascade: **L Sorriso-Valvo**, R Marino, S Servidio, R Bruno, A Noullez, V Carbone

0829h **SH51C-03** Inner-Source Pickup Ions as Sensitive Probes to the Inner-Heliospheric Micro-State: **R F Wimmer-Schweingruber**, P A Bochsler

0843h **SH51C-04** Decay of Alfvén-cyclotron waves and kinetic effects on ions in the solar wind: **E Marsch**, J A Araneda, Y Maneva

0858h **SH51C-05** Direct Evidence of Instability-Driven Constraints on Helium Temperature Anisotropies in the Solar Wind: **B Maruca**, J C Kasper, S P Gary, A J Lazarus, A Szabo

0913h **SH51C-06** Kinetics of the Solar Wind Expansion: Wave-Particle Interactions and Ion Distribution Functions: **L Matteini**, S Landi, M Velli, P Hellinger

0928h **SH51C-07** Turbulence in the Sub-Alfvénic Solar Wind Driven by Reflection of Low-Frequency Alfvén Waves (*Invited*): **A Verdini**, M M Velli, E Buchlin

0945h **SH51C-08** Anisotropy of Solar Wind Turbulence in the Dissipation Range: **C H Chen**, T S Horbury, A A Schekochihin, R T Wicks, O Alexandrova

SPA - Magnetospheric Physics

SM51A Moscone South: Poster Hall Friday 0800h
Advanced Modeling Techniques, Data Assimilation, and Analysis for Future Space Weather Applications I Posters (joint with SA, SH)

Presiding: J Koller, Los Alamos National Lab; **S L Young**, Air Force Research Laboratory

0800h **SM51A-1311 POSTER** A New Empirical Model For Geomagnetic Perturbations: **D R Weimer**, C R Clauer

0800h **SM51A-1312 POSTER** Synthetic Magnetogram Code for Magnetosphere-Ionosphere Coupling Models: **F Toffoletto**, P Ontiveros, R Wolf, Y Song, J Zhang, E Miller

0800h **SM51A-1313 POSTER** Recent Advances in Ionospheric Modeling Using the USU GAIM Data Assimilation Models: **L Scherliess**, D C Thompson, R W Schunk

0800h **SM51A-1314 POSTER** 3D Ionospheric Tomography using GPS and the VLA: **C Watts**, J Karle

0800h **SM51A-1315 POSTER** Study of ionospheric variation during the eclipse of July 22, 2009 using NICT Space Weather Simulator: **H Shinagawa**, H Jin, Y Miyoshi, H Fujiwara, T Iyemori, M Matsumura, A Saito, Y Goi, S Fujita, T Tsugawa, M Kubota, H Kato, M Ishii, K T Murata, N Terada, K Terada

0800h **SM51A-1316 POSTER** HYPERS: First Ever Multi-Dimensional Asynchronous Hybrid Simulations: **Y Omelchenko**, H Karimabadi, U Catalyurek, E Saule, M R Brown

0800h **SM51A-1317 POSTER** Two-way Coupled OpenGGCM and the Rice Convection Model: **B Hu**, F Toffoletto, J Raeder, R Wolf, A Vapirev, D J Larson

0800h **SM51A-1318 POSTER** APPROXIMATIONS IN AN IONOSPHERE-MAGNETOSPHERE COUPLING MODEL: **R J Stevens**, A Otto, T Bhattacharya

0800h **SM51A-1319 POSTER** 3D Multi-Fluid Simulations of Magnetic Reconnection at the Dayside Magnetopause for the THEMIS Encounter of June 19, 2007: **M Choi**, R Winglee, E M Harnett

0800h **SM51A-1320 POSTER** Identification of substorm precursor and expansion onsets by applying Singular Spectrum Transformation to ground-magnetometer data: **T Tokunaga**, K Nakamura, T Higuchi, A Yoshikawa, T Uozumi, A Morioka, K Yumoto

0800h **SM51A-1321 POSTER** A new method for global magnetosphere simulations: an implicit scheme with limited numerical diffusion: **G Toth**, X Meng, T I Gombosi

0800h **SM51A-1322 POSTER** Impact of Cusp Boundary Formation and Particle Entries during IMF rotation from Northward to Southward in Large-scale global 3D Full particle simulations: **D S Cai**, B Lembege, K Nishikawa

0800h **SM51A-1323 POSTER** A data assimilation method for plasmasphere modeling using EUV imaging data: **S Nakano**, M H Fok, P C Brandt, T Higuchi

0800h **SM51A-1324 POSTER** An empirical field-aligned current model based on the DMSP and DE 2 satellites: **T Hori**, Y Ebihara, Y Hiraki, A Shinbori, A Ieda, T Kikuchi, G Ueno, T Higuchi, S Wing, S Ohtani

0800h **SM51A-1325 POSTER** Real-time Neural Network predictions of geomagnetic activity indices: **R Bala**, P H Reiff

0800h **SM51A-1326 POSTER** Geomagnetic Activity Forecast based on SW-M-I coupling: **T Nagatsuma**

0800h **SM51A-1327 POSTER** Using the NARMAX OLS-ERR algorithm to obtain the most influential parameters that affect the evolution of the magnetosphere: **R J Boynton**, M A Balikhin, S A Billings, H Wei, N Y Ganushkina, S Wing, S Savin

0800h **SM51A-1328 POSTER** Geospace simulations using modern accelerator processor technology: **K Germaschewski**, J Raeder, D J Larson

0800h **SM51A-1329 POSTER** Beyond Illustration: New Data Driven Techniques for Visualizing Magnetospheric Structure: **A D Pembroke**, F Toffoletto, M J Wiltberger, V G Merkin, J Lyon, P Schmitt

0800h **SM51A-1330 POSTER** Space Weather Explorer: A 3D Visualization Tool for Space Weather Model Data: **D Berrios**, M Maddox, L Rastaetter, M M Kuznetsova, M Hesse

0800h **SM51A-1331 POSTER** Challenges and Innovations in Data Assimilation for Radiation Belts: **D A Kondrashov**, M Ghil, Y Shprits

0800h **SM51A-1332 POSTER** DYNAMIC EVOLUTION OF THE RADIATION BELT PHASE SPACE DENSITY OBTAINED WITH REANALYSIS WITH SIMULTANEOUS OBSERVATIONS FROM FOUR SPACECRAFT: **Y Shprits**, B Ni, D Subbotin, D A Kondrashov, M Daae, R M Thorne, T Nagai, R H Friedel, Y Chen, J Koller, G D Reeves

0800h **SM51A-1333 POSTER** Effect of cross diffusion by whistler-mode chorus wave on the radiation belts electrons: **Q Zheng**, M H Fok

0800h **SM51A-1334 POSTER** The space radiation environment in the low earth orbit measured by the Daichi satellite: **H Koshiishi**, H Matsumoto, T Obara

0800h **SM51A-1335 POSTER** LANL* V2.0: A New Radiation Belt Drift Shell Model for Real-Time and Reanalysis Applications: **J Koller**, G D Reeves, R H Friedel

0800h **SM51A-1336 POSTER** Real Time Radiation Belt Data Assimilation using DREAM: **M G Henderson**, J Koller, R L Tokar, Y Chen, G D Reeves, R H Friedel

0800h **SM51A-1337 POSTER** The East-West Effect in Solar Proton Fluxes in Geostationary Orbit: A New GOES Capability: **J V Rodriguez**, T G Onsager, J E Mazur

0800h **SM51A-1338 POSTER** Simulations of Trapped Energetic Ions in the Inner Magnetosphere: **R L Richard**, M El-Alaoui, M Ashour-Abdalla, R J Walker

0800h **SM51A-1339 POSTER** Data Assimilation Techniques used in the SOTERIA EC-FP7 Network: G Lapenta, **L Bettarini**, M Skender, M Innocenti, F Crespon, C Skandrani

0800h **SM51A-1340 POSTER** Incorporating Magnetogram Data into Time-Dependent Coronal Field Models: **G H Fisher**, W P Abbett, D J Bercik, J M McTiernan, B T Welsch

0800h **SM51A-1341 POSTER** Three-dimensional Integration, Analysis, and Visualization of Simulated and Observed Heliophysics Data: **R A Boller**, V Kalb, A Roberts, R Kessel, D Berrios, M M Maddox

0800h **SM51A-1342 POSTER** Three-Dimensional Sigmoidal Structure on the Flare-Producing Solar Active Region: **S Inoue**, T Magara, T T Yamamoto

0800h **SM51A-1343 POSTER** The α - and β -current separation of MI-coupled system using Whalen-relation and Hall conjugate current analysis: A Yoshikawa

0800h **SM51A-1344 POSTER** BATSRUS with Hall MHD and anisotropic pressure: **X Meng**, G Toth, T I Gombosi

0800h **SM51A-1345 POSTER** Uncertainties of the Space Weather Modeling System Forecasts during Solar Minimum Conditions of 2008: **J V Eccles**, C D Fry, J P Reich

0800h **SM51A-1346 POSTER** The development of NICT Real-time Space Weather Integrated Simulator: H Shimazu, **Y Kubo**, H Shinagawa, M Den, H Jin, A Nakamizo, K Tsubouchi, S Inoue, K T Murata, T Tanaka, S Fujita, N Terada, Y Morikawa, S Watari

SM51B Moscone South: 303 Friday 0800h
Investing in Science: Space Plasma Data Archiving II (*joint with SA, SH*)

Presiding: **D G Sibeck**, Space Weather Laboratory; **M G Taylor**, European Space Agency

0800h **SM51B-01** Intelligent Archiving and Physics Mining of Large Data Sets (*Invited*): **H Karimabadi**

0815h **SM51B-02** Science output and benefit of the CDPP on-line analysis tool AMDA (*Invited*): **V Genot**, C Jacquey, E Budnik, M Bouchemit, M Gangloff, A Fedorov, B Lavraud, N André, C C Harvey, E Pallier, E Penou, R Hitier, B Cecconi, D Francoise, D Heulet, J Pinçon

0830h **SM51B-03** Usability and quality of the Cluster Active Archive (*Invited*): **H E Laakso**

0845h **SM51B-04** THEMIS Data and Software Systems: **C Goethel**, V Angelopoulos

0900h **SM51B-05** Characterizing Space Environments with Long-Term Space Plasma Archive Resources: **J I Minow**, S Miller, A M Diekmann, L N Parker

0915h **SM51B-06** An Updated Overview of SPDF Roles, Data and Services to the Heliophysics Community: **R E McGuire**, D Bilitza, R M Candey, R Chimiak, J F Cooper, L N Garcia, B Harris, R C Johnson, J H King, T Kovalick, H Leckner, M Liu, N E Papitashvili, R Parthasarathy, A Roberts

0930h **SM51B-07** OMNIWeb-Plus and the Evolution of NSSDC and SPDF Value-Added Space Physics Data Products and Interfaces: **J H King**, N E Papitashvili, R E McGuire

0945h **SM51B-08** Scientific Benefits of Space Science Models Archiving at Community Coordinated Modeling Center: **M M Kuznetsova**, D Berrios, A Chulaki, M Hesse, P J MacNeice, M M Maddox, A Pulkkinen, L Rastaetter, A Taktakishvili

SM51C Moscone South: 305 Friday 0800h
Magnetospheric Plasma Waves: Generation, Propagation, and Interaction With Energetic Particles III

Presiding: **J M Albert**, Air Force Research Lab; **V Jordanova**

0800h **SM51C-01** Electron trapping in large amplitude whistlers: **P J Kellogg**, C A Cattell, L B Wilson

0814h **SM51C-02** Generation of Whistler Chorus Emissions and Resulting Wave-Particle Interactions: V Decyk, **D Schriver**, M Ashour-Abdalla, F V Coroniti, P M Travnicek, J D Winningham, J S Pickett, O Santolik, M L Goldstein

0828h **SM51C-03** Three-dimensional ray tracing of VLF waves in a magnetospheric environment containing a plasmaspheric plume (*Invited*): **L Chen**, J Bortnik, R M Thorne, R B Horne, V Jordanova

0846h **SM51C-04** Triggering of Whistler Fallers by a Nonlinear Absolute Instability (*Invited*): **M Lampe**, G Joyce, W Manheimer, G I Ganguli

0904h **SM51C-05** Nonlinear evolution of the EMIC waves in homogenous and inhomogeneous systems: **N Omid**, R M Thorne, J Bortnik

0918h **SM51C-06** Two-Dimensional Hybrid Code Simulation of Electromagnetic Ion Cyclotron Waves in a Dipole Magnetic Field: **Y Hu**, R E Denton

0932h **SM51C-07** Magnetospheric ULF Wave Power as a Function of Solar Wind Variations: **S R Elkington**, S G Claudepierre, M J Wiltberger

0946h **SM51C-08** Theory and Simulations of Interaction of Radiation Belt Electrons with MHD Waves: **A A Chan**, S R Elkington, X Tao, B Yu, B Keenan

Study of Earth's Deep Interior (DI)

DI51A Moscone West: 2003 Friday 0800h
Seismic Anisotropy and Geodynamics II (*joint with MR, S*)

Presiding: **E Kaminski**, IPG Paris; **K M Fischer**, Brown University

0800h **DI51A-01** Crustal and Mantle Deformation in the Aegean Region: Evidence From Seismic Anisotropy and Geodynamic Modelling: **S Lebedev**, B Endrun, C Tirel, T M Meier

0815h **DI51A-02** Formation and deformation of the Earth's inner core (*Invited*): **P CARDIN**, R Deguen

0830h **DI51A-03** Seismic anisotropy as an explanation of lowermost mantle reflectivity (*Invited*): **J Wookey**, J P Brodholt

0845h **DI51A-04** The importance of crustal corrections in global anisotropic modeling: **M P Panning**, V Lekic, B A Romanowicz

0900h **DI51A-05** Constraining Upper Mantle Azimuthal Anisotropy With Free Oscillation Data (*Invited*): **C Beghein**, J S Resovsky, R D van der Hilst

0915h **DI51A-06** Full Waveform Tomography for radially anisotropic structure: New insights into present and past states of the Australasian upper mantle: **A Fichtner**, B L Kennett, H Igel, H Bunge

0930h **DI51A-07** Constraining anisotropic viscosity in the upper mantle by models of asthenospheric shear localization: **E Lev**, B H Hager

0945h **DI51A-08** Structural reactivation in plate tectonics controlled by olivine crystals anisotropy (*Invited*): **A Tommasi**, M Knoll, A R Vauchez, J Signorelli, C Thoraval, R Logé

Seismology

S51A Moscone South: Poster Hall Friday 0800h
Predictive Power of Coulomb Stress II Posters (*joint with T, NH*)

Presiding: **D D Jackson**; **J D Zechar**, Lamont-Doherty Earth Observatory; **D Schorlemmer**, USC

0800h **S51A-1395 POSTER** Using stress shadows to invert for changes in local stress field: **C D Latimer**, K F Tiampo, J Rundle

0800h **S51A-1396 POSTER** Estimate of time-varying seismic hazard by a Coulomb stress model: **M Murru**, R Console, G Falcone

0800h **S51A-1397 POSTER** Possibility of viscoelastic stress transfer triggering of the 2007 Chuetsu-Oki earthquake by the 2004 Chuetsu earthquake, Japan: **I Cho**, R Ohtani, Y Kuwahara, Y Abe

0800h **S51A-1398 POSTER** Seismicity changes in Tohoku District before the 2008 Iwate-Miyagi Inland Earthquake: **T Kumazawa**, Y Ogata, S Toda

0800h **S51A-1399 POSTER** Time-dependent earthquake forecasting: Method and application to the Italian region: **C Chan**, M B Sorensen, G Grünthal, A Hakimhashemi, O Heidbach, D Stromeyer, C Bosse

0800h **S51A-1400 POSTER** Secular Stress Accumulation, Coulomb Stress Changes, and Clock Changes on Los Angeles Regional Faults: Preliminary Results: **S T Marshall**, M L Cooke

S51B Moscone South: Poster Hall Friday 0800h
Seismicity, Seismotectonics, and Hazard III Posters (*joint with T, NH*)

Presiding: **J Polet**, California State Polytechnic University, Pomona

0800h **S51B-1401 POSTER** Earthquake Scenarios of a Multi-Segment Fault Systems along the Itoigawa-Shizuoka Tectonic Line, Central Japan: **M Ishise**, H Miyake, K Koketsu, T Iwasaki

0800h **S51B-1402 POSTER** Compilation of Fault Slip Rates in Western United States: **S J Heller**, R McCaffrey

0800h **S51B-1403 POSTER** Preliminary investigation of factors affecting the seismic potential of the Bartlett Springs fault zone, northern California: **J J Lienkaemper**, J Brown

0800h **S51B-1404 POSTER** Active Faulting Along the Saddle Mountain fault zone, Southeast Olympic Mountains, WA: **E A Barnett**, B L Sherrod, H M Kelsey, J L Czajkowski, T J Walsh, T A Contreras, K Davis-Staunton, E R Schermer, R J Carson

0800h **S51B-1405 POSTER** Rapid Estimates of Rupture Extent for Large Earthquakes Using Aftershocks: **J Polet**, H K Thio, M Kremer

0800h **S51B-1406 POSTER** Moment Tensor Inversions of Earthquakes in the Eastern Mediterranean Region and their Tectonic Implications: **M Giveon**, Z Ben-Avraham, A Hofstetter

0800h **S51B-1407 POSTER** Recent Seismic Activity in Afsar-Bala (Ankara), Central Turkey: **D KALAFAT**, M Ocal, K Kekovali, L Gülen

0800h **S51B-1408 WITHDRAWN**

0800h **S51B-1409 POSTER** Seismicity and focal parameters of the coastal zone of Guerrero-Oaxaca states, Mexico and its relation with the seismic cycle: **A Zavaleta Ramos**, L Quintanar

0800h **S51B-1410 POSTER** Seismicity in the Central Andean Southern Puna Antofalla Gap: New Results from the Southern PUNA Passive Seismic Array: **C Chen**, S M Kay, E A Sandvol, L D Brown, B L Isacks, B Heit, B Coira, X Yuan

0800h **S51B-1411 POSTER** The 20th April 2005 Koryakia earthquake (Russia): a case of study for its aftershock seismic sequence: **D Caccamo**, L M Barbieri, C Lagana, P Francesco, S D'Amico

0800h **S51B-1412 POSTER** Spatial distribution of seismicity in the Northern Tien Shan: **A Kostuk**

0800h **S51B-1413 POSTER** Precise Location of the 2007 Odaesan Earthquake Sequence and its Tectonic Implications in Korea: **K Kim**, Y Park, S Kang, B Suk

0800h **S51B-1414 POSTER** Different features of fore- and aftershocks of three small earthquakes in South Korea: **I Hahm**, S Park

0800h **S51B-1415 POSTER** Study on the fault plane solutions of regional earthquakes in the region around the Korean Peninsula: **H Choi**, M Noh, T Hong, S Kim

0800h **S51B-1416 POSTER** A quantitative analysis of daily change of detection capability of earthquakes: investigation of the earthquake catalogue of Japan: **T Iwata**

0800h **S51B-1417 POSTER** Heterogeneity of stress field in and around the source area of the 2008 M7.2 Iwate-Miyagi Nairiku earthquake, NE Japan, inferred from the aftershock focal mechanisms: **K Yoshida**, T Okada, Y Ito, T Inuma, N Umino, A Hasegawa

0800h **S51B-1418 POSTER** Detailed hypocenter distribution and velocity structure in the western Nagano Prefecture, central Japan, using dense array data: **I Doi**, S Noda, Y Iio, S Horiuchi, S Sekiguchi

0800h **S51B-1419 POSTER** Towards Automated Seismic Moment Tensor Inversion in Australia Using 3D Structural Model: M Hingee, **H Tkalcic**, A Fichtner, M Sambridge, B L Kennett, A Gorbатов

0800h **S51B-1420 POSTER** Focal Depth Accuracy of Earthquakes Beneath Sedimentary Basins: Cases study of the 2009 M4.7 Inglewood Earthquake Sequence Beneath the Los Angeles Basin and the 2006 M5 WenAn Earthquake Beneath the Bohai Basin: **Y Luo**, X Zeng, S Ni, E Hauksson, Z Zhan, Y Chen, D V Helmberger

0800h **S51B-1421 POSTER** Hypocentral Relocations of the 2008 Mt. Carmel, Illinois Aftershock Sequence: **K Shoemaker**, M W Hamburger, G L Pavlis, S P Horton, M M Withers

0800h **S51B-1422 POSTER** Seismic characteristics of recent eruptions of Bezymianny Volcano: **O George**, W A Thelen, M E West, H Buurman

0800h **S51B-1423 POSTER** Is there a relation between b-values and asperities?: **Y Yui**, J J Mori

0800h **S51B-1424 POSTER** Transitional increment of scaled energy in the 2005 West Off Fukuoka seismic sequence: Evidence for non-self-similar earthquake source scaling: **S Yoo**, J Rhie

0800h **S51B-1425 POSTER** Uncertainties and resolution limits of spectral source property estimation: B Edwards, **B Allmann**, N Deichmann

0800h **S51B-1426 POSTER** Dynamic Stress Drop Calculations in South-Central Alaska: **O M Romero**, D I Doser

0800h **S51B-1427 POSTER** IDENTIFICATION OF TEMPORAL SPECTRAL ATTRIBUTES OF SEISMIC RECORDS BY MEAN OF JOINT TIME-FREQUENCY SPECTRAL DECOMPOSITION: **C I Huerta-Lopez**, F M Upegui-Botero, J A Martínez-Cruzado

0800h **S51B-1428 POSTER** Precursory Swarms of Moderate-sized Earthquakes in Eastern Taiwan: **R Rau**, S Hsu

0800h **S51B-1429 POSTER** Earthquake Forecasting in Northeast India using Energy Blocked Model: **A K Mohapatra**, D K Mohanty

0800h **S51B-1430 POSTER** Did the past underground nuclear explosions mitigate earthquakes that otherwise could be stronger?: **K Tomabechi**, E Velikhov

S51C Moscone South: Poster Hall Friday 0800h
The Debate on the Extent to Which Static or Dynamic Stresses Trigger Earthquakes I Posters (*joint with T*)

Presiding: **K H Chen**, National Taiwan Normal Univ.; **Z Peng**, Georgia Institute of Technology

0800h **S51C-1431 POSTER** Testing earthquake nucleation models from the response of Himalayan seismicity to secular and periodic stress variations: **T J Ader**, J Avouac

0800h **S51C-1432 POSTER** Quasi-dynamic earthquake fault systems with rheological heterogeneity: **G B Brietzke**, S Hainzl, G Zoeller, M Holschneider

0800h **S51C-1433 POSTER** Lack of Dependence of Dynamic Triggering on the Timing within the Seismic Cycle: **C Cattania**, J J McGuire, J A Collins

0800h **S51C-1434 POSTER** Poroelastic triggering in the January 9-22, 2008 Nima-Gaize (Tibet) earthquake sequence: **J He**, G Peltzer

0800h **S51C-1435 POSTER** Dynamic Stress Modeling Applied to Dynamic Triggering Seismicity in Australia and Utah: **H Gonzalez-Huizar**, A A Velasco, K L Pankow

0800h **S51C-1436 POSTER** Correlation between the dCFF caused by large historical earthquakes and recent seismic activities: **T Ishibe**, K Shimazaki, H Tsuruoka, K Satake

0800h **S51C-1437 POSTER** Stress change due to the 2005 Miyagi-Oki earthquake and stress field of the Miyagi-Oki region: **K Suzuki**, R Hino, Y Ito, T Kanazawa, T Yamada, M Shinohara, K Uehira, Y Yamamoto, Y Kaneda

0800h **S51C-1438 POSTER** Triggered Earthquakes and Earthquake Interactions: the role of the focal mechanisms: **M Tahir**, J R Grasso

0800h **S51C-1439 POSTER** PFLOW: A 3-D Numerical Modeling Tool for Calculating Fluid-Pressure Diffusion from Coulomb Strain: **L W Wolf**, M Lee, A Meir, G Dyer, K Ma, C Chan

0800h **S51C-1440 WITHDRAWN**

0800h **S51C-1441 POSTER** Remotely triggered seismicity in Continental China: T Jiang, **Z Peng**, W Wang, Q Chen, C Wu

0800h **S51C-1442 POSTER** Activity change of deep slow earthquakes before megathrust earthquakes: A new tool for detecting preseismic slip: **K Ariyoshi**, J P Ampuero, T Hori, R Nakata, Y Kaneda, T Matsuzawa, A Hasegawa, R Hino

0800h **S51C-1443 POSTER** The July 2009 flurry of $3 \leq M < 6$ seismicity across Taiwan, and its possible relationship to coseismic and postseismic stresses imparted by the 1999 M=7.6 Chi-Chi earthquake: R S Stein, **C Chan**

0800h **S51C-1444 POSTER** Stress triggering in en echelon thrust ruptures and related tear faults: The 2003 M=6.9 Zemmouri, Algeria, earthquake and fault interactions: **J Lin**, R S Stein, M Meghraoui, S Toda, A Ayadi, C Dorbath, S Belabbes

0800h **S51C-1445 POSTER** Coulomb Stress evolution and seismic hazard along the Xianshuihe-Xiaojiang Fault Zone of Western Sichuan, China: **B Shan**, X Xiong, Y Zheng

0800h **S51C-1446 POSTER** Triggering Effect of 2004 M6 Parkfield Event on Earthquake Cycle of Small Repeating Events: R Burgmann, **K H Chen**, R M Nadeau

0800h **S51C-1447 POSTER** Electric Triggering of Crack Formations in the Fault for Release of Tectonic Stresses: **V Novikov**, V Zeigarnik, Y Konev, V Rickman

0800h **S51C-1448 POSTER** Change of static stress fields from earthquake rupture in heterogeneous crustal structure: **T Miyatake**, S Tone, K Hikima, A Kato

0800h **S51C-1449 POSTER** Spatiotemporal distribution on swarm earthquakes and induced crustal deformation in Hualien, Taiwan: **K Lin**, J Hu, T Shin, L Kuo, W Hsiao

0800h **S51C-1450 POSTER** Search for response of seismicity to static and dynamic stresses imparted by the 1999 M=7.4 Izmit and M=7.1 Duzce, Turkey, earthquakes: Seismicity rate rapidly decayed at Izmit but remains high at Duzce; remote dynamic effects not detected: **V Sevilgen**, R S Stein

0800h **S51C-1451 POSTER** A World That Includes Both Dynamic and Static Stress Changes: **R Harris**

S51D Moscone West: 2005 Friday 0800h
Marine Seismology and Bottom Interacting Ocean Acoustics I (*joint with OS, T*)

Presiding: **RA Stephen**, WHOI; **W S Wilcock**

0800h **S51D-01** Atmosphere -> Ocean Waves -> Seismic Signals: Solid Earth - Climate Connections (*Invited*): **P D Bromirski**

0815h **S51D-02** Seafloor topography, ocean infragravity waves and background Love and Rayleigh waves: **Y Fukao**, K Nishida, N Kobayashi

0830h **S51D-03** Complex Imaging with wide azimuth data (*Invited*): **J Kapoor**, N Moldoveanu, D Vigh

0845h **S51D-04** EXPLOITING REAL TIME DATA FROM THE MONTEREY OCEAN FLOOR BROADBAND OBSERVATORY (MOBB): **B A Romanowicz**, T Taira, D Dolenc, P R McGill, D S Neuhauser

0900h **S51D-05** The NEPTUNE Canada Seismograph Network: **G C Rogers**, R Meldrum, R Baldwin, A Rosenberger, T Mulder

0915h **S51D-06** Advances in Over-Sea-Ice Seismic Reflection Surveys: **M A Speece**, S F Pekar, B P Williams, D A Sunwall, S M Alesandrini, R H Hein

0930h **S51D-07** OBS records of Whale vocalizations from Lucky-strike segment of the Mid-Atlantic Ridge during 2007-2008: **A Chauhan**, A Rai, S C Singh, W C Crawford, J Escartin, M Cannat

0945h **S51D-08** Toward better accuracy for measurement of ocean bottom crustal deformation: **R Ikuta**, K Tadokoro, S Sugimoto, T Watanabe, T Okuda, K Sayanagi, M Ando

Tectonophysics

T51A Moscone South: Poster Hall Friday 0800h
Changes in Plate Tectonic Motions and Conservation of Angular Momentum Posters

Presiding: **C O Bowin**, Woods Hole Ocean.Inst.; **E Calais**, Purdue University

0800h **T51A-1487 POSTER** Central South Atlantic kinematics: a 3D ocean basin-scale model of the Walvis Ridge and Rio Grande Rise: **D E Bird**, S A Hall

0800h **T51A-1488 POSTER** Development of Stokes flow solver against a large contrast in viscosity: toward plate-mantle simulation with free surface: **M Furuichi**

0800h **T51A-1490 POSTER** The Mid-Rivera-Transform Discordance: Slow Adjustment to Changing Plate Motions: **W L Bandy**, F Michaud, C A Mortera-Gutierrez

0800h **T51A-1492 POSTER** STRUCTURAL MODEL OF THE PANAMA - NORTH ANDES PLATE BOUNDARY ZONE FROM REMOTE SENSING, GEOLOGIC MAPPING AND SEISMIC TOMOGRAPHY: **O Hernandez**, G Vargas, L A Montes, J C Molano, A Kammer, L A Briceño, C A Vargas-Jimenez

0800h **T51A-1493 POSTER** Stream Length Gradient Responses to Active Structural Deformation in Northeastern Russia: **B G Johnson**, K G Mackey, B A Hampton, K Fujita, C MacDonald, M A Malkowski

0800h **T51A-1494 POSTER** Arctic Tectonic Puzzles: The Makarov Basin, Marvin Spur, and the Lomonosov Ridge: **J R Hopper**, T Funck, C Marcussen, H R Jackson, J Shimeld

0800h **T51A-1495 POSTER** Motion Between the Indian, African and Antarctic Plates in the Early Cenozoic: **S C Cande**, P Patriat, J Dymant

0800h **T51A-1496 POSTER** Earth's Decelerating Tectonic Plates (*Invited*): **A M Forte**, R Moucha, D B Rowley, S Quere, J X Mitrovica, N A Simmons, S P Grand

0800h **T51A-1497 POSTER** Changes in Plate Motion During Quaternary and Neogene Time (*Invited*): **R G Gordon**, C DeMets, D Argus, J Royer

0800h **T51A-1498 POSTER** Changing Plate Motions: Is the Mantle an Active or Passive Accomplice? (*Invited*): **S D King**, J P Lowman, E Calais, L M Flesch

0800h **T51A-1499 POSTER** Relating rapid plate-motion variations to plate-boundary forces in global coupled models of the mantle/lithosphere system: Effects of topography and friction (*Invited*):

H Bunge, G Iaffaldano

0800h **T51A-1500 POSTER** Deep Earth Structure, plate acceleration, and conservation of angular momentum: **C O Bowin**

0800h **T51A-1501 POSTER** Do transform faults parallel plate motion?: **J K Mishra**, R G Gordon, C DeMets, D Argus

0800h **T51A-1502 POSTER** Current plate motions relative to the hotspots consistent with the MORVEL global set of plate relative angular velocities: **L Zheng**, R G Gordon, C DeMets, D Argus

0800h **T51A-1503 POSTER** The Displacement Rate Across the Pacific Plate due to Horizontal Thermal Contraction: **R G Gordon**, J K Mishra

0800h **T51A-1504 POSTER** Global mantle flow at ultra-high resolution: The competing influence of faulted plate margins, the strength of bending plates, and large-scale, nonlinear flow: **L Alisic**, M Gurnis, G Stadler, C Burstedde, L C Wilcox, O Ghattas

T51B Moscone South: Poster Hall Friday 0800h
Moho, Lithosphere, and Upper Mantle Structure Beneath Europe: What Have We Learned in 100 Years? III Posters (*joint with MR, NS, S, V*)

Presiding: **M Herak**, Faculty of Sciences; **H Tkalcic**, The Australian National University

0800h **T51B-1505 POSTER** Surface wave tomography of the European upper mantle and its relationship to tectonics: **J A Barron**, K F Priestley, E Debayle, D P McKenzie

0800h **T51B-1506 POSTER** Joint Inversion of P- and S-wave Receiver Functions and Dispersion Velocities in Europe: **J Julia**, S E Hansen, A Nyblade

0800h **T51B-1507 POSTER** A new rheological model of the European lithosphere: **M Tesauero**, M K Kaban, S Cloetingh

0800h **T51B-1508 POSTER** Three-Dimensional P- and S-velocity Structures and Radial Anisotropy in the Mantle along the Tethyan Margin: M P Flanagan, **S Chang**, S van der Lee, H Bedle, E Matzel, M E Pasyanos, F Marone, B A Romanowicz, C Schmid, A J Rodgers

0800h **T51B-1509 POSTER** Delineating Crustal Deformation by Onshore/Offshore Seismic Experiments in the Backstop Region of the Mediterranean Ridge: **J E Papoulia**, J Makris

0800h **T51B-1510 POSTER** Effects of Ridge Geometry on Mantle Dynamics in the Azores Triple Junction Region: Constraints From Observational Data and Numerical Modeling: **J E Georgen**, R Sankar

0800h **T51B-1511 POSTER** Geophysical modelling of the lithosphere-asthenosphere boundary beneath the Atlantic-Mediterranean Transition Region: integrating potential field, surface heat flow, elevation, seismological and petrological data: **J Fulla**, M Fernández, J Afonso, J Verges, H J Zeyen

0800h **T51B-1512 POSTER** Crustal Structure in Greenland Using Surface Wave Group Velocities: **G Joyal**, F A Darbyshire, T Dahl-Jensen, T Larsen, P Voss

0800h **T51B-1513 POSTER** Analysing Sedimentary and Crustal Structure in North Greenland with Receiver Functions: **T Dahl-Jensen**, P Voss, T Larsen

0800h **T51B-1514 POSTER** THE MOHO BOUNDARY AND THE HIDDEN CRUSTAL ROOT BENEATH THE LAPLAND-KOLA OROGEN IN NORTHERN FENNOSCANDIA: MULTIDISCIPLINARY ANALYSIS: **E Kozlovskaya**, T Janik, H K Silvennoinen

0800h **T51B-1515 POSTER** Preliminary constraints on crustal thickness, Vp/Vs, and lithospheric structure across the southern Scandes, Norway from receiver functions: **A M Frassetto**, H Thybo

0800h **T51B-1516 POSTER** 3-D crustal velocity model for Lithuania and its application to local event studies: **M Budraitis**, E Kozlovskaya, I Janutyte, G Motuza

0800h **T51B-1517 POSTER** Ambient Noise Tomography of the British Isles: **H J Nicolson**, A Curtis, B Baptie

0800h **T51B-1518 POSTER** LITHOSPHERIC STRUCTURE OF THE CARPATHIAN-PANNONIAN REGION BASED ON THE GRAVITY MODELING BY INTEGRATING THE CELEBRATION2000 SEISMIC EXPERIMENT AND NEW GEOPHYSICAL RESULTS: **M Bielik**, Z Alasonati Ta šárová, H J Zeyen, J Afonso, H Goetze, J Déderová

0800h **T51B-1519 POSTER** Thermally induced stresses beneath the Vrancea area, Integrated research on the intermediate depth earthquake genesis within Vrancea zone: **V Manea**, M Manea

0800h **T51B-1520 POSTER** Structure of the Lithosphere Beneath Croatia Determined from Broadband Radial Receiver Functions: **M Herak**, H Tkalcic, J Stipevic, S Markusic, D Herak

0800h **T51B-1521 POSTER** 100 Years of Studies of the Crust and Upper Mantle in Croatia: **D Herak**, M Herak, H Tkalcic

0800h **T51B-1522 POSTER** Structure of the Lithosphere Beneath Macedonia From Teleseismic Receiver Functions: S Petkovski, **H Tkalcic**, L Pekevski

0800h **T51B-1523 POSTER** An overview on geophysical structures in the Eastern Alps revealed by recent seismic experiments: **M Behm**, E P Brueckl, M Grad

0800h **T51B-1524 POSTER** A Surface-Wave Study of Structure and Anisotropy of Tuscany: P Keogh, J Adam, **S Lebedev**

0800h **T51B-1525 POSTER** The active deep mountain front of Northern Apennines (Italy): seismicity and geomorphology: **A Ponza**, S Pondrelli, V Picotti, F J Pazzaglia

0800h **T51B-1526 POSTER** The Crust Mantle Transition Beneath the Variscan Domain of the Iberian Peninsula: **R Carbonell**, J Díaz, D Brown, I Palomeras, D Martí, P Ayarza, J Afonso, F Simancas, A Perez-Estaun, J Gallart

0800h **T51B-1527 POSTER** Results from the NEAREST-SEIS deep seismic cruise across the Gulf of Cadiz accretionary wedge: A Gailler, **M Gutscher**, D Graindorge, V Sallares, R Bartolome, E Gracia

0800h **T51B-1528 POSTER** Neotectonics in the Neogene Sorbas Basin (Southeastern Spain): **P LACAN**, Y Hervouet, D Dhont, B Nivhire, G Messenger, C Bonnel, J Xavier

0800h **T51B-1529 POSTER** WESTERN IBERIAN PENINSULA SHALLOW STRUCTURE AS REVEALED BY AMBIENT NOISE SURFACE WAVE TOMOGRAPHY: N A Dias, **M M Silveira**, A Villasenor

0800h **T51B-1530 POSTER** Effects of the Representation of the Crustal Structure on Seismic Wave Propagation Modeling on the Continental Scale: **I Molinari**, M Kaeser, A Morelli

0800h **T51B-1531 POSTER** LAB as Boundary Between Fossil and Present-day Mantle Seismic Anisotropy: **J Plomerova**, V Babuska

0800h **T51B-1532 POSTER** The Fine Scale Structure of Upper Continental Lithosphere from Seismic Waveform Methods: Insights into Phanerozoic Crustal Formation Processes: **B M O'Reilly**, F Hauser, P W Readman

T51C Moscone South: Poster Hall Friday 0800h
Seismotectonics of the Arabian Plate and Its Boundaries I
Posters (joint with G, S, NH)

Presiding: D V Manjunath, University of Hawaii Manoa

0800h **T51C-1533 POSTER** The Arabia-India plate boundary unveiled: **M Fournier**, N R Chamot-Rooke, M Rodriguez, C Petit, P Huchon, M Beslier, B Hazard

0800h **T51C-1534 POSTER** Present-day kinematics of the Arabia-Eurasia collision zone and some possible implications for lithospheric dynamics (*Invited*): **R E Reilinger**, S McClusky, P Vernant, S Ergintav, F Kadirov, R Safarov, R Stepanyan, M Kachakhidze, T Guseva, N Rosenberg

0800h **T51C-1535 POSTER** Interferometric Synthetic Aperture Radar (InSAR) imaging of crustal deformation associated with the May 2009 earthquake sequence in northwestern Saudi Arabia: **F G Gomez**, C Abdallah, B Bollin, W Cochran

0800h **T51C-1536 POSTER** Gravity verification of 3-D crustal structure (CRUST2) for the Eastern Mediterranean: **M Rybakov**

0800h **T51C-1537 POSTER** Eastern Termination of the Subducting African Lithosphere Beneath Anatolia Imaged by Teleseismic P-Wave Tomography: **C B Biryol**, G Zandt, S L Beck, A Ozacar, B Schmandt

0800h **T51C-1538 POSTER** Crustal Velocity Structure of Turkey from Ambient Noise Tomography: **L M Warren**, S L Beck, C B Biryol, G Zandt, A Ozacar, Y Yang

0800h **T51C-1539 POSTER** An Investigation of Anatolian-African Subduction Zone in Southwestern Aegean: Lithospheric Structure Beneath Isparta Angle (IA) and the Surroundings from Surface Wave Tomography: **U M Teoman**, E A Sandvol, N Turkelli

0800h **T51C-1540 POSTER** Characterization of Source Mechanisms in the Middle East: Comparisons between 1D and 3D Methodologies: **B M Covellone**, B Savage, D B Peter, J Tromp, A J Rodgers

0800h **T51C-1541 POSTER** Validating a Caspian/Caucasus velocity model with 3D finite difference synthetic seismograms: **R Gok**, R J Mellors, A J Rodgers

0800h **T51C-1542 POSTER** Active tectonics of the Qom region, Central Iran: **J Hollingsworth**, M Fattahi, J A Jackson, M Talebian, H Nazari, A Bahroudi

0800h **T51C-1543 POSTER** Earthquake deformation in the Zagros Simply Folded Belt (Iran) from radar interferometry and local seismic data: **E Nissen**, J A Jackson, F Yamini-Fard, M Tatar, M Roustaei, A Gholamzadeh, B Parsons

0800h **T51C-1544 POSTER** Along-strike variation in the formation of the Greater Caucasus and Kura fold-thrust belt: Insights from the stratigraphy of the Kura Basin, Azerbaijan: **A M Forte**, E Cowgill, I Murtuzayev

0800h **T51C-1545 POSTER** Zircon U-Pb age and Hf isotopic constraints on the Late Paleozoic magmatism and crustal evolution in the Caucasus: **H Chiu**, S Chung, D M Shengelia, F Wu, W Chen, B Huang, Z Javakhishvili, L Xie

0800h **T51C-1546 POSTER** Anatolian Plateau Uplift Along the Southern Central Margin from Structural Analysis, CRN Dating, and Low-Temperature Thermochronology: **T F Schildgen**, C Yildirim, M R Strecker, H P Echtler, P Copeland

0800h **T51C-1547 POSTER** Exhumation with a twist: paleomagnetic constraints on the evolution of the Menderes metamorphic core complex (western Turkey): **D J Van Hinsbergen**, M J Dekkers, E Bozkurt, M Koopman

0800h **T51C-1548 POSTER** Integrating lawsonite bearing eclogite and blueschist into the structural evolution of the Sivrihisar massif: **P B Davis**

0800h **T51C-1549 POSTER** Late Neogene and Active Tectonics along the Northern Margin of the Central Anatolian Plateau, TURKEY: **C Yildirim**, T F Schildgen, D Melnick, H P Echtler, M R Strecker

0800h **T51C-1550 POSTER** Crustal structure of the Dead Sea Basin (DSB) from a receiver function analysis: **A Mohsen**, G Asch, J Mechie, R Hofstetter, R Kind, M H Weber, K Abu-Ayyash

0800h **T51C-1551 POSTER** Fine scale fault structure and kinematics in the Zofar basin, Wadi Arava: Reevaluation of high-resolution reflection seismology: **B J Medvedev**, A Agnon

0800h **T51C-1552 POSTER** High-resolution inter-basin chronology of Holocene paleoseismic events at the Dead Sea Basin: **E J Kagan**, M Stein, A Agnon, F Neumann, C Bronk-Ramsey

0800h **T51C-1553 POSTER** Earthquake prediction on boundaries of the Arabian Plate: premonitory chains of small earthquakes: M Yaniv, **A Agnon**, P Shebalin

T51D Moscone West: 2009 Friday 0800h
Evolution of the Caribbean Plate: Linking Its Tectonic, Magmatic, Metamorphic, and Stratigraphic Records I (*joint with GP, S, V*)

Presiding: **U Martens**, Stanford University; **R D Rogers**, Cal. State Univ. Stanislaus

0800h **T51D-01** Mantle plume or slab window?: Physical and geochemical constraints on the origin of the Caribbean oceanic plateau (*Invited*): **A C Kerr**, A Hastie

0815h **T51D-02** Middle Jurassic – Early Cretaceous rifting on the Chortis Block in Honduras: Implications for proto-Caribbean opening (*Invited*): **R D Rogers**, P A Emmet

0830h **T51D-03** Eclogites and related metamorphism in the North America-Caribbean plate boundary: An example from the Motagua fault zone, Guatemala (*Invited*): **T Tsujimori**, G A Hernandez Pineda

0845h **T51D-04** Life Cycle of Mantle Plumes: A perspective from the Galapagos Plume (*Invited*): **E Gazel**, C T Herzberg

0900h **T51D-05** Evidence for subduction of upper plate serpentinite at the western edge of the Caribbean plate: **M D Tryon**, C G Wheat, D R Hilton

0910h **T51D-06** Geochemistry and geochronology of Tobago Island: a preliminary re-appraisal: **I Neill**, A C Kerr, A W Snoke, A Hastie, J L Pindell, K Chamberlain, I L Millar

0920h **T51D-07** Integrated Provenance Studies in Northwestern South America, Linking Tectonic and Sedimentary Processes: **C Montes**, A Cardona, V O Ramirez, G Bayona, C Ayala, V Valencia

0930h **T51D-08** An evaluation of Neogene tectonic reconstructions for the eastern Caribbean using tomography: **S van Benthem**, R M Govers, W Spakman

0940h **T51D-09** Finite-Frequency Tomographic Images of Subducting Slabs in the Southeast Caribbean: **M J Bezada**, A Levander, B Schmandt

0950h **T51D-10** Nature of crustal terranes and the Moho in northern Costa Rica: **L Linkimer**, S L Beck, S Y Schwartz, G Zandt, V L Levin

T51E Moscone West: 2011 Friday 0800h
Fault Zone Weakening and Reactivation Processes I (*joint with S*)

Presiding: **K J McCaffrey**, Durham University; **A R Niemeijer**, Istituto Nazionale di Geofisica e Vulcanologia

0800h **T51E-01** Dynamically Weak Faults During Earthquakes (*Invited*): **G Di Toro**, R Han, T Hirose, N De Paola, S B Nielsen, K Mizoguchi, F Ferri, M Cocco, T Shimamoto

0815h **T51E-02** 3D simulations of seismic and aseismic fault slip with evolving temperature and pore pressure: Interaction of two fault segments and low interseismic shear stress (*Invited*): **H Noda**, N Lapusta

0830h **T51E-03** Frictional Behaviour of Weak Phyllosilicate-Rich Fault Rocks: Powdered vs. Solid Foliated Samples: **C Collettini**, A Niemeijer, C Viti, C Marone

0845h **T51E-04** Talc-Bearing Fault at Coseismic Velocities: an Attempt to explain the San Andreas Fault Behavior: S Boutareaud, T Hirose, **M Doan**, M Andreani, D Calugaru

0900h **T51E-05** Fault Zone Strengthening and Tectonic Reactivation (*Invited*): **C Marone**

0915h **T51E-06** A continuum mechanics approach to quantify brittle strain on weak faults: application to the extensional reactivation of shallow-dipping discontinuities: **E Lecomte**, L Le Pourhiet, O Lacombe, L Jolivet

0930h **T51E-07** Numerical Model for the Development of Complex Fault Configuration in the Mid-Niigata Region by Considering an Ancient Rift Structure: **B Shibazaki**, A Kato

0945h **T51E-08** The Role of the Mantle on Structural Reactivation at the Plate Tectonics Scale (*Invited*): **A R Vauchez**, A Tommasi

T51F Moscone West: 2007 Friday 0800h
Topography and Mantle Processes II (*joint with S, EP*)

Presiding: **D A Foster**, University of Florida; **J D Pelletier**, University of Arizona; **R M Russo**, University of Florida

0800h **T51F-01** Mechanisms for late Miocene surface uplift of the Altiplano plateau (*Invited*): **G D Hoke**, C N Garzone

0820h **T51F-02** Eroding dynamic topography (*Invited*): **J Braun**, R Moucha, A M Forte

0840h **T51F-03** Is dynamic topography driving landscape evolution in central Rocky Mountains? (*Invited*): **C A Riihimaki**

0900h **T51F-04** Dynamic uplift of the Colorado Rockies and western Colorado Plateau in the last 6 Ma driven by mantle flow and buoyancy: Evidence from the Colorado River region: **K E Karlstrom**, D D Coblenz, W B Ouimet, E Kirby, J W van Wijk, B Schmandt, L J Crossey, R Crow, S Kelley, R E McKeon, A Aslan, A L Darling, K G Dueker, R C Aster, G D Lazear, D R Hilton

0915h **T51F-05** TOPOAFRICA project: reconstruction and quantification of the past topography of Africa over the last 250 My: **F Guillocheau**, J Braun, S Bourquin, K Gallagher, O Dauteuil, C Robin, D Rouby, J Tiercelin, D Chardon, Y Godderis, S Rousse, A Bauvais, D Frizon de la Motte, P Leturmy, Y Donnadieu

0930h **T51F-06** Modelling Subduction Dynamics: The South American Salsa: **A J Hale**, G Shephard, D Müller, L Liu, M Gurnis

0945h **T51F-07** Estimates of the minimum 3-D stress in the lithosphere needed to support global topography: **K M Luttrell**, D T Sandwell

Volcanology, Geochemistry and Petrology

V51A Moscone South: Poster Hall Friday 0800h
Bridging Field, Geochemistry, and Physical Models to Better Understand the Evolution of Crustal Magma Reservoirs and the Generation of Differentiated Melts IV Posters

Presiding: **O Bachmann**, University of Washington; **C Huber**, Georgia Institute of Technology

0800h **V51A-1631 POSTER** Thermal evolution of magma reservoirs in the shallow crust and incidence on magma differentiation: the St-Jean-du-Doigt layered intrusion (Brittany, France): **M Barboni**, F Bussy, M Ovtcharova, B Schoene

0800h **V51A-1632 POSTER** The mafic – granitic connection of the Torres del Paine laccolith, Patagonia: **J Leuthold**, O Muntener, L Baumgartner, B Putlitz, M Ovtcharova, U Schaltegger, M Chiaradia

- 0800h **V51A-1633** *POSTER* Hornblende fractionation and peraluminous tonalite: An example of the Chelan Complex, Washington Cascades, USA: **M Dessimoz**, O Muntener
- 0800h **V51A-1634** *POSTER* Magmatic evolution of the Sahwave intrusive suite: **N J Van Buer**, E L Miller
- 0800h **V51A-1635** *POSTER* Geochemical Investigation of Saddlebag Lake Roof Pendant and Lee Vining Intrusive Suite Origins: **A Wonderly**, J Canchola, K D Putirka
- 0800h **V51A-1636** *POSTER* The Geochronology and Geochemistry of Caldera-related Plutons in the Southern Rocky Mountain Volcanic Field: Insight into the Volcanic-plutonic Connection: **M J Zimmerer**, R D Mills, M J Tappa, W C McIntosh, D S Coleman
- 0800h **V51A-1637** *POSTER* Geochemistry and petrogenetic significance of sphene: evidence from the Miocene Highland Range volcanic sequence, southern Nevada: **L L Colombini**, C F Miller, G A Gualda, J Wooden, J S Miller
- 0800h **V51A-1638** *POSTER* A comparison of petrogenetic records from volcanic and plutonic segments of the linked River Mountains volcanic suite and Wilson Ridge pluton: **D K Honn**, E I Smith, A C Simon
- 0800h **V51A-1639** *POSTER* Using differential absorption radiography and acid dissolution to determine crystal size distributions of zircons: Methods and application to volcano-pluton connections in the Searchlight Magmatic System (Nevada): **M R Hall**, A Pamukcu, G A Gualda, C F Miller, M L Rivers
- 0800h **V51A-1640** *POSTER* Construction of a calc-alkaline pluton by repeated injection of mafic sheets into an intermediate-felsic magma chamber – an example from New Zealand: **R E Turnbull**, S Weaver
- 0800h **V51A-1641** *POSTER* Continental arc dynamics: a plutonic-volcanic marriage in New Zealand: **C D Deering**, R E Turnbull, O Bachmann
- 0800h **V51A-1642** *POSTER* Preliminary Results of a Magnetotelluric survey of the Tongariro Volcanic System: New Zealand: **H M Bibby**, **G J Hill**, S Bennie, T G Caldwell, H Keys
- 0800h **V51A-1643** *POSTER* Evolution of rhyolitic magmas in the crustal magmatic system beneath the Taupo Volcanic Zone, New Zealand: **E R Johnson**, V Kamenetsky, J McPhie, P J Wallace
- 0800h **V51A-1644** *POSTER* The magmatic evolution of the Whakamaru supereruption constrained by microanalytical study of plagioclase and quartz: **K Saunders**, D J Morgan, J Baker, R Wysoczanski
- 0800h **V51A-1645** *POSTER* The use of zircon crystals as tracers for pre-eruptive magmatic processes at Cerro Galán caldera, NW Argentina: **C B Folkes**, S L de Silva, A K Schmitt, R A Cas
- 0800h **V51A-1646** *POSTER* Geochemical, and Sr-Pb-Th isotope constraints on magma evolution 103 to 36 ka at Volcán Santa María-Santiago, Guatemala: **K E Smith**, B S Singer, B Jicha, C Johnson, B Beard, N W Rogers
- 0800h **V51A-1647** *POSTER* Pre-eruptive thermal rejuvenation and limited mass recharge in large silicic, crystal-rich magma bodies: the case of the Masonic Park Tuff, Southern Rocky Mountain volcanic field, CO: **C L Plummer**, O Bachmann, M A Dungan
- 0800h **V51A-1648** *POSTER* A Multi-Component Geochemical Study of Short-Term Melt and Volatile Evolution in the Kamchatka Volcanic Arc: **T M Kayzar**, B K Nelson, M K Reagan, P E Izbekov, M Belousova
- 0800h **V51A-1649** *POSTER* Disequilibrium processes in a mineralised porphyry system: a possible source for Cu-Au mineralisation in the Baguio district, northern Luzon, Philippines: **M J Baker**, G Sweet, P N Hollings, D R Cooke, P J Waters
- 0800h **V51A-1650** *POSTER* Two-Stage Magma Mixing and Initial Phase of the 1667 Plinian Eruption of Tarumai Volcano: **A Tomiya**, S Takeuchi
- 0800h **V51A-1651** *POSTER* Magma feeding system of Kutcharo and Mashu calderas, Hokkaido, Japan: Evidence of a common basaltic magma evolving into two distinct rock series: **I Miyagi**, J Itoh, H Nguyen
- 0800h **V51A-1652** *POSTER* Geologic Map and Eruptive History of Veniaminof Volcano Record Aleutian Arc Processing of Mantle-Derived Melts: **C R Bacon**, T W Sisson, A T Calvert, C J Nye
- 0800h **V51A-1653** *POSTER* Trace element signatures in quartz reveal crystallization histories of Katmai magmas: a combined electron microprobe/cathodoluminescence study: **A L Payne**, J C Eichelberger
- 0800h **V51A-1654** *POSTER* Geochemically Distinct Lavas from Overlapping Arc Front Volcanoes Drawing from a Common Parent, Eastern Aleutian Arc: **M Mangan**, T P Miller, C F Waythomas, F Trusdell, A T Calvert, P W Layer
- 0800h **V51A-1655** *POSTER* Deducing Rhyolite Origins in Keweenaw Magmas - Geochemical Correlations With Flood Basalts, Mamainse Point, ON: **T P Matthews**, T O Rooney
- 0800h **V51A-1656** *POSTER* Thermal History of the Bandelier Magmatic System: Evidence for Magmatic Injection and Recharge at 1.61 Ma as Revealed by Cathodoluminescence and Titanium Geothermometry: **M E Campbell**, **J B Hanson**, W G Minarik, J Stix
- 0800h **V51A-1657** *POSTER* Oxygen-isotope composition of Quaternary rhyolitic and basaltic lavas in the southern Owens Valley and Kern Plateau, CA: **J A Vazquez**, I N Bindeman, B L Browne
- 0800h **V51A-1658** *POSTER* Magma evolution during the last 23 ky at Popocatepetl Volcano: insights from Sr, Nd, and Pb isotopes in plagioclase, pyroxene and pumice matrix: **G Sosa**, J E Gardner, J C Lassiter
- 0800h **V51A-1659** *POSTER* Magma Plumbing System of Baru Volcano From Deep to Shallow Crust: **P J Hidalgo**, T O Rooney
- 0800h **V51A-1660** *POSTER* Melting and magmatism on the Askja volcanic system, North Iceland, during the 1875 eruptive episode: **M E Hartley**, T Thordarson, J G Fitton
- 0800h **V51A-1661** *POSTER* Using Zircon to Reconstruct the Magmatic History of Icelandic Rhyolite: **T L Carley**, C F Miller, J L Wooden, A P Barth
- 0800h **V51A-1662** *POSTER* Ankaramitic Lavas and Clinopyroxene Megacrysts From the Tanganasoga Volcano, El Hierro Island (Canary Archipelago): **M Longpre**, V Troll, T H Hansteen, E Anderson
- 0800h **V51A-1663** *POSTER* MAGMA STORAGE AND ASCENT AT LIPARI ISLAND (AEOLIAN ARCHIPELAGO, SOUTHERN ITALY) DURING THE OLD STAGES (223-81 KA): ROLE OF CRUSTAL PROCESSES AND TECTONIC INFLUENCE: **C Di Martino**, M Frezzotti, F Lucchi, A Peccerillo, C A Tranne, L Diamond
- 0800h **V51A-1664** *POSTER* The Peralkaline Rhyolite Spectrum in Marie Byrd Land Volcanoes, West Antarctic Rift, and the Case for Polybaric Fractionation: **W E LeMasurier**, S Choi, S B Mukasa, N W Rogers
- 0800h **V51A-1665** *POSTER* Geochemical Evidence for Crustal Assimilation at Mid-Ocean Ridges Using Major and Trace Elements, Volatiles and Oxygen Isotopes: **V Wanless**, M R Perfit, W I Ridley, P J Wallace, J W Valley, C B Grimes, E M Klein
- 0800h **V51A-1666** *POSTER* Monazite/melt partition coefficients for U, Th: Preliminary results from experiments: **L Xing**, D Trail, E B Watson
- 0800h **V51A-1667** *POSTER* A quantitative model of trace element and isotopic behavior during simultaneous assimilation and imperfect fractional crystallization: **K Nishimura**, T Takagi

0800h **V51A-1668 POSTER** Experimental investigation of oxygen fugacity and the evolution of arc basaltic andesites: **J F Larsen**

V51B Moscone South: Poster Hall Friday 0800h
Field, Petrological, Textural, Geochemical, and Rheological Approaches to Understanding Mantle Processes: A New Look at Old Problems? II Posters (*joint with T*)

Presiding: **O E Jagoutz**, Massachusetts Institute of Technology;
O Muntener, University of Lausanne

0800h **V51B-1669 POSTER** Phase Relations of Phlogopite with Magnesite from 4 to 6 GPa: **A Enggist**, R W Luth, L Chu

0800h **V51B-1670 POSTER** Effect of KCl on melting of the Mg_2SiO_4 - MgSiO_3 - H_2O system at 5 GPa: **L Chu**, R W Luth, A Enggist

0800h **V51B-1671 POSTER** Composition and metasomatic history of the upper mantle beneath South-Central Texas: evidence from spinel peridotite xenoliths, Knippa, Texas: **U Raye**, R J Stern, E Y Anthony, M Ren, J Kimura, K Tani, C Qing

0800h **V51B-1672 POSTER** The Effective Rheology of Partially Molten Rocks: Numerical and Experimental Data: **Y Deubelbeiss**, B J Kaus, J Connolly

0800h **V51B-1673** WITHDRAWN

0800h **V51B-1674 POSTER** Ductile and brittle deformation in peridotite recorded in ultramafic pseudotachylytes and associated fault rocks (Balmuccia, Italian Alps): **T Ueda**, M Obata, K Ozawa, G Di Toro

0800h **V51B-1675 POSTER** Exhumed continental lithospheric mantle in the Ronda peridotite massif, S. Spain: **K Johanesen**, J P Platt, M R Gawey

0800h **V51B-1676 POSTER** Status update on the EarthChem Deep Lithosphere Dataset: a database of mantle xenolith geochemistry: **K A Block**, K A Lehnert

0800h **V51B-1677 POSTER** Metamorphism of mafic granulite of north Tongbai, central China: evidence from Zircon U-Pb dating: **L Zhang**, Z Zhong, H Xiang, H Zhang, J Zheng

0800h **V51B-1678 POSTER** Episodic deformation within the Twin Sisters ultramafic massif, Washington: **A L Rodriguez**, J Newman, B Tikoff

0800h **V51B-1679** WITHDRAWN

0800h **V51B-1680 POSTER** THE ROLE OF GARNET AND PYROXENES IN REDOX PROCESSES IN THE MANTLE WEDGE: **N Malaspina**, F Langenhorst, S Poli, P Fumagalli

0800h **V51B-1681 POSTER** Strain gradients and melt pathways, Twin Sisters complex, Washington State: **S C Kruckenberg**, J Newman, B Tikoff, V G Toy

0800h **V44A-02 POSTER** Diversity of microstructure of kelyphite and symplectite after garnet and its implication to ascent process of mantle peridotites: **M Obata**, K Ozawa, D Spengler

V51C Moscone South: Poster Hall Friday 0800h
Petrology and Geochemistry II Posters

Presiding: **P J Wallace**, University of Oregon

0800h **V51C-1682 POSTER** One atmosphere viscosity measurements of MORBs from ODP Leg 206, Hole 1256D: **H Sato**, H Nakamura, H Ishibashi

0800h **V51C-1683 POSTER** Magma mixing in the Campi Flegrei caldera, Italy: insights from new experiments with natural samples: **S Kolzenburg**, C P De Campos, D B Dingwell, L Civetta

0800h **V51C-1684 POSTER** Geochemical study of the granitic rocks from the Ryongnam massif, Geochang, South Korea: **M Han**, J Kim, K Yang

0800h **V51C-1685 POSTER** Sr and Nd Isotopic and Geochemical Analysis of the Vanda Dike Swarm, Antarctica: **B Bray**, K S Harpp, D Geist, M O Garcia, G J Swarr, K A Garman, S A Buck, C E Parcheta, I Matulaitis

0800h **V51C-1686 POSTER** Compositional diversity of three subduction-related basaltic to andesitic metavolcanic units along the Paleoproterozoic Tampere Belt (Finland): **Y Kahkonen**, H Huhma

0800h **V51C-1687 POSTER** U-Pb-Nd-Hf isotope geochemistry of the Mesoproterozoic A-type granites in Mannefallknäusane, western Dronning Maud Land, Antarctica: **O T Ramo**, M Kurhila, A V Luttinen, T Andersen

0800h **V51C-1688 POSTER** The Proterozoic Mucajaí complex, Guyana shield – AMCG status established!: **A Heinonen**, L M Barreto Fraga, O T Ramo, I Mänttari, R Dall'Agnol

0800h **V51C-1689 POSTER** Time-Scales of Recent Phlegrean Fields Eruptions Inferred from the Application of a Diffusive Fractionation model of Trace Elements: **D Perugini**, G Poli, M Petrelli, C P De Campos, D B Dingwell

0800h **V51C-1690 POSTER** DYNAMICS OF MAGMA IN THE PLUMBING SYSTEM OF MT. ETNA VOLCANO, SICILY, ITALY: A CONTRIBUTION FROM PETROLOGIC DATA OF VOLCANICS ERUPTED FROM 2007 TO 2009: **R Corsaro**, L Miraglia

0800h **V51C-1691 POSTER** Mid Miocene volcanism in Nicaragua and implications for the formation of the Nicaraguan Depression: **I Saginor**, E Gazel, M J Carr

0800h **V51C-1692 POSTER** Magma Mixing at Pulang Porphyry Copper Deposit, NW China: Petrographic, Geochemical and Geochronological evidence: **D Cao**, A Wang

0800h **V51C-1693 POSTER** Geochemistry of Sarvabad basic igneous rocks from northern Sanandaj – Sirjan Magmatic Arc, Iran: **H Mahmoudi**, M Ghorbani, H Azizi

0800h **V51C-1694 POSTER** Volcanological and petrochemical features of the silicic volcanism within the Çubukludag graben, western Turkey: **Z Karacik**, C Genç

0800h **V51C-1695 POSTER** Evolution by Replenishment Fractional Crystallization (RFC) of Midproterozoic Magmatic Enclaves in Granites of the Eastern Llano Uplift, central Texas, U.S.A: **R K Smith**, **W Gray**

0800h **V51C-1696 POSTER** Tephra compositions from Late Quaternary volcanoes around the Antarctic Peninsula: **S Kraus**

0800h **V51C-1697 POSTER** Impact of the Orozco Fracture Zone on the central Mexican Volcanic Belt: **L C Hammersley**, D L Blatter

0800h **V51C-1698 POSTER** Oxygen fugacity calibration for (Fe) $\text{Au}_{75}\text{Pd}_{25}$ alloys in rock-melting experiments: **R M Weber**, S Weaver, A Johnston, P J Wallace

0800h **V51C-1699 POSTER** Magma Mixing by Chaotic Dynamics: Results from a New Experimental Device: **C P De Campos**, **D Perugini**, W E Ingrisch, D B Dingwell, G Poli

0800h **V51C-1700 POSTER** The Partial Molar Volume and Compressibility of FeO in CaO-SiO_2 Liquids: Systematic Variation with Fe^{2+} Coordination Change: **X Guo**, R A Lange, Y Ai

0800h **V51C-1701 POSTER** Petrological, Magnetic and Geochemical Characterization of Cretaceous-Paleogene Boundary El Mimbrel and La Lajilla Sections, Northeastern Mexico: **A Ortega Nieto**, J U Fucugauchi, L L Perez-Cruz

0800h **V51C-1702 POSTER** Determination Of Partial Molar Volumes Of Iron Species In Silicate Melts: **C A Dwyer**, V C Kress

0800h **V51C-1703 POSTER** Petrogenesis of Mt. Baker Basalts and Andesites: Constraints From Mineral Chemistry and Phase Equilibria: **E Mullen**, I S McCallum

0800h **V51C-1704 POSTER** Preliminary Results of the Lithospheric Structure Beneath the Aeolian Archipelago (Italy) Inferred from Teleseismic Receiver Functions: **C Musumeci**, C Martinez-Arevalo, F de Lis Mancilla3, D Patanè

0800h **V51C-1705 POSTER** Inner structure of the Marquesas Island constrained by new gravity measurements: **S Deroussi**, P Rossi, O de Viron, M Diamant

0800h **V51C-1706 POSTER** RELICT SEAMOUNTS WITHIN THE PALEOTETHYAN KARAKAYA COMPLEX, TURKEY: **K Sayit**, M Goncuoglu, T Furman

0800h **V51C-1707 POSTER** Surface geochemical survey for geothermal exploration in the south-east zone of Tenerife Island, Canary Islands: **M Diaz Requejo**, R Marrero, E Padron, G Melian, V Guerrero, P A Hernandez Perez, N Perez, R Hidalgo

0800h **V51C-1708 POSTER** Are the Nouméa Basin lavas pre, post or syn tectonic and are they in-situ?: **C A Rickey**, A Alexander, K N Nicholson

0800h **V51C-1709 POSTER** Regional Geochemical Trends in Young Basalts Along the Central Anatolian Fault Zone, Turkey: **M Pickard**, T Furman, B B Hanan, B KURKCUOGLU, K Sayit

0800h **V51C-1710 POSTER** Correlations of the Palisades Intrusive Conduit with the Orange Mountain Basalt, New Jersey: J C Steiner, **K A Block**, J H Puffer

0800h **V51C-1711 POSTER** Geochemical Features of Extensional Mafic Lavas from Sivas, Central Anatolia (Turkey) Reflect Subduction-Related Source Modification: **B KURKCUOGLU**, M Pickard, T Furman, B B Hanan, C L Plummer, K Sayit

0800h **V51C-1712 POSTER** Zircon trace element evidence for Hadean infracrustal differentiation: **D Frei**, A Scherstén

0800h **V51C-1713 POSTER** Observation of hydroacoustic noise at Kusatsu-Shirane volcano, Japan: **T Yamawaki**, Y Ogawa

0800h **V51C-1714 POSTER** Geochemistry and alteration patterns in the early Mesozoic Cordilleran arc and arc-related rocks: evidence for sources of detritus in continental successions: **N Riggs**, A P Barth, D Walker

V51D Moscone South: Poster Hall Friday 0800h
Submarine Volcanic Eruptions: Studies of Geological, Chemical, and Biological Processes III Posters (*joint with B, OS, T*)

Presiding: **J A Huber**, Marine Biological Laboratory; **T M Shank**, Woods Hole Oceanographic Institution; **J A Resing**, JISAO-PMEL; **B Chadwick**, Oregon State University

0800h **V51D-1715 POSTER** Intermediate products of sulfur disproportionation reaction and their physical role in effusive to explosive submarine volcanic activity: **K Nakamura**, B Takano, D A Butterfield, J Resing, W W Chadwick, R W Embley

0800h **V51D-1716 POSTER** Repetitive Surface-Mounted Multibeam Water Column Imaging of Hydrothermal Vent Plumes over NW Rota 1: **J E Hughes Clarke**, R Martinolich, M Broadus

0800h **V51D-1717 POSTER** Near and Far Field Particle Plumes Around an Erupting Volcano – W Mata, NE Lau Basin: **S L Walker**, E T Baker, J E Lupton, J Resing, P V Crowhurst, R Greene, N Buck

0800h **V51D-1719 POSTER** Extensive and Diverse Submarine Volcanism and Hydrothermal Activity in the NE Lau Basin: **R W Embley**, S G Merle, J E Lupton, J Resing, E T Baker, M D Lilley, R J Arculus, P V Crowhurst

0800h **V51D-1720 POSTER** Major and Trace Elements and Volatiles in Glasses from the 2009 Rapid Response Expedition to West Mata Volcano and Northeast Lau Spreading Center (NELSC): **P J Michael**, S Escrig, K H Rubin, L B Cooper, C H Langmuir, D A Clague, N S Keller, T Plank

0800h **V51D-1721 POSTER** Sr-Nd-Hf-Pb Isotope Ratios in Recent NE Lau Lavas: **E Todd**, J B Gill, H Freymuth

0800h **V51D-1722 POSTER** Geochemistry of back-arc lava from the Fonualei Rift and Spreading Center and Northeastern Lau Spreading Center: A reconnaissance study on mantle fertility and arc signature in the NE Lau Basin: **J Kim**, J Kim, H Kim, Y Jang

0800h **V51D-1723 POSTER** Geochemical characterization of lavas from the 2005-06 eruption along the East Pacific Rise (9° 46-56' N): Implications for decadal-scale magmagenesis along fast spreading centers: **A R Goss**, M R Perfit, K H Rubin, G D Kamenov, W I Ridley, S Soule, D J Fornari

0800h **V51D-1724 POSTER** CO₂ variability in MORB: degassing during emplacement of the 2005-06 EPR lava flows: **D Nakata**, S Soule, A T Fundis

0800h **V51D-1725 POSTER** Intra-flow morphology variations within a single submarine flow: the 2005-2006 East Pacific Rise eruption: **A T Fundis**, S Soule, D J Fornari, M R Perfit

0800h **V51D-1726 POSTER** Seafloor change and lava emplacement processes associated with the 2005-2006 East Pacific Rise eruptions: **V Ferrini**, S Soule, S M White, T J Crone

0800h **V51D-1727 POSTER** Chemical Evidence for Vertical Transport from Magma Chambers to the Surface During Mid-Ocean Ridge Volcanic Eruptions: **J M Sinton**, K H Rubin

0800h **V51D-1728 POSTER** Controls on Seismic Layering in Superfast Spread Crust: IODP Hole 1256D: **L A Gilbert**, M H Salisbury

0800h **V51D-1729 POSTER** Lava Flow Morphologies and Structural Features Along the Axis of the South Rift Zone of Loihi Seamount, Hawaii: **J L Deemer**, M D Kurz, D J Fornari

0800h **V51D-1730 POSTER** A Seawater-derived Uranium Signature and Possible Mechanisms of Crustal Contamination in Loihi Seamount Glasses: **M J Keyes**, A J Pietruszka

0800h **V51D-1731 POSTER** Fine-Scale Morphology of West Mata Volcano and the Northeast Lau Spreading Center, Lau Basin from AUV Multibeam Surveys: **D W Caress**, H Thomas, D Conlin, D A Clague

0800h **V51D-1732 POSTER** High-Resolution AUV Mapping Reveals Structural Details of Submarine Inflated Lava Flows: **J Paduan**, D A Clague, D W Caress, H Thomas, D Thompson, D Conlin

0800h **V51D-1733 POSTER** Direct comparison of three different methods of volcanic edifice identification from bathymetry maps: **J Howell**, S M White, D R Bohnenstiehl, D Miller

0800h **V51D-1734 POSTER** Hyperquenched hyaloclastites from Axial Seamount: D Zevin, **C Helo**, D Richard, D A Clague, D B Dingwell, J Stix

0800h **V51D-1735 POSTER** Magmagenesis at Axial Seamount, Juan de Fuca Ridge: Insights from Uranium-series systematics: **B Dreyer**, D A Clague, J B Gill

0800h **V51D-1736 POSTER** Denitrification in diffuse hydrothermal vent fluids of Axial Volcano and the Endeavour Segment on the Juan de Fuca Ridge: **A Bourbonnais**, M F Lehmann, D A Butterfield, A Devol, B X Chang, K Juniper

0800h **V51D-1737 POSTER** Emerging biogeography of the newly discovered *Zetaproteobacteria*: **S McAllister**, R Davis, D Emerson, C L Moyer

0800h **V51D-1738 POSTER** Biogeography of *Thermococcus* isolates from five geographically isolated hydrothermal vent systems:

M T Price, C L Moyer

0800h **V51D-1739 POSTER** Bacterial community composition in hydrothermal plume environments is heterogeneous and distinct:

J B Sylvan, B M Toner, P R Girguis, K J Edwards

0800h **V51D-1740 POSTER** Experimental constrain of hydrogen production during early serpentinization stages: **C MARCAILLOU**, M Muñoz, O Vidal, T PARRA, M Harfouche

0800h **V51D-1741 POSTER** Fluid Flow Simulations of an Active Arc-Related Submarine Hydrothermal System: **G Gruen**, C E de Ronde, T Driesner, C A Heinrich

0800h **V51D-1742 POSTER** Quantitative Effects of Large-Scale Convective Instabilities in Hydrothermal Plumes on the Sedimentation of Suspended Particles: M Jellinek, **G Carazzo**

0800h **V51D-1743 POSTER** Dispersal of volcanoclastic material by buoyant water plumes in deep-ocean explosive basaltic eruptions:

T Barreyre, **S Soule**, R A Reves-Sohn

0800h **V51D-1744 POSTER** Correlation of submarine deposits and witness accounts of the 1952 Myojinsho submarine eruption, Izu-Bonin arc, by bathymetric survey: **T Shimano**, K Tani, F Maeno, R S Fiske, H Shukuno, K Ito, G Shimoda, Y J Suzuki, T Yoshida, H Taniguchi

0800h **V51D-1745 POSTER** Structure of Submarine Large Lobate Sheet from the Oman Ophiolite: **S Umino**

0800h **V51D-1746 POSTER** A Model for Seamount Formation Based on Observations of a California Ophiolite: **S Schnur**, L A Gilbert

0800h **V51D-1747 POSTER** Explosive subaqueous pyroclastic deposits associated with a mafic summit caldera: an Archean analogue: **W U Mueller**, D B Dingwell, C Pilote, L Castillo-Guimond

0800h **V51D-1748 WITHDRAWN**

0800h **V51D-1749 POSTER** Lava entering water: the different behaviour of aa and pahoehoe at the Nesjahraun, Thingvellir, Iceland: **J A Stevenson**, N Mitchell, F Mochrie, M Cassidy, H Pinkerton

0800h **V51D-1750 POSTER** Ice-Confined Basaltic Eruptive Fissure Complexes in Iceland: Accessible Analogs for Understanding Shallow Submarine Ridge Construction: **I P Skilling**, E Mercurio, B I Cameron

0800h **V44B-02 POSTER** Long-term explosion records from two erupting submarine volcanoes in the Mariana and Tonga island-arcs: **R P Dziak**, R W Embley, E T Baker, W W Chadwick, J Resing, H Matsumoto, S L Walker, D R Bohnenstiehl, H Klink

V51E Moscone South: Poster Hall Friday 0800h
Using Small-Scale Observations to Answer Big Questions in Earth Sciences: Advances From 30 Years of Ion Microprobe Analysis IV Posters (joint with PP, P, DI, T, EP)

Presiding: **J M Warren**, Carnegie Institution of Washington; **M G Jackson**, Carnegie Inst. of Washington; **K T Koga**, Universite Blaise Pascal Clermont-Fd; **S R Hart**, Woods Hole Oceanographic institution; **E F Rose-Koga**, Laboratoire Magmas et Volcans

0800h **V51E-1751 POSTER** In-situ measurements of iron isotopes by ion microprobe: B Luais, **C Rollion-Bard**, J Marin

0800h **V51E-1752 WITHDRAWN**

0800h **V51E-1753 POSTER** Automated SIMS Isotopic Analysis Of Small Dust Particles: **L Nittler**, C Alexander, F Gyngard, A Morgand, E K Zinner

0800h **V51E-1754 POSTER** Using ToF-SIMS for the study of exposed melt inclusions: **S D Scott**, F Marques, R Sodhi

0800h **V51E-1755 POSTER** Calibrating Carbon Measurements in Basaltic Glass Using SIMS and FTIR: The Effect of Variable H₂O Contents: **R L Hervig**, G M Moore, K Roggensack

0800h **V51E-1756 POSTER** Fluorine and Chlorine in Primitive Basalts: Potential Tracers of Melt Source: **K T Koga**, C Dalou, M Le Voyer, E F Rose-Koga

0800h **V51E-1757 POSTER** Subduction related fluids fractionate Nb/Ta: **V J Salters**, M Bizimis, A Sachi-Kocher, R Taylor, I P Savov, C R Stern

0800h **V51E-1758 POSTER** Trace Element Zoning in Garnets – Retrospective and Prospective: **D Hickmott**, N Shimizu, F S Spear

0800h **V51E-1759 POSTER** Back-reaction of K-feldspar + sillimanite assemblages: Insights from SIMS and EMP analysis of muscovite + quartz symplectites: **M Grove**, E M Peterman

0800h **V51E-1760 POSTER** Constraints on Mantle Fluids from Apatite Compositions in Xenoliths: **M Roden**, A E Patino Douce, J B Chaumba, G M Yogodzinski, D A Clague

0800h **V51E-1761 POSTER** FROM THE EARLY SIMS TO RECENT LAM DATA: THE ALPINE-APENNINE OPHIOLITIC PERIDOTITES REVISITED: **G B Piccardo**, R Vannucci, R Tribuzio, L Guarnieri

0800h **V51E-1762 POSTER** Partially Melted Leucocratic Xenoliths from Tindfjöll, SW Iceland: Constraints From Major and Trace Elements and Oxygen Isotopes on Melt-Rock Reaction: **A A Gurenko**, I N Bindeman, I A Sigurdsson

0800h **V51E-1763 POSTER** In-situ Pb isotopic analysis of sulfides in abyssal peridotites from ultraslow spreading ridges: new insights into heterogeneity and evolution of the oceanic upper mantle: **J Blusztajn**, N Shimizu, H J Dick, J M Warren

0800h **V51E-1764 POSTER** Pb isotope variations in olivine-hosted melt inclusions from South Tyrrhenian volcanoes: **E F Rose-Koga**, K T Koga, P Schiano, N Shimizu, M Whitehouse, R Clocchiatti

0800h **V51E-1765 POSTER** Sulfur Isotope Variation in Melt Inclusions From Arc Basalts Revealed By Secondary Ion Mass Spectrometry: **C W Mandeville**, N Shimizu, K A Kelley

0800h **V51E-1766 POSTER** Boron isotope variation in matrix glasses and inclusions from the *Skaftar Fires* eruption reflects incorporation of altered material in the Icelandic crust: **M N Brounce**, M D Feineman, A A Gurenko, P C La Femina

0800h **V51E-1767 POSTER** Mixing of mantle melts recorded in Icelandic phenocrysts: The significance of clinopyroxene stability in depleted compositions: **B Winpenny**, J MacLennan

0800h **V51E-1768 POSTER** Origin and cycle of water on Earth as determined by Ion probe H and D/H measurements: **E Deloule**

0800h **V51E-1769 POSTER** Inverting Ion Microprobe Analyses of Clinopyroxene Phenocrysts to Determine Pre-eruptive Magmatic Water Content – A New Model for Partitioning of Water between Clinopyroxene and Melt: **J A O’Leary**, G A Gaetani, E H Hauri

0800h **V51E-1770 POSTER** Mechanisms and Timescales for Re-equilibration of Water in Olivine-Hosted Melt Inclusions: **G A Gaetani**, J A O’Leary, N Shimizu

0800h **V51E-1771 POSTER** Water loss from olivine hosted melt inclusions: **Y Chen**, A Provost, P Schiano, N Cluzel

0800h **V51E-1772 POSTER** Relationships between noble gases and magmatic volatiles: new data from Loihi Seamount, Hawaii: **M D Kurz**, N Shimizu, J Yamamoto, J Curtice

0800h **V51E-1773 POSTER** Exceptionally high Water, Other Volatile and LILE Concentrations in Olivine-Hosted Melt Inclusions from the Yellowstone Hotspot and Columbia River Flood Basalts: **S B Mukasa**, C Stefano, W P Leeman, N Shimizu

0800h **V51E-1774 POSTER** High-Resolution Examination of Volcanic Conduit Processes Using SIMS Depth Profiling: **K D Genareau**, A B Clarke, R L Hervig

0800h **V51E-1775 POSTER** 2008 Kasatochi Eruption: SHRIMP Constraints on Concentration of Volatiles in Melt Inclusions: **P E Izbekov**, T W Sisson, J L Wooden, C R Bacon

0800h **V51E-1776 POSTER** Volatile abundances in OIBs hosting a recycled sediment signature: Evidence from Samoa: **M G Jackson**, E H Hauri

0800h **V51E-1777 POSTER** Timing and style of emplacement of the Wooley Creek batholith, Klamath Mountains, California, using zircon U-Pb SHRIMP data: **N Coint**, M A Barnes, C G Barnes

0800h **V51E-1778 POSTER** Penecontemporaneous Pleistocene andesite-dacite lavas and shallow gabbroic cumulates at Mt. Rainier, WA, shown by SIMS U-Pb zircon and Ar geochronology: **T W Sisson**, A T Calvert, J L Wooden, M A Lanphere

0800h **V51E-1779 POSTER** Geochemistry and Temperatures Recorded by Zircon During the Final Stages of the Youngest Toba Tuff Magma Chamber, Sumatra, Indonesia: **T Gaither**, M R Reid, J A Vazquez

0800h **V51E-1780 POSTER** Four stages of metasomatism recorded in zircon from garnet metachert and variable metasomatism in garnet hornblendite, Santa Catalina Island, California: **F Page**, N A Holsing, N Kita, E J Essene, J W Valley

0800h **V51E-1781 POSTER** U-Th zircon ages for Maanshan volcano, Tengchong, SE Tibetan Plateau and implications for magma dynamics: **H Zou**, Q Fan, A K Schmitt, J Sui

0800h **V51E-1782 POSTER** Ocean Zircon - constraints on cooling histories, spreading rate, and modes of crustal accretion: **B E John**, M J Cheadle, G Baines, C B Grimes, J Wooden

0800h **V51E-1783 POSTER** Combining U-Th-Pb Geochronology with Trace Element Analysis Using the SHRIMP-RG Ion Microprobe: **J L Wooden**, C R Bacon

0800h **V51E-1784 POSTER** SIMS analysis of fine-scale biogeochemical proxies in the Panoche-Tumey Hills paleoseep (PTHP): **J C Sample**, H L Schwartz

0800h **V51E-1785 POSTER** Silicon isotopes and trace elements composition of microquartz from Precambrian cherts: **J Marin**, F Robert, M Chaussidon

0800h **V51E-1786 POSTER** Behavior and Calibration of the Sr/Ca Temperature Proxy in Vesicomid Clams: **S R Hart**

0800h **V51E-1787 POSTER** High-resolution B concentration analyses by SIMS in *M. californianus* as a potential record of ocean acidification: **S J McCoy**, L F Robinson, C A Pfister, J Wootton, N Shimizu, D M Glover

0800h **V51E-1788 POSTER** NANOSIMS APPLIED TO THE STUDY OF BIOMINERALS: SOME EXAMPLES: **A Meibom**

V51F Moscone West: 2016 Friday 0800h
Ash Plumes, Lava Domes, Lahars, and Explosions: The 2009 Eruption of Redoubt Volcano, Alaska II (*joint with A, G, S, NH, EP*)

Presiding: **C F Waythomas**, Alaska Volcano Observatory; **P Webley**, University of Alaska Fairbanks; **K F Bull**, Alaska Volcano Observatory

0800h **V51F-01** Redoubt Volcano: 2009 Eruption Overview: **K F Bull**

0815h **V51F-02** Seismic Observations of the Redoubt Magmatic System: 1989 through 2009: **J A Power**, B A Chouet, S D Stihler, M M Haney

0830h **V51F-03** Evaluation of satellite derived sulfur dioxide measurements for volcano monitoring during the 2009 Redoubt eruption (*Invited*): **T M Lopez**, S A Carn, P Webley, M A Pfeffer, M P Doukas, P J Kelly, C A Werner, F Prata, D J Schneider, C F Cahill

0845h **V51F-04** Character of the long-period and very-long-period seismic wave field during the 2009 eruption of Redoubt Volcano, Alaska (*Invited*): **M M Haney**, J A Power, B A Chouet

0900h **V51F-05** Lightning and electrical activity during the 2009 eruptions of Redoubt Volcano: **R J Thomas**, S A Behnke, P R Krehbiel, W Rison, H E Edens, S R McNutt, B Higman, R H Holzworth, J N Thomas

0915h **V51F-06** Photogrammetric analysis of dome growth during the 2009 eruption of Redoubt Volcano, Alaska (*Invited*): **A K Diefenbach**, K F Bull, R L Wessels

0930h **V51F-07** High resolution satellite and airborne thermal infrared (TIR) imaging of the 2009 eruption of Redoubt Volcano, Alaska: **R L Wessels**, K F Bull, R G McGimsey, A K Diefenbach, M L Coombs, D J Schneider

0945h **V51F-08** 2009 ERUPTION OF REDOUBT VOLCANO: Lahars, Oil, and the Role of Science in Hazards Mitigation (*Invited*): **R Swenson**, C J Nye

V51G Moscone West: 2020 Friday 0800h
Geochemically Complex, Multicomponent Fluids and Geologic Processes II (*joint with EP*)

Presiding: **J D Webster**, AMNH; **C E Manning**, University of California Los Angeles

0800h **V51G-01** Interaction of sulfur-bearing silicate melts with H₂O and H₂ bearing fluids (*Invited*): **H Behrens**, J Stelling, M Wilke, L Backnaes, J Deubener

0830h **V51G-02** Advances in Constraining Solubilities of H-O-C-S-Cl-bearing Fluids in Silicate Melts: **J D Webster**

0845h **V51G-03** Bromine speciation and partitioning in high pressure aqueous fluids and silicate melts: implication for the behavior of halogens in subduction zones: **M Louvel**, C Sanchez-Valle, W Malfait, G Pokrovski, C Borca, D Grolimund

0915h **V51G-05** Alkali and Fe Exchange Between Basaltic Liquids and Supercritical Chloride Solutions at 200MPa and 1298 K: Geochemical Implications for Magmatic Degassing: **A S Bell**, A C Simon, J R Beckett, M Guillion

0930h **V51G-06** Teasing out the role volatile fluids play in the crystallization of layered intrusions (*Invited*): **A E Boudreau**

V51H Moscone West: 2018 Friday 0800h
Oceanic Plateaus Through Time: Formation, Preservation, and Environmental Impacts II (*joint with T*)

Presiding: **A C Kerr**, Cardiff University; **J J Mahoney**, SOEST

0800h **V51H-01** Preliminary Results from Integrated Ocean Drilling Program Expedition 324: Coring Shatsky Rise to Test Models of Oceanic Plateau Formation: **W W Sager**, T Sano, J Geldmacher

0815h **V51H-02** Geochemistry of samples cored from Shatsky Rise, IODP Expedition 324, and their implications for the formation of oceanic plateaus (*Invited*): **T Sano**, W W Sager, J Geldmacher

0830h **V51H-03** New Results for the Multi-stage Geochemical Evolution of the Manihiki and Hikurangi Plateaus (*Invited*): **K Hoernle**, C Timm, S F Hauff, L Rupke, R Werner, P van den Bogaard, P J Michael, M Coffin, N N Mortimer, B W Davy

0845h **V51H-04** Some Environmental Consequences of Large Igneous Provinces: **M F Coffin**

0900h **V51H-05** The age of the lithospheric mantle beneath the Northern Kerguelen Plateau: **V Debaille**, N D Mattielli, D A Weis

0915h **V51H-06** Melt anomalies in the Indian Ocean basin: Constraints on dynamic interaction between the Marion/Crozet hotspots and the Southwest Indian Ridge: **T Zhang**, J Lin, J Gao
 0930h **V51H-07** The Nature and Origin of the ~1.88 Ga Circum-Superior Large Igneous Province: **M Minifie**, A C Kerr, R E Ernst
 0945h **V51H-08** Cenozoic analogues support a plate tectonic origin for the Earth's earliest continental crust: **A R Hastie**, A C Kerr, S F Mitchell, I McDonald, J A Pearce, I L Millar, M Wolstencroft

Union

U52A Moscone South: 103 Friday 1020h
The EarthScope Initiative: From North America Geodynamics to New Frontiers in Science II (*joint with S, T, G*)

Presiding: **K M Larson**, University of Colorado; **M A Hedlin**, U.C. San Diego

1020h **U52A-01** An application of Global Positioning System data from the Plate Boundary Observatory for deformation monitoring purposes (*Invited*): **J R Murray-Moraleda**, Z Liu, P Segall

1035h **U52A-02** Combining slow slip events, historical uplift, and contemporary geodesy to map interseismic strain along the central Cascadia Subduction Zone (*Invited*): **D A Schmidt**, R J Weldon, H Gao

1050h **U52A-03** Time Series, Velocity, Transient Deformation, and Strain Data Products from the PBO and Other Geophysical Networks in Western North America: D Dong, Y Bock, **F Webb**, S E Owen, S Kedar, P Jamason, P Fang, M B Squibb, B W Crowell, D Avraham

1105h **U52A-04** Postseismic Deformation of the Large 1959 Hebgen Lake, MT, and 1983 Borah Peak, ID, Earthquakes, With Implications for Lithospheric Rheology: **W Chang**, R B Smith

1120h **U52A-05** Using Earthscope data to separate the influences of inherited lithospheric structures and more recent tectonics in driving the dynamics of the western United States: **H J Gilbert**, L M Flesch

1135h **U52A-06** The Yellowstone Hotspot: Effects on Intraplate Stress and Deformation of the Western U.S.: **C M Puskas**, R B Smith

1150h **U52A-07** Single-site estimation of phase velocities and deformation monitoring at the SAFOD borehole using an optical fiber, interferometric strainmeter: **J A Blum**, H Igel, M A Zumberge

1205h **U52A-08** Luminescence Studies of Age and Thermometric Properties of a SAFOD Phase III Core Sample: Initial Findings: **J Q Spencer**, J Hadizadeh, J Gratier

Atmospheric Sciences

A52A Moscone West: 3006 Friday 1020h
Atmospheric Sciences General Contributions: Chemistry and Composition III

Presiding: **R R Dickerson**, University of Maryland; **E J Bucsela**, SRI International

1020h **A52A-01** Impacts of HONO sources on the photochemistry in Mexico City during the MCMA-2006/MILAGO Campaign: **G Li**, W Lei, M A Zavala, R Volkamer, L T Molina

1035h **A52A-02** Production of NO_x in mid-latitude thunderstorms: Case studies using OMI data: **E J Bucsela**, K E Pickering, J F Gleason, O R Cooper

1050h **A52A-03** Observed Diel, Seasonal, and Long-Term Trends in O₃, SO₂, and Precursor Emissions over the Eastern US: **R R Dickerson**, K Y Vinnikov

1105h **A52A-04** Validation of northern latitude Tropospheric Emission Spectrometer stare ozone profiles with ARC-IONS sondes during ARCTAS: **C Boxe**, J Worden, S S Kulawik, K W Bowman, G B Osterman, R L Herman, A Eldering, D W Tarasick, A M Thompson, D Doughty, S J Oltmans

1120h **A52A-05** An Assessment of the Efficacy of VOC Cap and Trade in Houston: **E Couzo**, H E Jeffries, W Vizuete

1135h **A52A-06** TES Observations of Tropospheric Ammonia: **M W Shephard**, M Luo, K E Cady-Pereira, R W Pinder, D K Henze, J T Walker, C P Rinsland, R Beer, V Payne

1150h **A52A-07** Evaluation of macro-tracers for modeling the contribution of biomass burning to organic carbon at a rural background site: **S Gilardoni**, F Cavalli, E Vignati, J Putaud, B Larsen, K Stenstrom, F J Dentener

1205h **A52A-08** Simulation of maturity and decay of methyl chloroform (CH₃CCl₃) in the atmosphere: **P K Patra**, M Krol, D Cunnold, P J Fraser, S J O'Doherty, R G Prinn, P G Simmonds, P Steele, R F Weiss, P B Krummel, S Lal, S Toyoda, M Takigawa, K Ishijima, T Nakazawa

A52B Moscone West: 3002 Friday 1020h
Dynamics General Contributions II

Presiding: **J N Lee**, JPL, Caltech; **J Mitchell**, UCLA

1020h **A52B-01** Superrotation in terrestrial atmospheres: **J Mitchell**, G K Vallis

1035h **A52B-02** Isentropic descent beneath the Saharan Air Layer and its impact on tropical cyclogenesis: **M Diaz**, F Semazzi, A R Aiyyer

1050h **A52B-03** To what extent does high-latitude wave forcing drive tropical upwelling in the Brewer-Dobson circulation?: **R Ueyama**, J M Wallace

1105h **A52B-04** Aura Microwave Limb Sounder Observations of the Middle Atmosphere: Dynamics and Tracer gases: **J N Lee**, D L Wu, G L Manney, M J Schwartz

1120h **A52B-05** Oceanic response and feedback to mid-latitude atmospheric Rossby waves in northern hemisphere winter: **H Na**, K Kim, K Kim

1135h **A52B-06** Variability and trends in the Brewer-Dobson circulation, deduced from measurements of stratospheric NO₂ and implied NO_y in Antarctic summer: **H K Roscoe**, P A Cook

1150h **A52B-07** Key Synoptic and Physical Processes Associated With Temperature Extremes Over North America: **P Loikith**, A J Broccoli

1205h **A52B-08** Tomographic Retrieval Scheme for Mesoscale Gravity Wave Observations by the PREMIER Infrared Limb-Sounder: **J Ungermann**, L Hoffmann, P Preusse, M Kaufmann, M Riese

A52C Moscone West: 3004 Friday 1020h
Global Atmospheric Composition With Geostationary Measurements II

Presiding: **Y Kasai**, NICT; **E Hilsenrath**

1020h **A52C-01** Monitoring Air Quality from Geostationary Orbit in Asia-Pacific region by MP-GEOSAT (*Invited*): **J Kim**, R Park, P K Bhartia, S Yong, C Song, Y Hong, S Lee, S Ryoo, M Lee, J Kim, J Woo, Y J Kim, C H Song, J H Kim, K Lee, C Ho, S K Park, Y Lee, J Lee, Y Eom, A Suh, Y Ahn

1035h **A52C-02** Tropospheric ozone measured in the thermal infrared: from polar orbiting satellites towards geostationary platforms (*Invited*): **J Orphal**, J Flaud, G Dufour, M Eremenko, C Keim, G Bergametti, G Foret, M Beekmann, M Höpfner, T von Clarmann, F Friedl-Vallon, A Kleinert, J Attie, M Claeys, V Peuch, L El Amroui, S Massart, A Piacentini, R Cantie, F Pasternak

1050h **A52C-03** From GeoSCIA to Sentinel 4 UVN on MTG - Development of European concepts for UV-Vis geostationary tropospheric composition sounding (*Invited*): **H Bovensmann**

1105h **A52C-04** Tropospheric O₃, NO₂, SO₂, HCHO, and CHOCHO from UV/Visible Spectroscopic Measurements: Capabilities and Requirements for Geostationary Pollution Monitoring (*Invited*): **K Chance**, T P Kurosu, X Liu, M Newchurch

1120h **A52C-05** Capability of the IASI infrared sounder to resolve daily variations of lower tropospheric ozone over Chinese megacities: G Dufour, M Eremenko, J Orphal, **J Flaud**

1135h **A52C-06** Atmospheric Variability Metrics for GEO-CAPE Measurement Definition: **M Newchurch**, J Fishman, J A Al-Saadi, R B Chatfield, S A Christopher, J H Crawford, R R Dickerson, B N Duncan, S R Kawa, N A Krotkov, K E Pickering, R Scheffe

1150h **A52C-07** Spatial and Temporal Sampling Strategies Using High-Resolution Atmospheric Chemistry Model Data: Application for a Time-Resolved Tropospheric Chemistry Mission Study: **J K Creilson**, D O Neil, J Fishman, D Byun, X Jiang, D Lee, R Pierce, D M Tracy, X Xu

1205h **A52C-08** Spatial and Temporal Variability of Trace Gases over the Eastern United States derived from WRF/Chem: **M B Follette-Cook**, K E Pickering, Y Yoshida, B N Duncan, C P Loughner, E A Yegorova, D J Allen

A52D Moscone West: 3008 Friday 1020h
Origins and Behavior of Aerosols in the Atmosphere From Studies of Individual Particles I

Presiding: **J M Conny**, National Institute of Standards and Technology; **R D Willis**, US EPA

1020h **A52D-01** Coated or Embedded? Organic Matter as a Host for Individual Ambient Atmospheric Aerosol Particles (*Invited*): **P R Buseck**, K Adachi

1035h **A52D-02** Aerosols over the Amazon Rainforest Investigated by Scanning Transmission X-ray Microscopy and Scanning Electron Microscopy: **M O Andreae**, P P Artaxo, M K Gilles, S T Martin, E Mikhailov, R Moffet, U Poeschl, B Sinha, H Yang

1050h **A52D-03** Investigation of ice residuals and in-situ ice nucleation in the environmental scanning electron microscope (ESEM): **M Ebert**

1105h **A52D-04** Multiple Accelerating Potential SEM Microanalysis of Individual Atmospheric Particles (*Invited*): **J T Armstrong**

1120h **A52D-05** Evaluation of Unbound Engineered Nanoparticles from a Worker Exposure and Environmental Release Perspective: K Bunker, **G Casuccio**, T Lersch, R Ogle, L Wahl

1135h **A52D-06** Single Nanoparticle Analysis of Urban Aerosol with the Nano Aerosol Mass Spectrometer: **M V Johnston**, C Zordan, M R Pennington

1150h **A52D-07** Investigating the Internal Structure of Individual Aerosol Particles Using Atomic Force and Raman Microscopies: **M A Freedman**, K J Baustian, M E Wise, M A Tolbert

1205h **A52D-08** Metal-bearing Aerosols of Industrial Origin from Multiple Sources in South Phoenix, Arizona: Separating Similar Particle Types with Minor Element Differences Using Automated SEM Analysis of Large Populations of Particles: **J Anderson**, X Hua

Biogeosciences

B52A Moscone South: 309 Friday 1020h
Particulate Organic Carbon in Event-Dominated Rivers and Coastal Margins I (*joint with H, OS, EP*)

Presiding: **J A Hatten**, Mississippi State University; **R G Hilton**, Durham University; **T Tesi**, Oregon State University

1025h **B52A-01** Discharge-related trends in the composition of particulate organic matter exported by small mountainous rivers: results from Oregon and California (*Invited*): **M A Goni**, J A Hatten, R A Wheatcroft, J Borgeld, A Williamson, J Padgett, G B Pasternack, A Gray, E B Watson

1045h **B52A-02** Transport Behavior of Fine Particulate Organic Carbon Analogs in Laboratory Flume Experiments: **N T Hamm**, B Dade, S A Huda, C E Renshaw

1100h **B52A-03** WITHDRAWN

1100h **B53A-0471** Identifying sediment sources and delivery mechanisms using background level polycyclic aromatic hydrocarbons in the Waipatu River watershed, New Zealand: **C E Thompson**, E G Nichols, G Johnson, N E Blair, E L Leithold, A S Palmer, W T Baisden

1120h **B52A-04** Impacts of Colonial Deforestation on Sediment Organic Carbon Fluxes and Budget Using Black Carbon Chronology: Waipatu Continental Shelf, New Zealand: **H M Wadman**, E A Canuel, J E Bauer, J E McNinch

1135h **B52A-05** The importance of small mountainous rivers on carbon cycle (*Invited*): **S Kao**, K Selvaraj, M Dai, J Huang

1150h **B52A-06** Soil organic matter contribution to the NW Mediterranean (*Invited*): **J Kim**, R Buscail, J Blokker, P Kerhervé, S Schouten, W Ludwig, J S Sinninghe Damsté

1205h **B52A-07** FROM TRANSIENT TO STATIONARY BENTHIC MINERALIZATION ACTIVITY IN THE RHONE RIVER PRODELTA: TEMPORAL MONITORING OF A FLOOD DEPOSIT: **C Cathalot**, R Buscail, A Pruski, L Pastor, C Rabouille

B52B Moscone West: 3016 Friday 1020h
Stable Isotopes in Terrestrial Biogeosciences II (*joint with A, H*)

Presiding: **K P Tu**, UC Berkeley; **A Kahmen**, UC Berkeley; **T E Dawson**, Univ California Berkeley

1020h **B52B-01** The evolution of capturing reliable isotopic water vapor signatures: An intercomparison of measurement techniques (*Invited*): **R L Apodaca**, K A Simonin, K P Tu, R C Cohen, T E Dawson

1035h **B52B-02** Stable water isotopologues applied to detection of biospheric influences on CO₂ and other gases at Mauna Loa: **D C Noone**, J Galewsky, Z D Sharp, J E Barnes, J Worden

1050h **B52B-03** Variations In The Isotopic Composition Of Near-Surface Water Vapour Over The Daily And Seasonal Cycle In The Eastern Mediterranean: **L I Peters**, J R Gat, D Yakir

1105h **B52B-04** Interannual variations in $\delta^{18}\text{O}$ of Atmospheric CO₂ and its correlation to hydrological changes: N H Buenning, D C Noone, C J Still, W J Riley

1120h **B52B-05** Grassland Soil and Fossil CO₂ Fluxes Monitored Using Continuous CELS Measurements of [CO₂] and $\delta^{13}\text{C}$: G H Rau, W I McAlexander, E A Burton, L Dobeck, L Spangler

1135h **B52B-06** Visualizing Microbial Biogeochemistry: NanoSIMS and Stable Isotope Probing (*Invited*): **J Pett-Ridge**, P K Weber

1150h **B52B-07** Timing and Magnitude of the (paleo)hydrological Signal Recorded in Leaf-wax Lipid D/H Ratios: **D Sachse**, T E Dawson, A Kahmen

1205h **B52B-08** Re-evaluating the isotopic divide between angiosperms and gymnosperms using n-alkane $\delta^{13}\text{C}$ values: R T Bush, F A McInerney

B52C Moscone West: 3018 Friday 1020h
Impacts of Disturbance on the North American Terrestrial Carbon Budget II

Presiding: E S Kasischke, University of Maryland; D McGuire, USGS/Alaska Cooperative Fish and Wildlife Research Unit

1020h **B52C-01** Carbon Consequences of Disturbance in the West Coast U.S. States: B E Law, D P Turner, T M Hudiburg, G W Meigs, D W Ritts, Z Yang, R Kennedy

1035h **B52C-02** Synthesis of multiple observations of the disturbance impacts on the carbon cycle: S J Goetz, E S Kasischke, S E Frolking, P S Beck

1050h **B52C-03** A National Disturbance Modeling System to Support Ecological Carbon Sequestration Assessments: T J Hawbaker, M G Rollins, J E Volegmann, H Shi, T L Soh

1105h **B52C-04** Modeling the Future Global Carbon Balance: Is there a threshold from terrestrial sink to source in the Near Future?: R P Neilson, J M Lenihan, D M Bachelet, R Drapek, J R Wells

1120h **B52C-05** Inventory-based model estimates of the net impact of natural disturbances on the C balance of Canada's managed forest lands: G Stinson, W Kurz, E Neilson, J Metsaranta

1135h **B52C-06** An evaluation of the impact of forest biomass harvest for biofuels on carbon storage in the US west coast states under different management scenarios: T M Hudiburg, B E Law

1150h **B52C-07** Challenges (and annoyances) in modeling disturbance effects on terrestrial carbon cycling (Invited): B P Bond-Lamberty

Cryosphere

C52A Moscone West: 3003 Friday 1020h
East Antarctica: Climate, Glaciology, and Geoscience in Earth's Farthest Frontier III (joint with EP, GC, G)

Presiding: M R Albert, Dartmouth College; C Finn, U. S. Geological Survey

1020h **C52A-01** New Aerogeophysical exploration of the Gamburtsev Province (East Antarctica): F Ferraccioli, R E Bell, M Studinger, D Damaske, T A Jordan, H Corr, D A Braaten, P S Gogineni, M A Fahnestock, C Finn, K Rose

1035h **C52A-02** Disclosing Precambrian Secrets of the East Antarctic Shield: An Aeromagnetic Perspective from the International Polar Year: C Finn, D Damaske, F Ferraccioli, M Studinger, T A Jordan, K Rose, A E Block, N Frearson, R E Bell, A Golynsky

1050h **C52A-03** From Ice Sheet to Ice Stream: The role and significance of Recovery Lakes C and D: A E Block, R E Bell, M Studinger, N Frearson, F Ferraccioli

1105h **C52A-04** Multi-decadal surface temperature trends in the East Antarctica using borehole firn temperature measurements and geophysical inverse method: A Muto, T Scambos, K Steffen

1120h **C52A-05** LARGE SCALE METAMORPHISM IN EAST ANTARCTICA: RADAR EVIDENCE WITHIN FIRN AND ENGLACIAL PROFILES: S A Arccone, R W Jacobel

1135h **C52A-06** Accumulation Rate Effects on High Precision Density Profiles of Antarctic Firn Cores: D J Breton, G S Hamilton

1150h **C52A-07** Layer-cake vs. fruit-cake stratigraphy of megadune-related snows of East Antarctica: D U Wise, P Cianfarra, F Salvini

1205h **C52A-08** Sublimation of ground ice and erosion of glacial deposits quantified with cosmogenic nuclides, McMurdo Dry Valleys, Antarctica: D J Morgan, J Putkonen, G Balco, J Stone

C52B Moscone West: 3014 Friday 1020h
Sea Ice Processes and Properties III

Presiding: J K Hutchings, University of Alaska Fairbanks; D L Feltham, University College London

1020h **C52B-01** Sea ice mechanics in Arctic Ocean dynamics (Invited): P Sammonds

1035h **C52B-02** Comparing Arctic Sea Ice Kinematics from Satellite Remote Sensing Data to Coupled Sea Ice-Ocean Model Results: G Spreen, D Menemenlis, R Kwok, A T Nguyen

1050h **C52B-03** Forecasting Coastal Ice Decay and Break-up in Northern Alaska: C Petrich, H Eicken, J Zhang, J Krieger

1105h **C52B-04** pCO₂ in sea ice and CO₂ fluxes estimates : where do we stand today ? (Invited): J Tison, B Delille, T N Papakyriakou, M Vancoppenolle, G Carnat, N Geilfus

1120h **C52B-05** Early springtime dynamics of dimethylsulfoxide (DMSO) within East Antarctic sea ice: F Brabant, G Carnat, J Tison

1135h **C52B-06** Observation of two transient episodes in an Arctic Coastal Polynya in late winter: Supercooled water and sea ice desalination: F Jardon, F Vivier, P Bouruet-Aubertot, A Lourenço, Y Cuypers

1150h **C52B-07** Antarctic Sea Ice Thickness Predicted from Surface Elevation: A comparison to Measured Values: B Ozsoy Cicek, S F Ackley, H Xie, A Tekeli

1205h **C52B-08** Ku-Band radar penetration into Snow over Arctic Sea Ice: S Hendricks, L Stenseng, V Helm, S Hanson, C Haas

Education and Human Resources

ED52A Moscone West: 3020 Friday 1020h
Encouraging Success and Diversity Through Minority Participation in Science I

Presiding: J R Brown, Stanford University; J Tindall, USGS

1020h **ED52A-01** Increasing Diversity in the Sciences: a Partial Solution to the Challenge and the Benefits it Produces: A V Givan

1035h **ED52A-02** MSPHDS PDP preparing and providing professionals for the new generation of science: A D Robinson Cook, W Vargas, K Frink, K E Armaiz-Nolla, O Scott, W Ithier-Guzman, L Ricciardi, V Williamson Whitney, A Johnson, A Johnson

1050h **ED52A-03** AMIDST: Attracting Minorities to Geosciences Through Involved Digital Story Telling: A Prakash, J Ohler, C Cooper, M McDermott, J Heinrich, R Johnson, L Leeper, N Polk, T Wimer

1105h **ED52A-04** Partnership Opportunities In Earth System Science Education Between Historically Black and Historically White Universities: Elizabeth City State University and the University of New Hampshire: J E Williams, L B Hayden, C P Wake, R K Varner, K Graham, B N Rock, S Hale, G C Hurtt, W Porter, R Blackmon, J G Bryce, B D Branch, J E Johnson

1120h **ED52A-05** Geoscience Education Opportunities: Partnerships to Advance Teaching and Scholarship (GEOPATHS): A Kansas City Minority Student Recruitment Initiative: J O Adegoke, T M Niemi

1135h **ED52A-06** Research Opportunities in Solid Earth Science (RESESS): Broadening Participation in Geology and Geophysics (Invited): S C Eriksson, M Hubenthal

1150h **ED52A-07** MS PHD'S PDP: A Minority-Focused Earth System Sciences Intervention (*Invited*): **A Johnson**
 1205h **ED52A-08** Food, Environment, Engineering and Life Sciences Program (*Invited*): **R H Mohtar**, A Whittaker, N Amar, W Burgess

Earth and Planetary Surface Processes

EP52A Moscone West: 2002 Friday 1020h
Interpreting Allogenic and Autogenic Processes in the Stratigraphic Record I (*joint with H, NG, OS*)

Presiding: **E A Hajek**, University of Minnesota; **K M Straub**, Tulane University

1020h **EP52A-01** Paleo-kinematics of ancient sedimentary successions: reading the rock record to disentangle autogenic and allogenic processes (*Invited*): **S Gupta**, C Paola, O Jordan, P Sixsmith, J B Swenson, G Hampson, H Johnson

1035h **EP52A-02** Comparing allo- and autogenic depositional elements and key surfaces in the stratigraphic record – Results from two identical delta tank experiments: **M H Hofmann**, A Shultz, J R Suter, C Hill, C Paola

1050h **EP52A-03** Autogenic controls on the depositional architecture of big multi-channel rivers: the Rio Paraná, Argentina: **P J Ashworth**, M L Amsler, J Best, R J Hardy, S N Lane, A Nicholas, O Orfeo, D R Parsons, A Reesink, G Sambrook Smith, S Sandbach, R Szupiany

1105h **EP52A-04** Autogenic Structure of Sinuous Submarine Channel Systems: Insights from a Process Model (*Invited*): **Z Sylvester**, C Pirmez, A Cantelli, A Frascati, M A Wolinsky

1120h **EP52A-05** Influence of Extrinsic and Intrinsic Controls on the Architecture of Basin Floor to Shelf Edge Stratigraphy, Laingsburg Karoo Basin, South Africa: **D M Hodgson**, S S Flint, R Brunt, W van der Merwe, A Prelat, J Figueiredo

1135h **EP52A-06** High-Frequency Allogenic Forcings on the Holocene Stratigraphy of Santa Monica Basin, California (*Invited*): **B Romans**, J A Covault, A Fildani

1150h **EP52A-07** SIGNATURE OF NON-LOCALITY IN DEPOSITIONAL SYSTEMS: IMPLICATIONS FOR MODELING AND INTERPRETATION OF STRATIGRAPHIC RECORDS:

V K Ganti, K M Straub, E Foufoula-Georgiou, M M Meerschaert

1205h **EP52A-08** Biasing of geologic rates from the stratigraphic filter: **R Schumer**, D J Jerolmack, J Antinao

EP52B Moscone West: 2008 Friday 1020h
Processes in the Critical Zone: Interaction of Rock, Water, and Life II (*joint with B, H*)

Presiding: **S P Anderson**, Univ of Colorado; **E Kirby**, Penn State University

1020h **EP52B-01** The dependence of chemical weathering rates on fluid residence time: **K Maher**

1035h **EP52B-02** Climate and regolith constraints of chemical weathering and mass flux in granitic terrain: **C Rasmussen**, S L Brantley, D Richter, A Blum, O Chadwick, J L Dixon, A S Hartshorn, A F White, J Z Williams

1050h **EP52B-03** Exploring Lithologic Controls on Solute Transport at the Shale Hills Critical Zone Observatory (*Invited*): **K Singha**, B W Kuntz, L Toran

1105h **EP52B-04** Nutrient hotspots and O horizon runoff in a Sierra Nevada Watershed: **D W Johnson**, W W Miller, M Meadows, B Rau

1120h **EP52B-05** Boron isotopes in soils: investigation of horizon reactivity and vegetation cycling: **D Cividini**, D Lemarchand, F J Chabaux, M Turpault, D Viville, P Stille, M Pierret

1135h **EP52B-06** Is mineral motion the ultimate control on critical zone carbon sequestration?: **A K Aufdenkampe**, K Yoo, R E Aalto, C Chen, C Fernandez

1150h **EP52B-07** The Role of Vegetation in Critical Zone Hydrology: Imaging the Subsurface for Evidence With Geophysics: **D Jayawickreme**, R L Van Dam, D W Hyndman, R B Jackson

1205h **EP52B-08** Might rock moisture in shallow fractured bedrock underlying hillslopes provide vegetation resilience to future droughts?: **W E Dietrich**, T E Dawson, R Salve, K A Simonin, J Oshun, D Rempe, I Fung

Geodesy

G52A Moscone West: 3022 Friday 1020h
Monitoring the Cryosphere and the Interaction With the Geosphere: Using Satellite and Terrestrial Observations to Reconcile Ice Mass Balance Estimates I (*joint with C, OS, S, GC*)

Presiding: **W Abdalati**, University of Colorado; **I Velicogna**, Univ of California Irvine

1020h **G52A-01** Acceleration rates of Antarctic and Greenland ice sheet mass loss from time-variable ice motion, surface mass balance and gravity. (*Invited*): **E J Rignot**, I Velicogna

1035h **G52A-02** Towards resolving recent Greenland mass loss (*Invited*): **M R van den Broeke**, J L Bamber, J Ettema, E J Rignot, E J Schrama, W van de Berg, E van Meijgaard, I Velicogna, B Wouters

1050h **G52A-03** Operation Ice Bridge overview and results from aircraft laser altimetry (*Invited*): **W B Krabill**, R H Thomas, J G Sonntag, S Manizade, E Fredrick, J Yungel

1105h **G52A-04** Reconstruction of Greenland Ice Sheet Changes from Laser Altimetry Measurements: **B M Csatho**, A F Schenk, C J Van der Veen, W B Krabill

G52B Moscone West: 3022 Friday 1120h
Monitoring the Cryosphere and the Interaction With the Geosphere: Measuring and Modeling Cryosphere-Geosphere Interactions I (*joint with C, GC, T, PP, S, OS, NH, EP*)

Presiding: **J M Sauber**, NASA GSFC; **B Smith**, University of Washington

1120h **G52B-01** Ice loss and glacial earthquakes in Greenland and Antarctica (*Invited*): **M Nettles**, G Ekstrom

1135h **G52B-02** Subglacial topography inferred from ice surface terrain analysis reveals a large un-surveyed basin below sea level in East Antarctica. (*Invited*): **A M Le Brocq**, A Hubbard, M Bentley, J L Bamber

1150h **G52B-03** The East Antarctic Ice Sheet and the Gamburtsev Subglacial Mountains (*Invited*): **R E Bell**, M Studinger, F Ferraccioli, D Damaske, C Finn, D A Braaten, M A Fahnestock, T A Jordan, H Corr, S Elieff, N Frearson, A E Block, K Rose

1205h **G52B-04** Geosphere - Cryosphere Interactions in the Saint Elias orogen, Alaska and Yukon (*Invited*): **R L Bruhn**, J M Sauber, R R Forster, M M Cotton

Global Environmental Change

GC52A Moscone West: 3001 Friday 1020h **SI-Traceable Climate Measurements From Space: Requirements, Methods, and Information Content of Proposed CLARREO Measurements III**

Presiding: J A Dykema, Harvard University; S S Leroy, Harvard University

1020h **GC52A-01** Stochastic Linear Models of Nonlinear Dynamical Systems (*Invited*): **M C Penland**

1035h **GC52A-02** Impact of GPS radio occultation measurements on the ERA-Interim reanalysis (*Invited*): **S Healy**, P Poli, D Dee

1050h **GC52A-03** Principles for Robust On-orbit Uncertainties Traceable to the SI (*Invited*): **E L Shirley**, J A Dykema, G T Fraser, J Anderson

1105h **GC52A-04** Development of a National Standard for Microwave Brightness Temperature at NIST: **A E Cox**, D K Walker

1120h **GC52A-05** Experimental Basis for Robust On-orbit Uncertainty Estimates for CLARREO InfraRed Sensors: **J A Dykema**, H E Revercomb, J Anderson

1135h **GC52A-06** CLARREO IR Spectra: Achieving 0.1 K 3-sigma: **H E Revercomb**, F A Best, D C Tobin, R O Knuteson, J K Taylor, P J Gero, D P Adler, M Mulligan

1150h **GC52A-07** Diagnose climate feedbacks from infrared spectral and microwave refractivity measurements: **Y Huang**, S S Leroy, J A Dykema, J Anderson

1205h **GC52A-08** Synergy Between AIRS and CERES on Aqua: Reflections on Additional Information Content of CLARREO IR measurements: **X Huang**, N G Loeb

Hydrology

H52A Moscone West: 3005 Friday 1020h **Detecting and Attributing Change in Coupled Human-Hydrologic Systems: Foundations for Successful Prediction and Adaptation III** (*joint with B, IN, GC, NH, EP, V, PA*)

Presiding: J S Arrigo, East Carolina University

1020h **H52A-01** Unsaturated Zone Records of Past Impacts of Land-Use Change on Water Resources in Semiarid Regions (*Invited*): **B R Scanlon**, R C Reedy, J B Gates

1035h **H52A-02** The Border Environmental Health Initiative: Investigation of the Transboundary Santa Cruz Watershed: L M Norman, J B Callegary, C van Riper, F Gray, N Paretti, **M Villarreal**

1050h **H52A-03** The Use of Environmental Isotopes to Examine Human-induced Changes in the Hydrologic Record in California: **J E Moran**, B Esser, M J Singleton, D J Hillegonds

1105h **H52A-04** Estimating resource costs of water use at the river basin scale: **N Riegels**, R A Jensen, L Bensasson, P Bauer-Gottwein

1120h **H52A-05** Physical and Social Impacts on Hydrologic Properties of Residential Lawn Soils: **M L Smith**, L E Band

1135h **H52A-06** Dealing with Variability: Inter and Intra-annual Climate Variability and its Impacts on Water Availability in the 19th Century Northeastern United States: **N R Aloysius**, B B Witherell, T L Allen, J S Arrigo, C J Vorosmarty

1150h **H52A-07** Historical Runoff Prediction in Ungauged Basins: Monte Carlo Simulation of Rainfall-Runoff Relationships in the 19th century Northeastern U.S: **E N Bray**, M B Green, J S Arrigo

1205h **H52A-08** Hydrologic Change during the Colonial Era of the United States: Beavers and the Energy Cost of Impoundments (*Invited*): **M B Green**, D J Bain, J S Arrigo, J M Duncan, S Kumar, A Parolari, N Salant, C J Vorosmarty, N R Aloysius, E N Bray, C M Ruffing, B B Witherell

H52B Moscone West: 3011 Friday 1020h **General Hydrogeophysics II** (*joint with NS*)

Presiding: R L Van Dam, Michigan State University; T C Johnson, Idaho National Laboratory; M Looms, University of Copenhagen; R Deiana, University of Padova

1020h **H52B-01** Acquisition, Processing, and Analysis of Continuous Multi-Offset GPR Data for Problems in Hydrogeophysics: Is it Worth the Cost? (*Invited*): **J H Bradford**

1040h **H52B-02** Remotely Estimation of the Soil Hydraulic Properties by Using Full-Waveform Hydrogeophysical Inversion of the Time-Lapse GPR Data: **K Z Jadoon**, L Sebastien, E C Slob, H Vereecken

1055h **H52B-03** Mapping a Shallow Volcaniclastic Aquifer with GPR and ER in El Salvador: **W E Sanford**, C Ferrantelli, D L Harry

1120h **H52B-04** Hydrogeologic inferences from geophysical and geologic investigation of the Standard Mine site, Elk Basin, Colorado: **B J Minsley**, J S Caine, L B Ball, B Burton, E Curry-Elrod, A H Manning, P L Verplanck

1135h **H52B-05** Calibrating Vadose Zone Models with Time-Lapse Gravity Data: **L Christiansen**, A B Hansen, M C Looms, E B Haarder, P J Binning, D Rosbjerg, O B Andersen, P Bauer-Gottwein

1150h **H52B-06** Monitoring groundwater storage in an alpine watershed in the Canadian Rockies using microgravity measurements: **A F McClymont**, M Hayashi, J Liard

1205h **H52B-07** Aquifer and Shallow San Andreas Fault Permeabilities Inferred from Poroelastic Modeling of InSAR Measurements of Land Surface Deformation in Coachella Valley, California. Ravi Appana and Martin O. Saar: **R Appana**, M O Saar

H52C Moscone West: 3009 Friday 1020h **Shallow and Deep Geothermal Energy II** (*joint with NS, NG, MR*)

Presiding: S M Ezzedine, LLNL; G A Ferguson, St. Francis Xavier University

1020h **H52C-01** A Brief History With Lessons Learned From The Hot Dry Rock Geothermal Energy Program At Fenton Hill, New Mexico, USA: **S Kelkar**, G W WoldeGabriel, K R Rehfeldt

1035h **H52C-02** Stress-dependent fracture-aperture relationships for geothermal energy applications (*Invited*): **G Zvyoloski**

1055h **H52C-03** Thermal Energy Recovery from Enhanced Geothermal Systems - Evaluating the Potential from Deep, High-Temperature Resources: **C Williams**

1110h **H52C-04** In-situ stress and fracture characterization for planning of a hydraulic stimulation in the Desert Peak Geothermal Field, NV: **S Hickman**, N C Davatzes

1124h **H52C-05** The Socorro Geothermal System: A Low Temperature Geothermal Resource: **M A Person**, L B Owens

1138h **H52C-06** Coupling geothermal energy capture with carbon dioxide sequestration in permeable, porous geologic formations I: Overview and discussion: **M O Saar**, J B Randolph

1152h **H52C-07** Coupling geothermal energy capture with carbon dioxide sequestration in permeable, porous geologic formations II: Numerical modeling and preliminary results: **J B Randolph**, M O Saar

1206h **H52C-08** A Case Study for Geothermal Exploration in the NE German Basin: Integrated Interpretation of Seismic Tomography, Litho-Stratigraphy, Salt Tectonics, and Thermal Structure: **K Bauer**, I Moeck, B Norden, A Schulze, M H Weber

H52D Moscone South: 104 Friday 1020h
Science, Management, and Restoration of Aquatic Systems in Arid and Semiarid Basins II (*joint with A, B, GC, PA*)

Presiding: **J Lee**, Univ Missouri-Kansas City; **M L Hughes**, The Klamath Tribes; **M W Gannett**, USGS; **D M Tratt**, The Aerospace Corporation

1020h **H52D-01** Fluvial Geomorphology and River Restoration: Uneasy Allies (*Invited*): **G M Kondolf**

1040h **H52D-02** Connecting science to managers in river restoration in the Upper Klamath Basin, Oregon and California: **P F McDowell**

1100h **H52D-03** Watershed Restoration on Black Drake Ranch: Humility vs. hubris in applying incomplete scientific information to real world applications: **G B Bulkley**, S Mattenberger

1115h **H52D-04** Dam Effects on Sediment Transport and Channel Form in the Klamath River: Implications for Salmonid Restoration: **M R Tompkins**, G M Kondolf

1130h **H52D-05** The effects of habitat restoration on endangered fishes in the Upper Klamath Basin: **S VanderKooi**, S Burdick, C Ellsworth

1145h **H52D-06** Vegetation and geomorphic significance of the riparian greenline in the Sprague River basin, southern Oregon: implications for biogeomorphic monitoring of riparian corridors in semi-arid mountain valleys: **M L Hughes**, C Leeseberg

H52E Moscone West: 3007 Friday 1020h
Uncertainty Analysis and Risk Assessment in Groundwater Modeling III

Presiding: **D M Tartakovsky**, Univ California San Diego; **D Bolster**, UPC

1020h **H52E-01** A Probabilistic Framework for Risk Analysis: Application to Groundwater Problems (*Invited*): **X Sanchez-Vila**, D M Tartakovsky, D Bolster, D Fernandez-Garcia

1035h **H52E-02** A Reduced Complexity Model for Probabilistic Risk Assessment of Groundwater Contamination (*Invited*): **C Winter**, D M Tartakovsky

1050h **H52E-03** Exact Probability Density Function (PDF) of Concentration for Transport in a Random Velocity Field: **M Dentz**, D M Tartakovsky

1105h **H52E-04** ASSESSING AND OPTIMIZING THE WORTH OF INFORMATION UNDER MODEL, PARAMETER AND DATA UNCERTAINTIES (*Invited*): **S P Neuman**, M Ye

1120h **H52E-05** Stochastic Evaluation of Mass Fluxes from Point-Like Concentration Measurements: **O A Cirpka**, R L Schwede

1135h **H52E-06** Impact of Geological Characterization Uncertainties on Subsurface Flow & Transport Using a Stochastic Discrete Fracture Network Approach: **S M Ezzedine**

1150h **H52E-07** Uncertainty Assessment of Head Measurements Using Time Series Analysis: **M Bakker**, J Von Asmuth, K Maas

1205h **H52E-08** Examination of Uncertainty Associated with Thermal Time Series Analysis Estimates of Shallow Groundwater Movement: **M A Shanafield**, G Pohll, C E Hatch

Natural Hazards

NH52A Moscone West: 2006 Friday 1020h
Extreme Natural Hazards: Risk Assessment, Forecasting, and Decision Support III (*joint with A, B, IN, P, OS, NG, H, G, S, V*)

Presiding: **H Plag**; **I Zaliapin**, University of Nevada; **B L Bye**, Norwegian Mapping Authority

1020h **NH52A-01** Methods for Assessing Uncertainties in Climate Change, Impacts and Responses (*Invited*): **M R Manning**, R Swart

1040h **NH52A-02** The Search for Relevant Climate Change Information to Support Adaptation Decision Makers: Lessons from Reductionism, Emergence and the Past (*Invited*): **D Stainforth**, S Harrison, L A Smith

1100h **NH52A-03** Effects of climate change on landslide hazard in Europe (*Invited*): **F Nadim**, A Solheim

1120h **NH52A-04** Quantifying the impacts of landslides on society: **D N Petley**, N Rosser, R Parker

1135h **NH52A-05** Uncertainty and sensitivity assessment of flood risk assessments: **H de Moel**, J C Aerts

1150h **NH52A-06** Climate, Water, and Human Health: Large Scale Hydroclimatic Controls in Forecasting Cholera Epidemics: **A S Akanda**, A S Jutla, S Islam

1205h **NH52A-07** On Time-Dependent Seismic Risk Assessment: A K Nekrasova, **V G Kossobokov**, L L Romashkova

Planetary Sciences

P52A Moscone South: 307 Friday 1020h
Recent Results in Planetary Science and Their Impact on Future Science and Mission Priorities III (*joint with A, B, G, GP, SM, SA*)

Presiding: **S W Squyres**, Cornell University; **L A Soderblom**

1020h **P52A-01** Exploring the surface of Venus: **J Helbert**, N T Mueller, S E Smrekar, G Piccioni, P Drossart

1032h **P52A-02** Importance of an Integrated Program of Landed and Orbital Missions for Understanding Mars and its Habitability: **R E Arvidson**

1044h **P52A-03** Next Steps in Mars Polar Science: In Situ Subsurface Exploration of the North Polar Layered Deposits: **M H Hecht**, K E Fishbaugh, S Byrne, K E Herkenhoff, S M Clifford, T N Titus, O Aharonson

1056h **P52A-04** Elemental Compositions of the Martian Surface and Atmosphere and Their Influence on Future Mars Science: **W V Boynton**, J Taylor, S M McLennan, A L Sprague, H E Newsom

1108h **P52A-05** Mars Rover Proposed for 2018 to Seek Signs of Life and to Cache Samples for Potential Return to Earth: **L M Pratt**

1120h **P52A-06** A mission concept for a Grand Tour of Multiple Asteroid Systems: **F Marchis**, J Dankanich, P tricarico, J Bellerose

1132h **P52A-07** Binary and Multiple Systems Binary and Multiple Systems: **A F Cheng**, A Rivkin, P Michel, C M Lisse, K Walsh, K S Noll, D Ragozzine, L Benner

1144h **P52A-08** The Case for Ceres: Report to the Planetary Science Decadal Survey Committee: **A S Rivkin**, J C Castillo, N Abreu, E I Asphaug, A F Cheng, B E Clark, B A Cohen, P G Conrad, P O Hayne, E S Howell, T V Johnson, G Y Kramer, L A Lebofsky, J Li, L F Lim, A J Lovell, D Matson, T B McCord, L McFadden, W B McKinnon, R Milliken, W B Moore, J H Roberts, C T Russell, B E Schmidt, M V Sykes, P C Thomas, M Y Zolotov

1156h **P52A-09** Rings Research in the Next Decade: J A Burns, **M S Tiscareno**

1208h **P52A-10** Technologies for Outer Planet Missions: A Companion to the OPAG Exploration Strategy: **P M Beauchamp**, W B McKinnon

Paleoceanography and Paleoclimatology

PP52A Moscone West: 2004 Friday 1020h
Decadal- to Century-Scale Climate Variability Over the Past Millennium: Evidence From Non-Tree-Ring Archives II

Presiding: **D E Black**, Stony Brook University; **P B DeMenocal**, Lamont-Doherty Earth Obs; **J M Schaefer**

1020h **PP52A-01** A coral-based reconstruction of Atlantic sea surface temperature trends and variability since 1552 (*Invited*):

C P Saenger, A L Cohen, D Oppo, J Carilli, R B Halley

1032h **PP52A-02** Centennial-scale surface water $\delta^{18}\text{O}$ anomalies in the Florida Straits: Implications of magnitude and timing (*Invited*): **D C Lund**

1044h **PP52A-03** Testing Molecular Organic and Foraminiferal-Based Sedimentary Geochemical Records of Gulf of Mexico SST: **J N Richey**, B P Flower, T I Eglinton, D J Hollander

1056h **PP52A-04** Caribbean climate since 1469: a coral perspective on seasonal, multidecadal and centennial variability: **K H Kilbourne**, T M Quinn, R S Webb, T P Guilderson, A Winter, J Nyberg

1108h **PP52A-05** Seasonality in the tropical Atlantic: an 800-year record of seasonally-representative Mg/Ca data from the Cariaco Basin: **D E Black**, S Rahman, J Wurtzel, R Thunell, B Mauer, E J Tappa

1120h **PP52A-06** Estuarine Alkenones: A High-Resolution Record of Sea-Surface Temperature from Narragansett Bay over the Past Millennia: **J Salacup**, J R Farmer, T Herbert, W L Prell

1132h **PP52A-07** Accurate decadal-resolution SST chronologies from deep-sea sediments spanning recent millennia: **P B DeMenocal**, S J Lehman, J R Southon, B K Linsley, C Cleroux, J A Arbuszewski, A Kaplan

1144h **PP52A-08** Climate and North Atlantic Deep Water variability since 600 AD: Multiproxy Evidence From the Eirik Drift: **H F Kleiven**, U S Ninnemann

1156h **PP52A-09** Solar Forcing of Ice-Rafting in the North Atlantic During the Late Holocene?: **B P Flower**, R Lotti Bond

1208h **PP52A-10** Rapid onset of Little Ice Age summer cold in the northern North Atlantic derived from precisely dated ice cap records (*Invited*): **G H Miller**, D Larsen, A Geirsdottir, K A Refsnider, C Anderson

SPA - Solar and Heliospheric Physics

SH52A Moscone South: 301 Friday 1020h
Solar Wind Turbulence: Advances in Theory and Observations II (*joint with SM, NG*)

Presiding: **J J Podesta**, Los Alamos National Laboratory; **C W Smith**, University of New Hampshire

1020h **SH52A-01** Magnetic Energy Distribution in the Four-Dimensional Frequency and Wave Vector Domain: **Y Narita**

1034h **SH52A-02** Anisotropy up to and Beyond the Outer Scale of Turbulence and its Radial Dependence: **R T Wicks**, T S Horbury, M A Forman

1048h **SH52A-03** Cascade and Dissipation of Solar Wind Turbulence at Electron Scales: Whistlers or Kinetic Alfvén Waves? (*Invited*): **F Sahraoui**, M L Goldstein

1105h **SH52A-04** Wavemode identification in the dissipation/dispersion range of solar wind turbulence: Kinetic Alfvén Waves and/or Whistlers? (*Invited*): **C S Salem**, D J Sundkvist, S Bale

1122h **SH52A-05** Global scale-invariance of small-scale magnetic fluctuations in solar wind turbulence as seen by CLUSTER: **K H Kiyani**, S C Chapman, Y V Khotyaintsev, M W Dunlop, F Sahraoui

1136h **SH52A-06** Turbulent Heating in the Fast Solar Wind: **W Dorland**

1151h **SH52A-07** The Heating of Test Particles in Numerical Simulations of Alfvénic Turbulence: **I J Parrish**, R Lehe, E Quataert

1206h **SH52A-08** Instability of the strahl electron distribution and a halo formation in the solar wind: V Galinsky, **V I Shevchenko**

SPA - Magnetospheric Physics

SM52A Moscone South: 305 Friday 1020h
Dynamics of the Plasma Sheet II

Presiding: **J E Borovsky**, Los Alamos National Lab; **R E Ergun**, University of Colorado

1020h **SM52A-01** THEMIS Observations of Double Layers in Plasma Sheet: **R E Ergun**, L Andersson, J Tao, V Angelopoulos, J W Bonnell, J P McFadden, D E Larson, S Eriksson, C M Cully, D L Newman, M V Goldman, A Roux, O LeContel, K Glassmeier, W Baumjohann

1035h **SM52A-02** Dipolarization fronts: Particle simulations with open boundaries and THEMIS observations: **M I Sitnov**, M M Swisdak, A Divin, A Runov, V Angelopoulos, V A Sergeev, S Ohtani, B H Mauk

1050h **SM52A-03** Roles of double lobe reconnection and Kelvin-Helmholtz instability in the formation of the cold dense plasma sheet: A statistical study: **M Hirai**, M Hoshino, K Hashimoto, T Mukai

1105h **SM52A-04** Geotail observations of the average location of the near-Earth neutral line and its dependence on solar activity: **S M Imber**, J A Slavin

1120h **SM52A-05** Plasma Sheet Changes Caused by Sudden Enhancements of the Solar Wind Pressure: **Y Miyashita**, K Keika, K Liou, S Machida, Y Kamide, Y Miyoshi, Y Matsumoto, I Shinohara, Y Saito, T Mukai

1135h **SM52A-06** Diffusive transport of particles from the flank toward midnight resulting from fluctuating electric and magnetic fields in the plasma sheet: **C Wang**, L R Lyons

1150h **SM52A-07** CURRENT SHEET THINNING AND ENTROPY CONSTRAINTS DURING THE SUBSTORM GROWTH PHASE: **A Otto**, F Hall IV

1205h **SM52A-08** Magnetotail reconnection and substorms: New results from Double Star-Cluster and THEMIS measurements: **Z Pu**, X Cao, X Chu, J Wang, Y Wei, V V Mishin, Q Zong, S Fu, L Xie

SM52B Moscone South: 303 Friday 1020h
Relationship Between Auroral Phenomenology and Magnetospheric Processes III (*joint with SA*)

Presiding: **R Karlsson**, School of Electrical Engineering; **A Keiling**, University of California, Berkeley

1020h **SM52B-01** Fundamental Issues of Auroral Arc Formation (*Invited*): **G Haerendel**

1039h **SM52B-02** Magnetospheric discontinuities and interfaces as roots of discrete auroral arcs: modeling and comparison with in-situ data: **M Echim**, R Maggiolo, J M De Keyser, M A Roth

1053h **SM52B-03** Low-frequency waves in auroral arcs: optical echo of magnetotail dynamics (*Invited*): **V M Uritsky**, J Liang, E F Donovan, E L Spanswick, D J Knudsen, W Liu

1108h **SM52B-04** Discrete Aurora, Ionospheric Feedback Instability, and Substorm Development: **A V Streltsov**, T R Pedersen, E V Mishin, A L Snyder

1122h **SM52B-05** Auroral Small-and Meso-Scale Structures, Origin and Function: **H U Frey**, O Amm, C C Chaston, S Fu, G Haerendel, L Juusola, R Karlsson, B S Lanchester, R Nakamura, N Ostgaard, T Sakanoi, E Seran, D Whiter

1136h **SM52B-06** Alfvénic Electron Acceleration and Auroral Morphology: C E Watt, **R Rankin**

1150h **SM52B-07** The Generation of Parallel Electric Fields During the Formation of Substorm Auroras: **Y Song**, R L Lysak

1204h **SM52B-08** Composite imaging of convective flows and auroral forms during a substorm cycle: **J L Semeter**, T Butler, M D Zettergren, M J Nicolls, C J Heinselman

Study of Earth's Deep Interior (DI)

DI52A Moscone West: 2003 Friday 1020h
Seismic Anisotropy and Geodynamics III (*joint with MR, S*)

Presiding: **E Lev**, Columbia University; **G Hirth**, Brown University

1020h **DI52A-01** Seismic anisotropy beneath Southern Iberia and Northern Morocco: first results from the IberArray broad-band seismic network: **J Diaz**, J Gallart

1035h **DI52A-02** Subduction or Delamination Under the Gibraltar Arc: Seismological Constraints from Dispersion and Anisotropy: **G H Bokermann**, E MAUFROY, L Buontempo, J Morales, G Barruol

1050h **DI52A-03** Subduction Zone Anisotropic Patterns Produced by Hydration and De-hydration of the Slab: L Burlini, **M Faccenda**, T Gerya, D Mainprice

1105h **DI52A-04** Role of hydrated mantle in the production of trench-parallel shear wave splitting signals: **E Kaminski**, D A Okaya

1120h **DI52A-05** Reconciling Surface Plate Motions and Rapid Three-dimensional Mantle Flow around the Southern Alaska Slab Edge: **M Jadamec**, M I Billen

1135h **DI52A-06** Seismic Anisotropy beneath Cascadia and the Mendocino Triple Junction: Interaction of the Subducting Slab with Mantle Flow: **C M Eakin**, M J Obrebski, R M Allen, D C Boyarko, M R Brudzinski, E Humphreys, A Levander, L O'Driscoll, R W Porritt, Y Zhai

1150h **DI52A-07** The stratification of azimuthal anisotropy in the western US: **F Lin**, M H Ritzwoller, Y Yang, M P Moschetti, M J Fouch

1205h **DI52A-08** Robust splitting measurements and high resolution anisotropy imaging: Application to Southern California: **V Monteiller**, S Chevrot

Seismology

S52A Moscone West: 2005 Friday 1020h
Marine Seismology and Bottom Interacting Ocean Acoustics II (*joint with OS, T*)

Presiding: **S C Singh**, Institut de Physique du Globe de Paris; **A Weglein**

1020h **S52A-01** Long Range Hydroacoustic Propagation from Small Explosives to Large Tectonic Events (*Invited*): **C D deGroot-Hedlin**

1035h **S52A-02** T-wave characteristics of a large dataset of Sumatra aftershocks: **E Okal**

1050h **S52A-03** Traveling Wave Modal Attenuation in Layered Media: **R I Odom**, L Blair

1105h **S52A-04** Very small microearthquakes detected by a 200 m-aperture ocean bottom seismometer network on the active TAG hydrothermal mound, (Mid-Atlantic Ridge, 26°08'N): Evidence for hydraulic fracturing in the recharge zone (*Invited*): **C Pontbriand**, R A Reves-Sohn

1120h **S52A-05** A three-dimensional tomographic velocity model above Mid Atlantic magma chamber from simulated seafloor multi-channel seismic refraction experiment: A F Arnulf, **A J Harding**, G Kent, S C Singh

1135h **S52A-06** Upper Crustal Structure of the Cleft Segment of the Juan de Fuca Ridge using 2D Streamer travel time tomography: **S Ghosh**, J Canales, S M Carbotte, M R Nedimovic

1150h **S52A-07** Seismicity of the Quebrada, Discovery, and Gofar Transform Faults: **J J McGuire**, J A Collins, E C Roland, M D Behn

1205h **S52A-08** Supraslab earthquakes above the Pacific-plate slab offshore Sanriku, NE Japan: **N Uchida**, S H Kirby, T Okada, R Hino, A Hasegawa

Tectonophysics

T52A Moscone West: 2007 Friday 1020h
Brittle Deformation of Solids and Granular Materials III (*joint with MR, NG, S*)

Presiding: **Y Ben-Zion**, University of Southern California; **C G Sammis**, Univ Southern California

1020h **T52A-01** Transition from velocity weakening to strong velocity strengthening friction in dense granular shear experiments: **O Kuwano**, R Ando, T Hatano

1035h **T52A-02** Fault Lubrication and Earthquake Propagation in Thermally Unstable Rocks: **N De Paola**, T Hirose, T M Mitchell, G Di Toro, C Viti, T Shimamoto

1050h **T52A-03** Dynamic Weakening During Earthquakes by Gouge Lubrication: **Z Reches**, D A Lockner, D E Moore, A S Madden

1105h **T52A-04** Laboratory investigation of the radiative energy transfer during rupture nucleation: **A J Schubnel**, N Brantut, A Ougier-Simonin, M Adelinet, J Fortin, Y Gueguen

1120h **T52A-05** Semi-empirical constitutive relations for dynamic weakening based on high speed friction experiments: **N M Beeler**

1135h **T52A-06** Off-fault tensile cracks: A link between geological fault observations, experiments and earthquake rupture models: D Ngo, Y Huang, **A Rosakis**, W A Griffith, D D Pollard

1150h **T52A-07** Slip sequences in laboratory experiments: **J Fineberg**, S M Rubinstein, O Ben-David

1205h **T52A-08** Understanding of diversity in dynamic earthquake rupture phenomena : important effects of damage formation, frictional heating and fluid flow: **T Yamashita**, T Suzuki

T52B Moscone West: 2011 Friday 1020h
Fluid-Rock Interactions in Shallow Fault Zones: Implications for Fault Processes and Mechanical Behavior I

Presiding: **C Verdel**, University of Michigan; **A M Schleicher**, University of Michigan

1020h **T52B-01** The microstructural character and evolution of fault rocks from the SAFOD core and potential weakening mechanisms along the San Andreas Fault (*Invited*): **R E Holdsworth**, E van Diggelen, C Spiers, J H De Bresser, S A Smith

1035h **T52B-02** Pore fluid 'ages' suggest fluid replacement events across the San Andreas Fault at Depth, Parkfield, CA (*Invited*): **S Ali**, M Stute, T Torgersen, S R Hemming, M Q Fleisher, G Winckler

1050h **T52B-03** Mineral Reactions in Active Fault Strands of the SAFOD Borehole: Results from Mineralogical and U/Th Studies: **A M Schleicher**, S Ali, M Stute, T Torgersen, B A van der Pluijm, L N Warr

1105h **T52B-04** Evidences of transient increase of fluid pressure in isolated patches of the active San Andreas Fault in SAFOD phase III cores: **S Mittempergher**, G Di Toro, J Gratier, J Hadizadeh, S A Smith, G Desbois, R Spiess

1120h **T52B-05** Damage Surrounding Dynamically Propagating Shear Cracks in Granodiorite (*Invited*): **D R Faulkner**, R G Faulkner, J M Cembrano, E Jensen

1135h **T52B-06** Tracing meteoric fluid flow in extensional detachment systems (*Invited*): **A Mulch**, C Teyssier, A Gebelin, C P Chamberlain, M A Cosca

1150h **T52B-07** Meteoric water in normal fault systems: Oxygen and hydrogen isotopic measurements on authigenic phases in brittle fault rocks: **S H Haines**, R Anderson, A Mulch, J G Solum, J W Valley, B A van der Pluijm

1205h **T52B-08** Thermochronology of fault rocks from the mid-Miocene South Virgin-White Hills detachment, Arizona and Nevada: **C Verdel**, B A van der Pluijm, N A Niemi

T52C Moscone West: 2009 Friday 1020h
From Subduction to Collision, With Recent TAIGER and Other Results III (*joint with S*)

Presiding: **F T Wu**, Binghamton University; **E A Bertrand**, University of Alberta

1020h **T52C-01** Metamorphism in Taiwan : state of the art and some geodynamic interpretation: O Beyssac, **M Simoes**, J Avouac, J Malavieille, Y Chen, Y Chan

1035h **T52C-02** Temporal evolution of the arc-continent collision in Taiwan from three-dimensional MT studies: **E A Bertrand**, M J Unsworth, C Chiang, C Chen, C Chen, F T Wu

1050h **T52C-03** The transition zone from subduction to collision beneath the Taiwan orogen: joint inversion of explosion, local and teleseismic events from TAIGER experiment: **H Kuo-Chen**, F T Wu, S W Roecker, L L Lavier

1105h **T52C-04** Numerical Models of Subduction to Arc-Continent Collision: The case of Taiwan: E S Logan, **L L Lavier**, F T Wu, D A Okaya, K D McIntosh, H Kuo-Chen, H J Van Avendonk

1120h **T52C-05** Toward A Tectonic Synthesis Of Taiwan With TAIGER Data: **F T Wu**, H Kuo-Chen, L L Lavier, M J Unsworth, E A Bertrand

1135h **T52C-06** Collision and subduction structure of the Izu-Bonin arc, central Japan: Recent studies from refraction/wide-angle reflection analysis and seismic tomography: **R Arai**, T Iwasaki, H Sato, S Abe, N Hirata

1150h **T52C-07** HOW LITHOSPHERIC SUBDUCTION CHANGES ALONG THE CALABRIAN ARC IN SOUTHERN ITALY: GEOPHYSICAL EVIDENCES: G Neri, A Marotta, **B Orecchio**, D Presti, C Totaro, R Barzaghi, A Borghi

1205h **T52C-08** Double-Sided Wedge Model For Retreating Subduction Zones: Applications to the Apenninic and Hellenic Subduction Zones (*Invited*): **M T Brandon**, S Willett, J M Rahl, D S Cowan

Volcanology, Geochemistry and Petrology

V52A Moscone West: 2020 Friday 1020h
Geochemically Complex, Multicomponent Fluids and Geologic Processes III (*joint with EP*)

Presiding: **J D Webster**, AMNH; **C E Manning**, University of California Los Angeles

1020h **V52A-01** Progress toward understanding the effects of the oxidation state of H-O-S-Cl-bearing fluids on metal partitioning in magmatic systems (*Invited*): **A C Simon**

1050h **V52A-02** Complexation of Sr in aqueous fluids equilibrated with silicate melts: effect of melt and fluid composition: **M Borchert**, M Wilke, C Schmidt, K Kvashnina

1105h **V52A-03** Origin and implications of zoned amphiboles and other hydrous silicates during aqueous brine infiltration in the Bamble mega shearzone, S-Norway: **B E Sorensen**, R B Larsen

1120h **V52A-04** In-situ Raman spectroscopic study of aluminate speciation in H₂O-KOH solutions at high pressures and temperatures: **M Mookherjee**, H Keppler, C E Manning

1135h **V52A-05** Speciation in concentrated NaCl aqueous solutions at high pressure and high temperature: Insights from ab initio molecular dynamics simulations: **S Jahn**, C Schmidt

1150h **V52A-06** Brines in Crustal Processes: Important Roles Inferred From Experimental Studies (*Invited*): **R C Newton**, C E Manning

V52B Moscone West: 2016 Friday 1020h
The 2008-2009 Eruption of Halema'uma'u, Kilauea: Eruption, Ascent Dynamics, and Plume Dispersion II

Presiding: **B F Houghton**, University of Hawaii; **J P Kauahikaua**, Hawaiian Volcano Observatory

1020h **V52B-01** Mass Flux of Tephra Sampled Frequently During the Ongoing Halema'uma'u Eruption (*Invited*): **D Swanson**, K Wooten, T R Orr

1035h **V52B-02** Tephra Dispersal during the 19 March 2008 Eruption of Halemaumau Crater, Kilauea: **B F Houghton**, D Swanson, R J Carey, M Klawonn, S A Fagents

1050h **V52B-03** Halema'uma'u Slug Degassing and Chamber Reverberation from Infrasound Pressure Records (*Invited*): **D Fee**, M Garces

1105h **V52B-04** Characterization of long period tremor bursts during the 2008-present summit eruption of Kilauea volcano, Hawaii (*Invited*): **D Wilson**, M R Patrick

1120h **V52B-05** Shallow degassing events as a trigger for very-long-period seismicity at Kilauea Volcano, Hawaii: **M R Patrick**, D Wilson, D Fee, T R Orr, D Swanson

1135h **V52B-06** Rapid Temporal Geochemical and Isotopic Variations of Tephra From the Ongoing 2008-2009 Summit Eruption of Kilauea Volcano, Hawaii: **A J Pietruszka**, M O Garcia, J M Rhodes, M D Norman, I N Bindeman, J M Eiler, D H Burns, J P Marske

1150h **V52B-07** Satellite measurements of SO₂ emission and dispersion during the 2008-2009 eruption of Halema'uma'u, Kilauea: **S A Carn**, A J Sutton, T Elias, M R Patrick, R C Owen, S Wu

1205h **V52B-08** Volatile Budget of Kilauea Volcano Receives Stimulus from the Magma Bank: **A J Sutton**, T Elias, T Gerlach, R Lee, A Miklius, M P Poland, C A Werner, D Wilson

V52C Moscone West: 2018 Friday 1020h
Thermochronology: Diffusion Kinetics in Accessory Minerals
From He to Pb II (*joint with T*)

Presiding: **T Blackburn**, MIT; **R M Flowers**, University of Colorado, Boulder

- 1020h **V52C-01** The Fast and the Slow, the High and the Low – Investigations of Pb and He Diffusion in Accessory Minerals and Implications for Geochronology (*Invited*): **D J Cherniak**, E B Watson
- 1035h **V52C-02** U-Pb rutile thermochronology: a review and status report on a vexing conundrum (*Invited*): **M D Schmitz**, J H Dye
- 1050h **V52C-03** U-Pb Thermochronology of lower crustal xenoliths: creating a temporal record of lithosphere thermal evolution: **T Blackburn**, S A Bowring, B Schoene, F O Dudas, K H Mahan
- 1105h **V52C-04** Direct evidence for anisotropic He diffusivity in zircon provided by laser depth profiling (*Invited*): **K Hodges**, M C Van Soest, B D Monteleone, J W Boyce
- 1120h **V52C-05** Zircon (U-Th)/He thermochronometry in the KTB drill hole, Germany - Implications for He diffusion in zircon: **D F Stockli**, M R Wolfe
- 1135h **V52C-06** He diffusion in zircon: Observations from (U-Th)/He age suites and 4He diffusion experiments and implications for radiation damage and anisotropic effects: **W R Guenther**, P W Reiners
- 1150h **V52C-07** Radiation-damage-controlled He diffusion and ⁴He/³He spectra in apatite: an example of mutually consistent results from the Grand Canyon (*Invited*): **K A Farley**, R M Flowers
- 1205h **V52C-08** Tectonically-Controlled Exhumation versus Climatically Driven Relief Development in the Valais Area (Western European Alps) Revealed by Apatite (U-Th-Sm)/He and 4He/3He Thermochronometry: **P G Valla**, D L Shuster, P Van Der Beek, G Balco, F Herman, J Braun

Friday P.M.

Union

U53A Moscone South: Poster Hall Friday 1340h
The EarthScope Initiative: From North America Geodynamics to New Frontiers in Science III Posters (*joint with S, T, G*)

Presiding: **C M Puskas**, University of Utah; **L M Flesch**, Purdue University

- 1340h **U53A-0047 POSTER** EarthScope and Its Influence at the IRIS DMC: **P A Johnson**, C M Trabant, G Sharer, R B Benson, M E Templeton, T K Ahern
- 1340h **U53A-0048 POSTER** Earthscope's Transportable Array: Current Status and Future Developments: **K Hafner**, R W Busby, R Woodward
- 1340h **U53A-0049 POSTER** Transforming Earthquake Sources into Virtual Stations using the Correlation of the Seismic Coda: **E Matzel**
- 1340h **U53A-0050 POSTER** Determination of absolute arrival times for secondary phases from combined waveform cross-correlation and differential τ^* measurement: Application to USArray data: **P Shore**, **D S Heeszel**, M E Wyssession, G G Euler
- 1340h **U53A-0051 POSTER** Surface Waves Across the TA: an Integrated Seismic and Geodynamic Analysis of Anisotropy and Mantle Deformation Beneath California: **J B Gaherty**, P Chen, L Zhao, M Roy, J L Tetreault

1340h **U53A-0052 POSTER** 3D Teleseismic Scattered Wave Imaging with the Generalized Radon Transform Inversion: Synthetic Tests and Applications: **A Cao**, A Levander

1340h **U53A-0053 POSTER** The TEENA experiment: a pilot project to study the structure and dynamics of the eastern US continental margin: **M H Benoit**, M D Long

1340h **U53A-0054 POSTER** The LITHOPROBE trans-continental lithospheric cross-sections: Imaging the internal structure of the North American continent: **P T Hammer**, R M Clowes, A J van der Velden, F A Cook, K Vasudevan

1340h **U53A-0055 POSTER** BASE Flexible Array Preliminary Lithospheric Structure Analysis: **W L Yeck**, A F Sheehan, M L Anderson, C S Siddoway, E Erslev, S H Harder, K C Miller

1340h **U53A-0056 POSTER** Reconstructing the Mid-Tertiary Southwestern North America Cordilleran Crust: Crustal Anisotropy: **R C Porter**, G Zandt, N McQuarrie, H J Gilbert, B R Hacker

1340h **U53A-0057 POSTER** Receiver function survey of Earthscope sites in the Pacific North West; preliminary results: **A Nikulin**, B Marshall, V L Levin, J J Park

1340h **U53A-0058 POSTER** Joint magnetotelluric and seismic investigation of the Cascadia subduction zone structure: Preliminary results and outlook: **R S McGary**, R L Evans, S Rondenay, G A Abers, K C Creager, P E Wannamaker

1340h **U53A-0059 POSTER** Imaging the slab-continent interface beneath Washington with spectral ambient noise tomography: **J A Calkins**, G A Abers, G Ekstrom, K C Creager, S Rondenay

1340h **U53A-0060 POSTER** USArray Observations of Quasi-Love Surface-Wave Scattering: Orienting Anisotropy in the Cascadia Subduction Zone: **D M Rieger**, J J Park

1340h **U53A-0061 POSTER** Shear wave velocity structure beneath southern California: Mantle at crustal depths beneath the Borderlands: **C J Rau**, D W Forsyth, Y Wang

1340h **U53A-0062 POSTER** Station Delays, Their Standard Deviations, and Event Relocations in the Reno-Area Basin from a Dense Deployment During the 2008 West Reno Earthquake Swarm: **M S Dhar**, M Thompson, A M Kell, J N Louie, K D Smith

U53B Moscone South: Poster Hall Friday 1340h
The EarthScope Initiative: From North America Geodynamics to New Frontiers in Science IV Posters (*joint with S, T, G*)

Presiding: **K M Larson**, University of Colorado; **M A Hedlin**, U.C. San Diego

1340h **U53B-0063 POSTER** Kinematics and dynamics of the northern North American Cordillera: deformation related to plate convergence, flat-slab subduction, and gravitational potential energy: **E Finzel**, L M Flesch, K D Ridgway

1340h **U53B-0064 POSTER** Western North America dynamics: **A Ghosh**, T W Becker, G Humphreys, M G rault

1340h **U53B-0065 POSTER** The elastic response to ocean tidal loading estimated from GPS observations in the western United States: **T Ito**, M Simons

1340h **U53B-0066 POSTER** Epistemic uncertainty with earth tide models and its effect on estimates of transient strain recorded by PBO borehole strainmeters: **J O Langbein**

1340h **U53B-0067 POSTER** Comparison of Measurements from Co-Located Strainmeters in the PBO Strainmeter Network: **K M Hodgkinson**, D B Henderson, A A Borsa, M E Jackson, D Mencin

1340h **U53B-0068** *POSTER* PBO Borehole Strainmeter Network: Data Products And Metrics: **D B Henderson**, A A Borsa, W Gallaher, M H Gottlieb, K M Hodgkinson, M E Jackson, W Johnson, D Mencin, E J VANBOSKIRK

1340h **U53B-0069** *POSTER* Limitations of Strain Estimation Techniques from Continuous GPS Networks: **S C Baxter**, J W Parker, S Kedar, F Webb, S E Owen, D Dong, A Sibthorpe

1340h **U53B-0070** *POSTER* Gladwin Tensor Strain-Meter Calibration and Wave Gradiometry Applications: **E B Grant**, C A Langston

1340h **U53B-0071** *POSTER* Intercomparison of PBO Borehole-Strainmeters and -Seismometers in Anza, California with Nearby Surficial Broadband Seismometers: **A J Barbour**, D C Agnew

1340h **U53B-0072** *POSTER* Geophysical Observations by PBO Borehole Strainmeters Along the San Andreas Fault: **E J VANBOSKIRK**, M H Gottlieb, D Mencin, W Johnson, K M Hodgkinson, O Fox, W Gallaher, D B Henderson, M E Jackson

1340h **U53B-0073** *POSTER* Upper mantle shear wave structure of the North American mantle and its control on continental deformation: **K F Priestley**, D P McKenzie, J A Barron, E Debayle

1340h **U53B-0074** *POSTER* 3-D Radially Anisotropic Shear Wave Model of North America From Multi-mode Dispersion Measurements of Surface Waves: **K Yoshizawa**, G Ekstrom

1340h **U53B-0075** *POSTER* Tomography of Pg and Sg Across the Western United States Using USArray Data: **L Steck**, W S Phillips, M L Begnaud, R Stead

1340h **U53B-0076** *POSTER* Pn and Sn Tomography of the Western United States Using USArray: **J S Buehler**, P M Shearer

1340h **U53B-0077** *POSTER* Structure of the U.S. Mantle Constrained by Simultaneous Inversion of Multiple-Frequency SH Waves and Love Waves: **Y Tian**, Y Zhou, K Sigloch, G Nolet

U53C Moscone South: 103 Friday 1340h **Biogeophysical Exploration of Subglacial Systems and Global Implications**

Presiding: **R D Powell**, Northern Illinois Univ.; **H A Fricker**, Scripps Institution of Oceanography; **J C Priscu**, Montana State University

1340h **U53C-01** Plans for direct measurement and sampling of Subglacial Lake Ellsworth, West Antarctica: **M J Siegert**

1350h **U53C-02** Ice Flow Dynamics and Outlet Zone Morphology of Subglacial Lake Ellsworth: **N Ross**, A Smith, J Woodward, M J Siegert, R C Hindmarsh, H Corr, E C King, D Vaughan, F Gillet-Chaulet, M Jay-Allemand

1400h **U53C-03** Whillans Ice Stream Subglacial Access Research Drilling (WISSARD): Integrative Study of Marine Ice Sheet Stability and Subglacial Life Habitats (*Invited*): **S M Tulaczyk**, S Anandakrishnan, A E Behar, B C Christner, A T Fisher, H A Fricker, D M Holland, R W Jacobel, J Mikucki, A C Mitchell, R D Powell, J C Priscu, R P Scherer, J P Severinghaus

1410h **U53C-04** Geophysical investigations of subglacial Antarctic lakes: identifying drill sites for lake access: **J Woodward**, S M Tulaczyk, A Smith, J Walter, N Ross, H A Fricker, M J Siegert, R Pettersson, M Thoma, H Corr, E C King, D Vaughan

1420h **U53C-05** Investigating Grounding Zones by RAGEing WISSARDs: **R D Powell**, S Anandakrishnan, D M Holland, H J Horgan, R W Jacobel, R P Scherer, S M Tulaczyk, S W Vogel

1430h **U53C-06** Modelling subglacial lakes and their influence on Antarctic ice sheet dynamics (*Invited*): **F Pattyn**

1440h **U53C-07** Exploring Subglacial Microbial Ecology (*Invited*): **J Mikucki**, A C Mitchell, S S Johnson, J Grzyski

1450h **U53C-08** Hydrochemistry of ice stream beds – evaporitic or microbial effects?: **M L Skidmore**, M Tranter, S M Tulaczyk, B D Lanoil

1500h **U53C-09** Subglacial (bio)geochemical weathering and the unexplored Antarctic system: **A C Mitchell**, B C Christner, J Mikucki, J C Priscu

1510h **U53C-10** Exploration of Antarctic Subglacial environments: a challenge for analytical chemistry: R Traversi, S Becagli, E Castellano, C Ghedini, F Marino, F Rugi, **M Severi**, R Udisti

1520h **U53C-11** Subglacial Methanogenesis and Its Role in Planetary Carbon Cycling: **E Boyd**, M L Skidmore, A C Mitchell, C Bakermans, J Peters

1530h **U53C-12** Ultra-low rare earth element content in accreted ice from sub-glacial Lake Vostok, Antarctica: **C Barbante**, P Gabrielli, C Turetta, F Planchon, C Boutron, J R Petit, S Bulat, S Hong, G Cozzi, P Cescon

Atmospheric Sciences

A53A Moscone South: Poster Hall Friday 1340h **Global Atmospheric Composition With Geostationary Measurements III Posters**

Presiding: **J A Al-Saadi**, NASA; **J H Crawford**, NASA Langley Research Center

1340h **A53A-0228** *POSTER* Error Budget Analysis for the GOES-R ABI Aerosol Retrieval Algorithm: **M Zhou**, I Laszlo, H Liu, P Ciren, S Kondragunta

1340h **A53A-0229** *POSTER* Method for detecting sand dust aerosols using infrared bands over northeast Asia: S J Hong, **J H Kim**, J Ha

1340h **A53A-0230** *POSTER* Transboundary air pollution in East/Southeast Asia and geostationary measurement: **K Kita**, Y Kasai, K Sagi, S Hayashida, H Irie, Y Kanaya, K Miyazaki, M Takigawa, K Noguchi, Y Kondo, M Koike, H Akimoto

1340h **A53A-0231** *POSTER* Boundary-layer Dynamics and Synoptic-scale Impacts on Surface Pollutant Concentrations: **D K Martins**, A A Jensen, D Doughty, A M Thompson, D H DeSlover, W Feltz, J K Geiger, D O Neil, M R Pippin, J Fishman, J H Crawford, J D Barrick

1340h **A53A-0232** *POSTER* Boundary layer atmospheric state retrievals from AERI measurements during the 2009 NASA Langley Chemistry and Physics of the Atmospheric Boundary Layer Experiment (CAPABLE): **D H DeSlover**, W Feltz, E Olson, R O Knuteson, J Murray, D O Neil

1340h **A53A-0233** *POSTER* An Examination of the Relationship between Surface Ozone Observations from Air Quality Monitoring Networks and Satellite-Derived Tropospheric Ozone Amounts from UV-Backscattered Measurements: **J Fishman**, J K Creilson, X Xu, C Y Gallegos, A E Wozniak, G A Morris

1340h **A53A-0234** *POSTER* The Role of Local to Large Scale Meteorological Processes in the Development of Pollution Events in East Texas: Implications for a Geostationary Chemistry Mission: **D M Tracy**, J K Creilson, D O Neil, J Fishman, D Byun, X Jiang, R Pierce

1340h **A53A-0235** *POSTER* Infrared Correlation Radiometer for GEO-CAPE: **D O Neil**, J Boldt, D P Edwards, J Yee

1340h **A53A-0236** *POSTER* Scales of Variability Determined from Numerical Models and Airborne Measurements: Application to the Design of Atmospheric Chemistry Measurements from a Geostationary Platform: **M L Silverman**, J Fishman, M A Fenn, J H Crawford, J K Creilson, D O Neil, G Chen, D Byun, X Jiang

1340h **A53A-0237** *POSTER* Assessing Scales of Variability for Constituents Relevant to Future Geostationary Satellite Observations and Models of Air Quality: **J H Crawford**, T B Ryerson, A J Weinheimer, R C Cohen, G S Diskin, G W Sachse, J Holloway, G Chen

1340h **A53A-0238** *POSTER* Analysis for the possibility of retrieving tropospheric ozone with geostationary satellite: **S J Park**, J H Kim, M Newchurch

1340h **A53A-0239** *POSTER* Towards Improving Satellite Tropospheric NO₂ Retrieval Products: Impacts of the spatial resolution and lighting NO_x production from the a priori chemical transport model: **C D Smeltzer**, Y Wang, C Zhao, F Boersma

1340h **A53A-0240** *POSTER* Options for a Geostationary Science Demonstration Mission (GSDM): **N S Pougatchev**, G E Bingham, L Zollinger, J J Hancock

1340h **A53A-0241** *POSTER* Overview of the NASA Langley Chemistry and Physics of the Atmospheric Boundary Layer Experiment (CAPABLE): **M R Pippin**, J Fishman, D O Neil, L Cowen, J K Geiger, J Murray, P Lucker, S Bedka, J J Szykman, J R Herman, A Cede, N Abuhassan, D K Martins, A A Jensen, D Doughty, A M Thompson, D H DeSlover, W Feltz, E Olson, R O Knuteson, S Kondragunta, T Beck, M A Yesalusky, W Smith

1340h **A53A-0242** *POSTER* Assessing the information content of the Tropospheric Infrared Mapping Spectrometers (TIMS) GEO-CAPE instrument concept when applied for several infrared ozone bands: **J B Kumer**, A E Roche, R L Rairden, S G Desouza-Machado, R B Chatfield

1340h **A53A-0243** *POSTER* Monitoring of Tropospheric Ozone from Backscattered Ultraviolet Measurements on Geostationary Platforms: **X Liu**, P K Bhartia, K Chance

1340h **A53A-0244** *POSTER* A simulation for UV-VIS observations of tropospheric composition from a GEO satellite over Asia: **H Irie**, H Iwabuchi, Y Kasai, K Kita, H Akimoto

1340h **A53A-0245** *POSTER* Diurnal variability of aerosols seen from emission inventory, model simulation, and ground-based observations: **Q Tan**, M Chin, H Yu, Y Hu, S Kondragunta, G A Grell

1340h **A53A-0246** *POSTER* Aerosol Spatial and Temporal Variations Over a Coastal Area: Implications for Geostationary Satellite Measurements: **H Yu**, M Chin, Q Tan, Y Hu, S Kondragunta, P Ciren, B N Holben

1340h **A53A-0247** *POSTER* Observing system simulation experiments (OSSE) in support of the GEO-CAPE mission: impact of panspectral retrievals on boundary layer ozone prediction: **K W Bowman**, P D Hamer, A Eldering, K Singh, M Lee, Z Qu, M Yeates, S S Kulawik, M Luo, A Sandu

1340h **A53A-0248** *POSTER* On the Use of Linearized Measurements from Satellite Observing Systems for Global Air Quality Forecasting: **A F Arellano**, D P Edwards, M N Deeter

1340h **A53A-0249** *POSTER* Validations of GOES-R ABI Aerosol Products: **P Ciren**, I Laszlo, S Kondragunta, H Liu, M Zhou

1340h **A53A-0250** *POSTER* Impact of Diurnal Variations of Precursors on the Prediction of Ozone: **P D Hamer**, K W Bowman, D K Henze, K Singh

1340h **A53A-0251** *POSTER* Geostationary Environment Monitoring Spectrometer (GEMS) onboard MP-GEOSAT (Multi Purpose Geostationary Satellite) over Asia-Pacific region: **S Lee**, Y Hong, C Song, M Lee, S Ryoo, J Kim, S Yong, P K Bhartia, R Park, J Woo, Y J Kim, C H Song, J H Kim, K Lee, C Ho, S K Park, Y Lee, J Lee, M KIM, Y Eom, J Hong

1340h **A53A-0252** *POSTER* The Vertical Distribution of Ozone with OMI/AIRS and from GEO: Empirical, Iteratively Derived Geophysical Relationships and Tropospheric O₃: **R B Chatfield**, J Li, R Esswein

1340h **A53A-0253** *POSTER* Details of assessing information content of the Tropospheric Infrared Mapping Spectrometers (TIMS) GEO-CAPE instrument concept when applied for several infrared ozone bands: **R L Rairden**, J B Kumer, A E Roche, S G Desouza-Machado, R B Chatfield, R Blatherwick

1340h **A53A-0254** *POSTER* Panchromatic Fourier Transform Spectrometer (PanFTS) for the Geostationary Coastal and Air Pollution Events (GEO-CAPE) Mission: **S P Sander**, R Beer, J L Blavier, K W Bowman, A Eldering, R Key, D Rider, G C Toon, W A Traub, J Worden

A53B Moscone South: Poster Hall Friday 1340h **Origins and Behavior of Aerosols in the Atmosphere From Studies of Individual Particles II Posters**

Presiding: **J M Conny**, National Institute of Standards and Technology; **R D Willis**, US EPA

1340h **A53B-0255** *POSTER* A Comparison of Single Particle Composition and CCN Activity during the 2007 and 2008 San Diego Wildfires: **M J Moore**, R C Sullivan, Y Wang, M D Zauscher, G Roberts, K A Prather

1340h **A53B-0256** *POSTER* Atmospheric tar balls from biomass burning in Mexico: **K Adachi**, P R Buseck

1340h **A53B-0257** WITHDRAWN

1340h **A53B-0258** *POSTER* A Comparison of Conventional Scanning Electron Microscopy (SEM) and Focused Ion-Beam SEM of Ambient Air Particles From Geographically-Distinct Urban Areas in the U.S.: **J M Conny**, G Norris

1340h **A53B-0259** *POSTER* Enrichment of Mineral Dust Storm Particles with Sea Salt Elements – Using bulk and Single Particle Analyses: **Y Mamane**, C Perrino, O Yossef

1340h **A53B-0260** *POSTER* First Measurements of Particle-to-Particle Variations in Single Scattering Albedo of Ambient Aerosol and Arizona Test Dust: **S M Murphy**, D M Murphy, T J Sanford

1340h **A53B-0261** *POSTER* Aerosol Direct Radiative Forcing in the Southern Appalachian Mountains: Initial Results from the Appalachian Atmospheric Interdisciplinary Research (AppalAIR) Facility: **B Taubman**, J Sherman, P J Sheridan, L B Perry, H Neufeld, R E Emanuel, R Tashakkori, D Bowman, C Long

1340h **A53B-0262** *POSTER* De-Hazing of Multi-Spectral Images with Evolutionary Computing: **P von Allmen**, S Lee, D J Diner, J Martonchik, A B Davis

1340h **A53B-0263** *POSTER* Deliquescence of Nanoparticles: Activation or Nucleation?: **E Lewis**, R L McGraw

1340h **A53B-0264** *POSTER* Aerosol Hygroscopicity at High (99 to 100%) Relative Humidities: P Y Chuang, **C R Ruehl**, A Nenes

1340h **A53B-0265** *POSTER* Inhibition of efflorescence in mixed organic-inorganic particles at temperatures less than 250 K studied with optical microscopy: **A K Bertram**, A Bodsworth

1340h **A53B-0266** *POSTER* Kinetics of Deliquescence: **R L McGraw**, E Lewis

1340h **A53B-0267** *POSTER* Hydroxyl radical oxidation of glucose in aqueous aerosol studied in single levitated droplets by laser Raman tweezers: **M D King**, O R Hunt, A Ward

1340h **A53B-0268** *POSTER* Heterogeneous Freezing of Ice on Atmospheric Aerosols Containing Ash, Soot, and Soil: **S D Brooks**, A P Fornea, K Suter, L Mason

1340h **A53B-0269** *POSTER* THE EFFECT OF THE ORGANIC AEROSOL FRACTION ON ICE NUCLEATION: **D A Knopf**, B Wang, M Lopez, P Alpert, S Forrester, Y Rigg, J Radway, J Y Aller
 1340h **A53B-0270** *POSTER* Heterogeneous Ice Nucleation on Kaolinite Particles, Particle Surrogates of Humic-Like Substances (HULIS), and Organics-Containing Urban Aerosols: **B Wang**, D A Knopf

A53C Moscone South: Poster Hall Friday 1340h
The Global Methane Cycle and Its Impacts on Climate and Atmospheric Chemistry II Posters

Presiding: **C L Butenhoff**, Portland State Univ

1340h **A53C-0271** *POSTER* Modeling of Large Methane Releases and their affect on the Chemistry of the Atmosphere: **D J Bergmann**, P J Cameron-Smith, S Elliot, M T Reagan, M E Maltrud
 1340h **A53C-0272** *POSTER* High-Temporal Resolution Measurement of Methane Bubbling From a Eutrophic, Dimictic, Freshwater Lake: **C Varadharajan**, H Hemond
 1340h **A53C-0273** *POSTER* An Acetylene Tracer-Based Approach to Quantifying Methane Emissions from Distributed Sources Using Wavelength-Scanned Cavity Ring-Down Spectroscopy: **C Rella**, E Crosson, E Thoma, G Hater, R Merrill, S Tan, R Green
 1340h **A53C-0274** *POSTER* LOW-POWER SOLUTION FOR EDDY COVARIANCE MEASUREMENTS OF METHANE FLUX: **T Anderson**, G G Burba, A Komissarov, D K McDermitt, L Xu, D Zona, W C Oechel, J L Schedlbauer, S F Oberbauer, B Riensche, D Allyn
 1340h **A53C-0275** *POSTER* Transport of Greenhouse Gases in Trees: **E Kutschera**, A K Khalil, M Shearer, T Rosenstiel
 1340h **A53C-0276** *POSTER* Evaluating Contributions of Wetland and Lake Emissions of Methane to Atmospheric Methane Concentrations with models of Biogeochemistry and Atmospheric Chemistry Transport in Northern High Latitudes: **Q Zhuang**, J Tang, Y Lu, X Xiong, J M Melillo, R G Prinn, A D McGuire
 1340h **A53C-0277** *POSTER* Developing a Prognostic Methane Biogeochemistry Model in the CCSM: Model Evaluation and Regional Predictions: **W J Riley**, Z M Subin, M S Torn, D M Lawrence
 1340h **A53C-0278** *POSTER* Using Long-Term Global Ethane Measurements to Understand Global Methane Variations: Insights Based on a Modified Version of the TM5 Model Used by CarbonTracker: **I J Simpson**, L Bruhwiler, S Meinardi, M Sulbaek Andersen, F S Rowland, D R Blake
 1340h **A53C-0279** *POSTER* Variability of Methane Growth in the Tropics: **L Bruhwiler**, E J Dlugokencky
 1340h **A53C-0280** WITHDRAWN
 1340h **A53C-0281** *POSTER* Seasonal cycles of atmospheric methane and its carbon and hydrogen isotopic ratios in the lower and upper troposphere of the western Pacific region: **T Umezawa**, S Aoki, T Nakazawa, T Machida, H Matsueda, Y Sawa, K Ishijima, P K Patra
 1340h **A53C-0282** *POSTER* Interannual variability and trends of atmospheric methane over the western Pacific: **Y Terao**, H Mukai, Y Nojiri, T Machida, Y Tohjima, T Saeki, S S Maksyutov
 1340h **A53C-0283** *POSTER* Intercomparison of Models to Estimate Methane Emissions From Rice Agriculture Using Common Data Sets: **C L Butenhoff**, S E Frolking, C Li, S Houweling, T Milliman, A K Khalil, Q Zhuang
 1340h **A53C-0284** *POSTER* Using the Global Chemical Transport Model GEOS-Chem to Constrain Australian Methane Sources: C Chan Miller, **N B Jones**, N M Deutscher, D W Griffith, C Paton-Walsh, C Frankenberg, P O Wennberg, G C Toon, V Sherlock, D Smale, J Robinson, B J Connor

1340h **A53C-0285** *POSTER* Simulation of atmospheric methane and its carbon and hydrogen isotopes to constrain its global budget: **T Saeki**, S S Maksyutov, T Nakazawa
 1340h **A53C-0286** *POSTER* Isotopic constraints on sources of methane in Los Angeles, California, USA (*Invited*): **A Townsend-Small**, S C Tyler, L Christensen, X Xu, D E Pataki
 1340h **A53C-0287** *POSTER* Do aircraft-based atmospheric observations indicate that anthropogenic methane emissions in the United States are larger than reported?: **E A Kort**, C Sweeney, A E Andrews, E J Dlugokencky, P P Tans, A Hirsch, J Eluszkiewicz, T Nehrkorn, A M Michalak, S C Wofsy

A53D Moscone West: 3004 Friday 1340h
Aerosol Properties and Physical Processes II

Presiding: **J S Reid**, Naval Research Laboratory

1340h **A53D-01** Enhanced clear sky reflectance near clouds: What can be learned from it about aerosol properties?: **A Marshak**, T Varnai, G Wen, J Chiu
 1355h **A53D-02** Emissions of Black Carbon Particles from Biomass Burning and Their Physical and Chemical Properties: **Y Kondoh**, L Sahu, N Moteki, N Takegawa, Y Zhao, S A Vay, G S Diskin, A Wisthaler, L G Huey, J L Jimenez
 1410h **A53D-03** Ammonium Nitrate Formation near the Colorado Front Range: **A M Middlebrook**, R Bahreini, C A Brock, S S Brown, J Cozic, G J Frost, A O Langford, B M Lerner, B Matthew, S A McKeen, J Neuman, J B Nowak, J W Peischl, P Quinn, T B Ryerson, K Schultz, H Stark, M Trainer, N Wagner, E J Williams, A G Wollny
 1425h **A53D-04** Black carbon measurements in the Pearl River Delta region of China: X Huang, **R Gao**, J P Schwarz, H Ling-Yan, D W Fahey, W Laurel A, L Zeng
 1440h **A53D-05** The impact of the 1783-84 AD Laki Eruption on Aerosol Formation Processes and Cloud Condensation Nuclei: **A Schmidt**, K S Carslaw, G W Mann, M B Wilson, T J Breider, S J Pickering
 1455h **A53D-06** The Role of Ions in New Particle Formation in the Upper Troposphere and Lower Stratosphere Using WACCM/CARMA: **J M English**, O B Toon, M J Mills, F Yu
 1510h **A53D-07** Multisite reconciliation of sub- and supersaturated particle water uptake: **M Irwin**, N A Good, J Crosier, D O Topping, J D Allan, H Coe, T W Choularton, G B McFiggans
 1525h **A53D-08** In situ vertical profiles of black carbon aerosol over the Pacific, Arctic, and Antarctic Regions (80°N to 67°S Latitudes): **J P Schwarz**, J R Spackman, R Gao, W Laurel A, P Stier, S M Davis, D W Fahey

A53E Moscone West: 3006 Friday 1340h
Atmospheric Sciences General Contributions: Chemistry and Composition IV

Presiding: **W Vizuete**, University of North Carolina Chapel Hill; **E P Olaguer**, Houston Advanced Research Center

1340h **A53E-01** Towards a Consistent Long-Term VOC Data Record - Space-Based Observations of HCHO and CHO-CHO: **T P Kurosu**, C R Nowlan, K Chance
 1355h **A53E-02** Carbonaceous and Inorganic Composition of Aerosols in the Brazilian Amazon: **L L Soto-Garcia**, M O Andreae, P P Artaxo, W Maenhaut, T Kirchstetter, J C Chow, O Mayol-Bracero
 1410h **A53E-03** Evolution of the oxidative capacity of the troposphere since the Last Glacial Maximum: **L T Murray**, L Mickley, J O Kaplan, E D Sofen, B Alexander, D B Jones, D J Jacob

1425h **A53E-04** Direct measurements of HONO and NO₂ by tunable infrared differential absorption spectroscopy; Results from two field campaigns sampling aircraft exhaust and ambient urban air: **B H Lee**, G Santoni, S C Herndon, E C Wood, R C Miake-Lye, J W Munger, S C Wofsy, M S Zahniser, J B McManus, D D Nelson
 1440h **A53E-05** Observations of Radical Precursors during TexAQS II: Findings and Implications: **E P Olaguer**, B L Lefer, B Rappenglueck, J P Pinto

1455h **A53E-06** The role of chemistry in under-predictions of NO₂ in the upper troposphere: **B H Henderson**, R W Pinder, W S Goliff, W R Stockwell, A Fahr, G Sarwar, W T Hutzell, R Mathur, W Vizuet, R C Cohen

1510h **A53E-07** Observational analysis of high ozone plumes in Houston, TX from 2000-2008: **W Vizuet**, E Couzo, H E Jeffries, E Christoph

1525h **A53E-08** Application of genetic algorithms to a detailed chemical reaction system for secondary organic aerosol formation: **A Xia**, C Stroud, P Makar

A53F Moscone West: 3002 Friday 1340h
Dynamics General Contributions III

Presiding: **JJ Wettstein**, Bjerknes Centre for Climate Research; **T Hirooka**, Kyushu University

1340h **A53F-01** Development of a Bulk Mass Flux Convection Scheme for Climate Model and Its Impact on Simulation of the Madden-Julian Oscillation: **D Kim**, I Kang

1355h **A53F-02** The evolution and persistence of anomalies in atmospheric jets associated with baroclinic wave forcing: **JJ Wettstein**

1410h **A53F-03** Vortex Splitting of the Major Stratospheric Sudden Warming in January 2009 and Its Predictability: **T Hirooka**, T Ichimaru, H Mukougawa

1425h **A53F-04** Stratospheric impact on tropospheric winds deduced from potential vorticity inversion in relation to the Arctic Oscillation: **A J van Delden**, Y Hinssen, T Opsteegh

1440h **A53F-05** Measurements and modeling of contemporary carbon-14 levels in the stratosphere to constrain stratospheric dynamics and the global carbon cycle: **A M Kanu**, L L Comfort, T P Guilderson, P J Cameron-Smith, D J Bergmann, E L Atlas, S Schaufli, K A Boering

1455h **A53F-06** Investigations of Interhemispheric Coupling to the Polar Mesosphere: **D J Murphy**, S P Alexander, R A Vincent

1510h **A53F-07** Integrated Water Vapour Retrieval From Irish GPS Network: Results From Validation With Radiosondes And Microwave Profiler And Assimilation Into HIRLAM 7.2 Operational Forecasting Model: **J A Hanafin**, E Whelan, R McGrath, S G Jennings, C O'Dowd

1525h **A53F-08** Eddy-driven Responses of the Hadley Cell and Tropopause: **J Haqq Misra**, S Lee, D M Frierson

A53G Moscone West: 3008 Friday 1340h
Marine Biogeochemical Cycles: A Second Look at Aerosol-Cloud-Climate Feedbacks II (*joint with B, OS*)

Presiding: **M D Petters**, North Carolina State University; **N Meskhidze**, North Carolina State university; **S Gasso**

1340h **A53G-01** Aerosol-Cloud-Precipitation Interactions in a Buffered System (*Invited*): **G Feingold**, B B Stevens

1352h **A53G-02** Imaging the Interactions of Earth's Radiative Properties and Ocean Biogeochemistry: **P S Bontempi**, H B Maring

1404h **A53G-03** Ocean-Aerosol-Cloud Interactions off the Coast of California (*Invited*): **A Sorooshian**, L Padro, A Nenes, G Feingold, A C McComiskey, S P Hersey, H Gates, H Jonsson, S D Miller, G L Stephens, R C Flagan, J Seinfeld

1416h **A53G-04** Biogenic influence on cloud microphysics in the 'clean' oceanic atmosphere: **A Lana**, R Simó, S M Vallina, E Jurado, J Dachs

1428h **A53G-05** Surface ocean production and emission of biogenic DMS and dissolved organic material in high arctic and sub-tropical regions (*Invited*): **P A Matrai**, B J Huebert, C Rauschenberg, A Hind, C Leck, T S Bates, D Covert, P Quinn, M Yang

1440h **A53G-06** Marine organic aerosol and oceanic biological activity: what we know and what we need (*Invited*): **M Facchini**

1452h **A53G-07** Size-resolved Parameterization of Primary Organic Carbon in Fresh Marine Aerosols: **M S Long**, W C Keene, D J Kieber, D J Erickson, H B Maring

1504h **A53G-08** Cloud condensation nucleation activity of secondary organic aerosols formed from the oxidation of alkenes and diiodomethane: **M D Petters**, A Faulhaber, A J Prenni, C M Carrico, R C Sullivan, P J DeMott, S M Kreidenweis, P J Ziemann

1516h **A53G-09** Connecting Oceanic Emissions, Aerosols, and Maritime Clouds: What do we know and where do we go?: **N Meskhidze**, J Xu, B Gantt

1528h **A53G-10** Ocean iron-fertilisation by volcanic ash: **B Langmann**, K Zaksek, M K Hort, S Duggen

Biogeosciences

B53A Moscone South: Poster Hall Friday 1340h
Particulate Organic Carbon in Event-Dominated Rivers and Coastal Margins II Posters (*joint with H, OS, EP*)

Presiding: **J A Hatten**, Mississippi State University; **R G Hilton**, Durham University; **T Tesi**, Oregon State University

1340h **B53A-0372 POSTER** Trends In Particulate Organic Carbon Composition In Oregon And California Coast Range Rivers: **J A Hatten**, M A Goni, R A Wheatcroft, J Borgeld, A Williamson, J Padgett, G B Pasternack, A Gray, E Watson

1340h **B53A-0373 POSTER** Organic Matter Fluxes from the Fly River, Papua New Guinea: **E A Moore**, M A Goni, A C Kurtz

1340h **B53A-0374 POSTER** Organic carbon composition within the Po plume and prodelta during a flood event: **T Tesi**, L Langone, M Goñi, M Turchetto, S Miserocchi, A de Lazzari, S Albertazzi

1340h **B53A-0375 POSTER** Using sediment traps in a shallow eutrophic system, lessons learned at Lake Jesup, Middle St. Johns River basin, Florida: **W T Anderson**, S M Nielsen, L J Scinto, S Thomas, D C Fugate, S Brandt-William

1340h **B53A-0376 POSTER** Effects of Hydrological and Biological Factors on Fine Benthic Organic Matter at a Forested River in Yahagi Basin, Japan: **Y Matsumoto**, T Inoue

1340h **B53A-0377 POSTER** A process-based study for estimating Particulate Organic Carbon load in a forested watershed: **K Nishida**, Y Matsumoto

1340h **B53A-0378 POSTER** Model Estimates of POC Flux and Carbon Outgassing from Streambed Sediments in a Lowland Watershed: **J Fox**, J E Campbell, D Martin

B53B Moscone South: Poster Hall Friday 1340h
Stable Isotopes in Terrestrial Biogeosciences III Posters (*joint with A, H*)

Presiding: **K P Tu**, UC Berkeley; **A Kahmen**, UC Berkeley

1340h **B53B-0379 POSTER** Dolomite concretion formation in distinct diagenetic regimes as revealed by combined $\delta^{34}\text{S}$ and $\delta^{13}\text{C}$ analyses of the Miocene Monterey Formation: S J Loyd, F A Corsetti, W Berelson, T W Lyons, J R Schwalbach

1340h **B53B-0380 POSTER** Organic Geochemistry study in Al-Azraq basin, Jordan: interpretation of paleoenvironment and paleoclimate using bulk organic matter analyses: **K I Ahmad**, C P Davies

1340h **B53B-0381 POSTER** Carbon and Nitrogen Isotope Variation in Sphagnum from Peat Bogs in the Midwestern US: Implications for Holocene Climate Reconstruction: **D Wong**, A Paytan, S T Jackson

1340h **B53B-0382 POSTER** PARTITIONING THE RELATIVE INFLUENCE OF SOIL N, MYCORRHIZAE, AND FOLIAR N UPTAKE ON FOLIAR $\delta^{15}\text{N}$ PATTERNS: CAN WE DETECT FOLIAR UPTAKE OF REACTIVE N?: D Vallano, J P Sparks

1340h **B53B-0383 POSTER** Oxygen Isotopes of Dissolved Phosphate in Vegetation and Soil Water Extracts: **T R Klass**, M Kayhanian, M B Young, C Kendall, S R Silva, A Paytan

1340h **B53B-0384 POSTER** Hydroperiod affects nutrient accumulation in tree islands of the Florida Everglades: a stable isotope study: **X Wang**, L O Sternberg, V Engel, M S Ross

1340h **B53B-0385 POSTER** D/H fractionation in lipids from terrestrial hydrothermal springs, Yellowstone National Park: **M R Osburn**, A L Sessions, J R Spear, C Pepe-Ranney

1340h **B53B-0386 POSTER** Long-Term Changes in Calcium (Ca) Sources in Base-Poor Forest Ecosystem: Insight from Stable Ca-Isotopes in Tree Rings: **J Farkas**, A Dejeant, D Orwig, S B Jacobsen

1340h **B53B-0387 POSTER** Using stable isotopes to reconcile differences in nitrogen uptake efficiency relative to late season fertilization of northern red oak seedlings in Wisconsin bare-root nurseries: **R Fujinuma**, N J Balster

1340h **B53B-0388 POSTER** ISOTOPIC CHARACTERIZATION OF NITRATE SOURCES IN KARSTIC SPRINGS IN THE BASIN OF PARIS: **F J El Gaouzi**, M Sebilo, V Plagnes, P Ribstein, D Valdès Lao, M Zakeossian

1340h **B53B-0389 POSTER** $\Delta^{17}\text{O}$ Isotopic Investigation of Nitrate Salts Found in Co-Occurrence with Naturally Formed Perchlorate in the Mojave Desert, California, USA and the Atacama Desert, Chile: R A Lybrand, D Parker, J Rech, J Prellwitz, G Michalski

1340h **B53B-0390 POSTER** Using dissolved oxygen and dissolved inorganic carbon stable isotopes to investigate O_2 dynamics in a shallow groundwater system: **S Parker**, G Smith, C Gammons, S R Poulson

1340h **B53B-0391 POSTER** New Approaches for removing the Si-OH Layer of Biogenic Silica before Analysing Oxygen Isotopes – Helium Flow Dehydration (HFD) and Vacuum Bead Melting (VBM) Technique: **B Chaplignin**, H Meyer, H W Hubberten

1340h **B53B-0392 POSTER** Controls upon microbial accessibility to soil organic matter following woody plant encroachment into grasslands: **C A Creamer**, T W Boutton, T R Filley

1340h **B53B-0393 WITHDRAWN**

1340h **B53B-0394 POSTER** Comparing α -cellulose $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ to regional climate at Big Thicket National Preserve, Texas: D B Lewis, D B Finkelstein, C I Mora, H D Grissino-Mayer, E Perfect

1340h **B53B-0395 POSTER** Stable Isotope Biogeochemistry of the Centennial Re-survey of the San Jacinto Mountains, CA: **M L Fogel**, E Swarth, C Swarth, N Smith-Herman, S Tremor, P Unitt

1340h **B53B-0396 POSTER** Methane Production in Extreme Environments: **A Tazaz**, J Chanton, C A Kelley, J Poole, B Bebout

1340h **B53B-0397 POSTER** Methanogens in hypersaline environments and their substrates for methane production: **J A Poole**, C A Kelley, J Chanton, A Tazaz, B Bebout

B53C Moscone South: Poster Hall Friday 1340h
Stable Isotopes in Terrestrial Biogeosciences IV Posters (joint with A, H)

Presiding: K P Tu, UC Berkeley; **A Kahmen**, UC Berkeley

1340h **B53C-0398 POSTER** Stable C and O Isotopes from Tree Rings Reveal Changes in the Carbon Water Relations Along a Siberian North South Transect in the Last 150 Years: **R T Siegwolf**, O V Sidorova, M Saurer, A V Kirdyanov, A A Knorre, E A Vaganov

1340h **B53C-0399 POSTER** Influence of C_4 Vegetation on ^{13}C Discrimination and Isoforcing in the Upper Midwest, United States: **M Chen**, T J Griffis, J M Baker, M Erickson, J Corcoran, K Billmark, S Sargent

1340h **B53C-0400 POSTER** Oxygen Isotope Composition of Evapotranspiration and its Relation to C_4 Photosynthetic Discrimination: **T J Griffis**, X Lee, S Sargent, J M Baker, K Billmark, N Schultz, M Erickson, X Zhang, J Fassbinder, W Xiao, N Hu

1340h **B53C-0401 POSTER** Drought effects on allocation of recent carbon: From beech leaves to soil CO_2 efflux: **N K Ruehr**, C A Offermann, A Gessler, J B Winkler, N C Buchmann, R L Barnard

1340h **B53C-0402 POSTER** The Borden Micrometeorological Experiment 2009 (BMW09): Micrometeorology and Stable Isotopes for Carbon Cycle Studies: **J S Warland**, C Wagner-Riddle, R M Staebler, X Lee, P A Bartlett, S E Brown, K Kim, E A Santos, K Chang

1340h **B53C-0403 POSTER** Stable Isotopic Variability in the Carbon Cycle: Reconciling Ocean Model Results with Atmospheric Observations: **C B Alden**, J W White, J B Miller

1340h **B53C-0404 POSTER** Development of a super-high resolution isotopic regional model and simulations of rapid isotopic variations during a single precipitation event: **K Yoshimura**, M Kanamitsu

1340h **B53C-0405 POSTER** Global simulation of the carbon isotope exchange of terrestrial ecosystems: **A Ito**, Y Terao, H Mukai

1340h **B53C-0406 POSTER** Dew water effects on leaf water using a stable isotope approach: **K Kim**, X Lee

1340h **B53C-0407 POSTER** Comparison of Satellite based measurements of the Tropospheric HDO/ H_2O ratio from TES with in situ measurements at Mauna Loa Observatory: **J Worden**, D C Noone, D P Brown, J Lee, K W Bowman, J Galewsky

1340h **B53C-0408 POSTER** High precision, continuous measurements of water vapor isotopes using a field deployable analyzer with a novel automated calibration system to facilitate ecohydrological studies: **P Gupta**, E Crosson, B A Richman, R L Apodaca, I Green

1340h **B53C-0409 POSTER** A Mid-IR, Wavelength-Scanned, Cavity Ring-Down Spectrometer for Continuous Trace N_2O and Nitrogen Isotope Measurements: **A D Farinas**, D Balslev-Clausen, E Crosson

1340h **B53C-0410 POSTER** Rate and $\delta^{13}\text{C}$ values of CO_2 produced during short-term online incubation experiments indicate two different processes with distinct carbon sources: R Osuna, D O Breecker, Z D Sharp

1340h **B53C-0411 POSTER** Factors controlling the temporal variability of ecosystem respiration and its carbon isotope composition: **J Fassbinder**, T J Griffis, J M Baker, M Erickson, K Billmark, J Smith

1340h **B53C-0412 POSTER** Partitioning Respiration Between Plant and Microbial Sources Using Natural Abundance Stable Carbon Isotopes: T E Dawson, **K P Tu**

1340h **B53C-0413 POSTER** Using the $\delta^{13}\text{C}$ of Leaf Sugars to Examine the Effects of Changing the Onset or Duration of the Heatwave Season in a Widespread California Native Shrub, *Heteromeles arbutifolia*: M I Shulman, T E Dawson

1340h **B53C-0414 POSTER** A mechanistic understanding of tree responses to thinning and fertilization from stable isotopes in tree rings: **J R Brooks**, A Mitchell

1340h **B53C-0415 POSTER** In-situ carbon isotopes of soil CO₂ in a subalpine forest over three summers: **D R Bowling**, A B Moyes, S P Burns, R K Monson

1340h **B53C-0416 POSTER** Stable Isotope Fluxes of CO₂ and H₂O for a Temperate Deciduous Forest in Canada: **E A Santos**, C Wagner-Riddle, J S Warland, S E Brown, X Lee, K Kim, R M Staebler

1340h **B53C-0417 POSTER** Altered Carbon Isotope Discrimination of C3 Plants Under Very High pCO₂ Levels: **R J Panetta**, B Schubert, H Jahren

1340h **B53C-0418 POSTER** Eco-physiological characteristics and variation in water source use between montane Douglas-Fir and lodgepole pine trees in southwestern Alberta: **S Andrews**, L B Flanagan

1340h **B53C-0419 POSTER** Photosynthetic discrimination drives seasonal variations in the $\delta^{13}\text{C}$ value of soil-respired CO₂ in mixed C₃-C₄ ecosystems from central New Mexico: D O Breecker, Z D Sharp, L D McFadden, M E Litvak

1340h **B53C-0420 POSTER** The effect of local and regional sources on the isotopic composition of nitrous oxide in the tropical free troposphere and tropopause layer: **P L Croteau**, E L Atlas, S Schaufli, D R Blake, G S Diskin, K A Boering

1340h **B53C-0421 POSTER** Construction and validation of the $\delta^{13}\text{C}$ submodel for 3-PG, a physiological model of forest production: L Wei, J D Marshall

1340h **B53C-0422 POSTER** Long-term time series of $\delta^{18}\text{O}$ and δD in precipitation across the US depict regional differences in climate trends and provide site-specific climate proxy interpretation: B R Cohn, J M Welker

1340h **B53C-0423 POSTER** Conditional flux analysis and stable isotopes: **M J Zeeman**, A Knohl, P Sturm, N C Buchmann, C K Thomas

B53D Moscone South: Poster Hall Friday 1340h **Impacts of Disturbance on the North American Terrestrial Carbon Budget III Posters**

Presiding: **E S Kasischke**, University of Maryland; **D McGuire**, USGS/Alaska Cooperative Fish and Wildlife Research Unit

1340h **B53D-0424 POSTER** Carbon and Air Quality Emissions from Crop Residue Burning in the Contiguous United States: **J L McCarty**, S Korontzi, C O Justice

1340h **B53D-0425 POSTER** Predicting burn severity and patterns of biomass consumption in support of national-scale carbon assessment: **H Shi**, T J Hawbaker, M G Rollins, J E Volegmann, L Yang

1340h **B53D-0426 POSTER** Carbon fluxes from ponderosa pine forests disturbed by wildfire and thinning: **S Dore**, T Kolb, M Montes-Helu, S Eckert, B W Sullivan, B Hungate, J P Kaye, S Hart, G Koch

1340h **B53D-0427 POSTER** The influence of fire-free interval on carbon cycling in the Alaskan boreal forest: **E Hoy**, E S Kasischke

1340h **B53D-0428 POSTER** U.S. Forest Disturbance Evaluated using Landsat Observations and FIA Measurements: Initial Results and Ongoing Research in the North American Forest Dynamics (NAFD) Project: **N Thomas**, S N Goward, J Masek, W B Cohen, G G Moisen, C Huang, R E Kennedy, S P Healey, S L Powell, K Schleeweis, A Hinds, K Rishmawi

1340h **B53D-0429 POSTER** Effects of Land Use and Lithology on the Origin and Cycling of Dissolved Inorganic Carbon in the Brazos River, Texas: **F Zeng**, C A Masiello

1340h **B53D-0430 POSTER** Accounting for Forest Harvest and Wildfire in a Spatially-distributed Carbon Cycle Process Model: **D P Turner**, W Ritts, R E Kennedy, Z Yang, B E Law

1340h **B53D-0431 POSTER** Applications of Forest-DNDC to simulate daily carbon fluxes on the natural and inundated terrestrial ecosystems of Canada: **Y Kim**, N T Roulet, C Peng, C Li, I B Strachan, S E Frolking

1340h **B53D-0432 POSTER** Examining Trends in Foliar N and Albedo in Response to Disturbance in Canadian Forests: **L C Plourde**, S V Ollinger, M E Martin

1340h **B53D-0433 POSTER** Impacts of forest thinning on water balance: **M C Montes-Helu**, S Dore, T Kolb

1340h **B53D-0434 WITHDRAWN**

1340h **B53D-0435 POSTER** Carbon sequestration in grasslands: grazing versus fire under climate change: **D M Bachelet**, R Kelly, W J Parton

1340h **B53D-0436 POSTER** Variability of Forest Change Rates within and among US Geographic Regions as Observed in the North American Forest Dynamics Project: **K Schleeweis**, S N Goward, C Huang, N Thomas

1340h **B53D-0437 POSTER** Effects of Insect Defoliation and Land-Use Change on Watershed Carbon Budgets: **D Medvigy**, C Small, P Ceccato, C Vancutsem, J F Pekel

B53E Moscone South: Poster Hall Friday 1340h **Impacts of Disturbance on the North American Terrestrial Carbon Budget IV Posters**

Presiding: **E S Kasischke**, University of Maryland; **D McGuire**, USGS/Alaska Cooperative Fish and Wildlife Research Unit

1340h **B53E-0438 POSTER** Quantifying Age-based Forest Carbon Dynamics to Estimate Effects of Wildfire on Carbon Balance: a Multi-scale Empirical Approach: **C L Raymond**, D McKenzie

1340h **B53E-0439 POSTER** The Potential Role of Fire and Fire Suppression in Influencing the Carbon Budget of the U.S. Pacific Northwest: **B M Rogers**, R P Neilson, J M Lenihan, R Drapek, J R Wells

1340h **B53E-0440 POSTER** Mechanisms For Sustained Carbon Storage In Old Forests: Early Results From The Forest Accelerated Succession Experiment (FASET): **P Curtis**, C M Gough, B S Hardiman, C S Vogel, G Bohrer

1340h **B53E-0441 POSTER** Monitoring 2009 Forest Disturbance across the Conterminous United States, Based on Near-Real Time and Historical MODIS 250 Meter NDVI Products: **J Spruce**, W W Hargrove, G Gasser, J C Smoot, P Kuper

1340h **B53E-0442 POSTER** Quantifying the Impact of Mountain Pine Beetle Disturbances on Forest Carbon Pools and Fluxes in the Western US using the NCAR Community Land Model: **S L Edburg**, J A Hicke, D M Lawrence, P E Thornton

1340h **B53E-0443 POSTER** Multiple Site Evaluation of a Dynamic Organic Soil Model for Analyzing Carbon Responses of Terrestrial Ecosystems to Climate Change and Fire Disturbance in Interior Alaska: **F Yuan**, S Yi, D McGuire, K D Johnson, J Liang, E Kasischke, J W Harden

1340h **B53E-0444 POSTER** Hurricane disturbance and recovery of carbon and energy balance in a tidal mangrove forest: **J G Barr**, V Engel, J D Fuentes, T Smith

1340h **B53E-0445** POSTER Do traits of invasive species influence decomposition and soil respiration of disturbed ecosystems?:

A J Wells, N J Balster

1340h **B53E-0446** POSTER Carbon and Aerosol Emissions from Biomass Fires in Mexico: **W M Hao**, G Flores Garnica, S P Baker, S P Urbanski

B53F Moscone West: 3016 Friday 1340h
North American Carbon Program Mid-Continent Intensive Campaign and Similar Regional CO₂ Flux Studies II (*joint with GC, A*)

Presiding: **S M Ogle**, Colorado State University; **K J Davis**, The Pennsylvania State University

1340h **B53F-01** A fusion of top-down and bottom-up modeling techniques to constrain regional scale carbon budgets: **M Goeckede**, D P Turner, A M Michalak, D Vickers, B E Law

1355h **B53F-02** The CarboEurope Regional Experiment Strategy: Assessment of the regional carbon balance using inverse and direct methods (*Invited*): **T Lauvaux**, U Rascher, B Gioli, R W Hutjes, C Sarrat, Y Brunet, N Jarosz, E Ceschia, P Rayner, C Gerbig, F Miglietta, J Noilhan, H Dolman

1410h **B53F-03** Atmospheric CO₂ Inversions of the Mid-Continental Intensive (MCI) Region (*Invited*): **A E Schuh**, A Denning, S M Ogle, K Corbin, M Uliasz, K J Davis, T Lauvaux, N Miles, A E Andrews, G Petron, D N Huntzinger

1425h **B53F-04** Modeling the Net Ecosystem Carbon Balance and Net Ecosystem Exchange of Agroecosystems of the Mid-Continent Intensive Campaign Region during 2000-2008: **R C Izaurralde**, X Zhang, W M Post, A M Thomson, T O West, J R Williams, D Manowitz, J Nichols, V Bandaru, P C Doraiswamy

1440h **B53F-05** Estimating Carbon Dioxide Fluxes from Sources and Sinks in the Mid-Continent Intensive using Inventories and Satellite Remote Sensing: **T O West**, V Bandaru, C C Brandt, A E Schuh, K R Gurney, L S Heath, R C Izaurralde, S Liu, Z Li, S M Ogle

1455h **B53F-06** Reconciliation of Carbon Dioxide Flux Estimates from Atmospheric Inversions and Inventories in the Mid-Continent Intensive: **F J Breidt**, D S Cooley, Q Thurier, Y Wang, A E Schuh, A Denning, K J Davis, T O West, S M Ogle

1510h **B53F-07** Long-term Trends In Regional 13CO₂ Fluxes in the U.S. Southern Great Plains (*Invited*): **M S Torn**, S Biraud, C J Still, W J Riley, M L Fischer, J A Berry

1525h **B53F-08** Uncertainty of Regional Carbon Fluxes and Boundary Layer Heights in Complex Terrain: The Airborne Carbon in the Mountains Experiment 2007: **W K Ahue**, A R Desai, S De Wekker, D J Moore, T L Campos, B B Stephens, R K Monson, D Schimel

B53G Moscone West: 3018 Friday 1340h
Soil Organic Matter and Carbon Sequestration: From Models to Mechanisms II

Presiding: **K Lajtha**, Oregon State University; **N Cavallaro**

1340h **B53G-01** Nitrogen mediates CO₂-induced changes in rhizosphere priming effects in an aggrading forest (*Invited*): **R Phillips**, E S Bernhardt, A Finzi

1355h **B53G-02** Comparison of Soil Organic Matter Dynamics at Four Temperate Deciduous Forests with Physical Fractionation and Radiocarbon Measurements: **K J McFarlane**, M S Torn, P J Hanson, C Swanston, T P Guilderson, R C Porras

1410h **B53G-03** Does priming regulate soil organic matter responses to climate change? (*Invited*): **E Pendall**

1425h **B53G-04** Temperature sensitivity of organic matter degradation – effect of molecular composition and microbial metabolic status: **B Erhagen**, T Sparrman, J Schleucher, U Istedt, M Nilsson

1440h **B53G-05** Twenty years of chronic nitrogen addition to pine and mixed hardwood stands at Harvard Forest: effects on carbon balance and dynamics differ by vegetation (*Invited*): **S E Crow**, K Lajtha, M G Kramer, B A Caldwell

1455h **B53G-06** Carbon Turnover and Dynamics from Biochemically Diverse Microbial Groups in Temperate and Tropical Forest Soils: **H Throckmorton**, J A Bird, M Firestone, W R Horwath

1510h **B53G-07** Molecular DYNAMics of Soil Organic carbon (DYNAMOS *): a project focusing on soils and carbon through data and modeling: **C Hatté**, J Balesdent, S Derenne, D Derrien, M Dignac, C Egasse, U Ezat, C Gauthier, M Mendez-Millan, T Nguyen Tu, C Rumpel, M Sicre, B Zeller

1525h **B53G-08** Preferential Flow Paths Allow Deposition of Mobile Organic Carbon Deep into Soil B Horizons: **E Marin-Spiotta**, O Chadwick, M G Kramer

Cryosphere

C53A Moscone West: 3014 Friday 1340h
Modeling the Spatial Dynamics of Permafrost and Seasonally Frozen Ground at Diverse Scales II (*joint with GC, H, NH*)

Presiding: **S Gruber**; **S Marchenko**, University of Alaska Fairbanks; **T Zhang**, University of Colorado; **N I Shiklomanov**

1345h **C53A-01** How Fast Can Permafrost Thaw? (*Invited*): **V E Romanovsky**, D J Nicolsky

1405h **C53A-02** How well do permafrost models serve user needs? (*Invited*): **O A Anisimov**, N I Shiklomanov, V E Romanovsky, S Marchenko

1425h **C53A-03** Analyses of a hierarchy of frozen soil models for cold region study: **Q Li**, S Sun, Y Xue

1440h **C53A-04** Groundwater Flow with Freeze-Thaw in Dynamic Permafrost Systems: Numerical Simulation: **C I Voss**, J M McKenzie, M A Walvoord

1455h **C53A-05** WITHDRAWN

1510h **C53A-06** Probabilistic Modelling of Russian Permafrost Response to Global Warming: **R Dankers**, O A Anisimov, P Falloon, J Gornall, S Reneva, A Wiltshire

1525h **C53A-07** (Hap)Hazard Mapping: Permafrost Distribution, Cartography, and Climatic Change: **F E Nelson**, J Brown

C53B Moscone West: 3003 Friday 1340h
The International Polar Year II (*joint with H, OS*)

Presiding: **M Tedesco**; **D J Carlson**, IPY Int'l Programme Office

1340h **C53B-01** The Future of Polar Information Systems (*Invited*): **M A Parsons**

1355h **C53B-02** Collaborative, International Efforts at Estimating Arctic Sea Ice Processes During IPY (*Invited*): **J E Overland**, H Eicken, H V Wiggins

1410h **C53B-03** PolarTREC-Celebrating the Legacy of the IPY Through Researcher-Educator Partnerships: **K Timm**, J Warburton, A M Larson

1425h **C53B-04** The International Polar Year (IPY) Circumpolar Flaw Lead (CFL) system study: a focus on fast ice edge systems: **D G Barber**, C J Mundy, T N Papakyriakou, R W Macdonald, Y Gratton, L Fortier, M Gosselin, J Hanesiak, J Tremblay, S Ferguson, G Stern, S Meakin, J W Deming, D Leitch

1440h **C53B-05** Arctic sea-ice variability during the 4th IPY and beyond: **J J Gascard**

1455h **C53B-06** GLACIODYN – The dynamic response of Arctic glaciers to global warming: **J M Hagen**, T Dunse, T Eiken, J Kohler, G Moholdt, C Nuth, T Schuler, M Sund

1510h **C53B-07** Barrow Arctic Terrestrial Observatory (BATO): An IPY Legacy: **J Brown**, K M Hinkel, R D Hollister, S F Oberbauer, F E Nelson, V E Romanovsky, N I Shiklomanov, M Sturm, C E Tweedie, P J Webber

1525h **C53B-08** AGAP: Exploring the Gamburtsev Subglacial Mountains with Aerogeophysical Surveys during the IPY: **M Studinger**, R E Bell, F Ferraccioli, D Damaske, C Finn, D A Braaten, M A Fahnestock, T A Jordan, H Corr, S Elieff, C Robinson, N Frearson, D Geue, M C McMinn, B Burton, F Goldmann, A E Block, M Bates, K Rose

Education and Human Resources

ED53A Moscone South: Poster Hall Friday 1340h **Connecting Science and Literacy in the Classroom: Using Space and Earth Science to Support Language Arts II Posters**

Presiding: **A S Wessen**, NASA's Jet Propulsion Laboratory

1340h **ED53A-0531 POSTER** Using S'COOL and MY NASA DATA to Support Language Arts Instruction: Overview and Analysis: **S W Moore**, T M Rogerson, L H Chambers, J D Fischer, P C Oots, P M Lewis

1340h **ED53A-0532 POSTER** Epo's Chronicles: A Weekly Webcomic That Teaches Space Science: **K Prasad**, A Simonnet, K John, L Hill, K McLin, L Cominsky

1340h **ED53A-0533 POSTER** Using a Google Earth QUEST to Improve Earth Science, Reading, and Geographic Literacy: **S Neville**, L A Guertin

1340h **ED53A-0534 POSTER** Dancing Lights: Creating the Aurora Story: **E L Wood**, E A Cobabe-Ammann

1340h **ED53A-0535 POSTER** Connecting Science and Literacy in the Classroom: Using Space and Earth Science to Support Language Arts: **A S Wessen**, E A Cobabe-Ammann

1340h **ED53A-0536 POSTER** Writers, Athletes and Engineers Learn by Doing: **M Narayanan**

ED53B Moscone South: Poster Hall Friday 1340h **Encouraging Success and Diversity Through Minority Participation in Science II Posters**

Presiding: **L Birt**, **A Jearld**

1340h **ED53B-0537 POSTER** A Mentoring Program in Environmental Science for Underrepresented Groups: **L Stevens**, **D M Rizzo**

1340h **ED53B-0538 POSTER** The Geosciences Institute for Research and Education: Bringing awareness of the geosciences to minorities in Detroit MI: **N A Nalepa**, K S Murray, J A Napieralski

1340h **ED53B-0539 POSTER** Growing Minority Student Interest in Earth and Space Science with Suborbital and Space-related Investigations: **S A Austin**

1340h **ED53B-0540 POSTER** Bush Physics for the 21st Century, A Distance Delivery Physics Course to Bridge the Gap in Rural Alaska and Across the North: **D J Solie**, V Spencer

1340h **ED53B-0541 POSTER** Taking Science to Special Needs and At-Risk Youth in the San Francisco Bay Area: **D K Scherrer**, D Yager, J Blair, D McCully, E Alameda, K Crawford

1340h **ED53B-0542 POSTER** The City University of New York / NASA Goddard Institute for Space Studies Center for Global Climate Research: **L P Johnson**, B E Carlson, P Marchese, C Rosenzweig, S A Austin, D M Peteet, J Frost, J C Steiner, A Howard, C Damas

1340h **ED53B-0543 POSTER** Forces acting at a distance: Performing laboratory experiments with students in remote locations: **V Spencer**, D J Solie

1340h **ED53B-0544 POSTER** Development of a StrengthsQuest-based Online Orientation Course for the Mathematics Engineering Science Achievement (MESA) Program: **J Farmer**

1340h **ED53B-0545 POSTER** Student Focused Geospatial Curriculum Initiatives: Internships and Certificate Programs at NCCU: **G Vlahovic**, R Malhotra

1340h **ED53B-0546 POSTER** Watershed Watch Undergraduate Research Projects: Monitoring Environmental Impacts on Tree Growth – Urban Development and Hurricanes: **B N Rock**, S Hale

1340h **ED53B-0547 POSTER** Impact of GK-12 Fellows on Middle School Students Along the U.S.-Mexico Border: **E A Hagedorn**, K C Miller, J Kennedy

1340h **ED53B-0548 POSTER** Research Opportunities for Undergraduate Students at Storm Peak Laboratory: **W Vargas**, G Hallar

ED53C Moscone South: Poster Hall Friday 1340h **International Year of Astronomy 2009: Impacts in Education and Public Outreach and Plans Beyond II Posters** (*joint with P*)

Presiding: **S M Pompea**, Natl Optical Astronomy Obs; **E K DeVore**, SETI Institute

1340h **ED53C-0549 POSTER** The Role of the Galileoscope Telescope Kit in the NAO Education and Public Outreach Program: Present and Future: **S M Pompea**, R Sparks, C E Walker

1340h **ED53C-0550 POSTER** Teaching solar astronomy on march 21 th in a multicultural village during IYA 2009 Mexico: **S Zueck**, A Lara

1340h **ED53C-0551 POSTER** Discover Space: an IYA program for libraries: **P Dusenbery**

1340h **ED53C-0552 POSTER** International Year of Astronomy Events in a Small, Midwestern Community: **C E Brevik**

1340h **ED53C-0553 POSTER** Kepler Mission IYA Teacher Professional Development Workshops: **E K DeVore**, P Harman, A D Gould, D Koch

1340h **ED53C-0554 POSTER** Interstellar Boundary Explorer Education and Public Outreach during and beyond IYA: **L Bartolone**, M Nichols-Yehling

ED53D Moscone South: Poster Hall Friday 1340h **Public Participation in Research: Engaging Citizen Scientists in Geoscience Research II Posters** (*joint with PA, GC*)

Presiding: **S Henderson**, UCAR; **A L Schloss**

1340h **ED53D-0555 POSTER** A Worldwide Community of Primary and Secondary Students and Their Teachers Engage in and Contribute to Geoscience Research: **E B Sparrow**, M R Kopplin, S Yule

1340h **ED53D-0556 POSTER** Engaging the Public in Climate Change Research: **K K Meymaris**, S Henderson, P Alaback, K Havens, J Schwarz Ballard

1340h **ED53D-0557 POSTER** A citizen science campaign encouraging urban forest professionals to engage the public in the collection of tree phenological data: **K C Clarke**

1340h **ED53D-0558 POSTER** Engage the Public in Phenology Monitoring: Lessons Learned from the USA National Phenology Network: **T M Crimmins**, G LeBuhn, A J Miller-Rushing

1340h **ED53D-0559 POSTER** Using Digital Camera Imagery to Study Phenology and Quantify Foliar Pigment Concentrations in Temperate Forest Species: **M T Gagnon**, B N Rock, L S Jahnke, T D Lee

1340h **ED53D-0560 POSTER** The Acadia Learning Project: Lessons Learned from Engaging High School Teachers and Students in Citizen Science Supporting National Parks: S J Nelson, **B Zoellick**, Y Davis, E Lindsey

1340h **ED53D-0561 POSTER** The 2009 Space Science Component of UNH Project SMART and High School Students Building a High-Altitude Balloon Payload: **C W Smith**, L Broad, L Chen, C J Farrugia, K Frederick-Frost, S Goelzer, H Kucharek, R Messeder, E Moebius, P A Puhl-Quinn, R B Torbert

1340h **ED53D-0562 POSTER** Watershed Watch: Using undergraduate student-driven inquiry-based research projects as a means of engaging undeclared students in the biogeosciences: **B N Rock**, S Hale, K Graham, L B Hayden

1340h **ED53D-0563 POSTER** Vermont EPSCoR Streams Project: Engaging High School and Undergraduate Students in Watershed Research: **E Ray**, D McCabe, S Sheldon, K Jankowski, L Haselton, M Luck, J Van Houten

1340h **ED53D-0564 POSTER** The Great World Wide Star Count: **D Ward**, K Meymaris, S Henderson, R M Johnson

1340h **ED53D-0565 POSTER** The CloudSat Education Network: Significant Collaborative Research Between Students and Scientists: **M A Rogers**, D Vane

1340h **ED53D-0566 POSTER** Increasing the Value of Citizen Scientist Data: Detecting and Correcting QA/QC Problems: C Rupperecht, **G Woodard**

1340h **ED53D-0567 POSTER** Earthwatch and the HSBC Climate Partnership: Impacting the Bottom Line One Citizen Scientist at a Time: **K M Kusek**, D B Stover, R Phillips, A Jones, J Campbell

1340h **ED53D-0568 POSTER** Estimating Rainfall One Pixel at a Time: A Scientific Activity with Brazilian Students: **M A Alves**, I M Martin, C S Lyra

ED53E Moscone West: 3020 Friday 1340h
Representing Geoscience Data: For Research, Instruction, and Communicating With the Public II (*joint with A, B, IN, DI, OS, MR, H, T, EP, V*)

Presiding: **D W Mogk**, Montana State University

1340h **ED53E-01** Resources for Designing, Selecting and Teaching with Visualizations in the Geoscience Classroom: K B Kirk, **C A Manduca**, C J Ormand, J R McDaris

1355h **ED53E-02** SEEING IS BELIEVING, AND BELIEVING IS SEEING: **B L Dutrow**

1410h **ED53E-03** Teaching With Projections in the Geosciences: Windows to Enlightenment or Barriers to Understanding?: **D W Mogk**

1425h **ED53E-04** Making Geoscience Data Relevant for Students, Teachers, and the Public: **M Taber**, T S Ledley, A Prakash, B Domenico

1440h **ED53E-05** Geology's "Super Graphics" and the Public: Missed Opportunities for Geoscience Education: **R M Clary**, J H Wandersee

1455h **ED53E-06** GeoMapApp, Virtual Ocean and Other Cutting-Edge Resources for Representing Geoscience Data: **A M Goodwillie**, W B Ryan, J Coplan, S M Carbotte, R A Arko, S O'Hara, V Ferrini, J Bonczkowski, S Chan, R Weissel, J J Morton, S De Leonardo, A Leung

1510h **ED53E-07** Development, Deployment, and Assessment of Dynamic Geological and Geophysical Models Using the Google Earth APP and API: Implications for Undergraduate Education in the Earth and Planetary Sciences: **D G De Paor**, S J Whitmeyer, J Gobert

1525h **ED53E-08** Sonification of Earthquake Data: From Wiggles to Pops, Booms and Rumbles: **D W Simpson**, Z Peng, D L Kilb, D Rohrlack

Earth and Planetary Surface Processes

EP53A Moscone South: Poster Hall Friday 1340h
Interpreting Allogenic and Autogenic Processes in the Stratigraphic Record II Posters (*joint with H, NG, OS*)

Presiding: **E A Hajek**, University of Minnesota; **K M Straub**, Tulane University

1340h **EP53A-0609 POSTER** Decoupling allogenic and autogenic processes in experimental stratigraphy: **W Kim**

1340h **EP53A-0610 POSTER** The natural range of submarine canyon-and-channel longitudinal profiles: **J A Covault**, A Fildani, B Romans

1340h **EP53A-0611 POSTER** Stratigraphic Stacking of Deepmarine Channel Levee Turbidites: Scales of Cyclicity and their Origin. Examples from the Laingsburg Fm. (Karoo, South Africa) and the Rosario Fm. (Baja, Mexico): **I A Kane**, D Hodgson

1340h **EP53A-0612 POSTER** Controls on steering of channels in laterally tilting basins: an experimental study: **K M Straub**, C Paola, W Kim, B A Sheets

1340h **EP53A-0613 WITHDRAWN**

1340h **EP53A-0614 POSTER** Evaluating controls on fluvial sand-body clustering in the Ferris Formation (Cretaceous/Paleogene, Wyoming, USA): **E A Hajek**, P Heller

1340h **EP53A-0615 POSTER** A Simple Method for Estimating the Sediment-Flux Histories of Ancient Shelf-Margin Successions: **A L Petter**, D C Mohrig, C Carvajal, R Steel, W Kim

1340h **EP53A-0616 POSTER** To what extent can regional grain-size trends be decoded to gain information about tectonic subsidence rates and variations in sediment flux?: R Duller, **A C Whittaker**, J J Fedele, J Springett, R Smithells, A L Whitchurch, P A Allen

1340h **EP53A-0617 POSTER** Identifying tectonic and climatic drivers for deep-marine siliciclastic systems: Middle Eocene, Spanish Pyrenees: **K T Pickering**, J I Scotchman, S A Robinson

1340h **EP53A-0618 POSTER** Sub-Milankovitch millennial-scale climate variability in Middle Eocene deep-marine sediments: **J I Scotchman**, K T Pickering, S A Robinson

1340h **EP53A-0619 WITHDRAWN**

1340h **EP53A-0620 POSTER** Trends and control of Holocene floodplain sedimentation in the Rhine catchment (Central Europe): **T Hoffmann**, G Erkens

1340h **EP53A-0621 POSTER** Paleohydrology of meandering systems: a new approach for the reconstruction of ancient drainage areas and the quantification of the controlling factors: **A HELD**, I Cojan

1340h **EP53A-0622 POSTER** Filling the temporal gap in Plio-Pleistocene sedimentological records from the southern Afar Depression, Ethiopia: **E DiMaggio**, R Arrowsmith, K Reed, C J Campisano

EP53B Moscone South: Poster Hall Friday 1340h
Orographic Rainfall: Observations, Models, and Implications for Landscape Evolution II Posters (*joint with H, H*)

Presiding: D W Burbank, J Galewsky, University of New Mexico

1340h **EP53B-0623 POSTER** Seasonal precipitation gradients and their impact on erosion in the Northwest Himalaya: **H Wulf**, B Bookhagen, D Scherler

1340h **EP53B-0624 POSTER** Do vegetation and soil buffer the effects of orographic precipitation on runoff and fluvial erosion?: **J Han**, N Gasparini

1340h **EP53B-0625 POSTER** The Effects of Orographic Precipitation and Lithology on River Profiles in the Kohala Region of the Big Island, Hawaii: **J A Menking**, N Gasparini, J P Johnson

1340h **EP53B-0626 POSTER** Evaluation of FLO-2D runoff and sediment loading models in tropical humid to semi-arid catchments of Hawaii: **B Hagedorn**, A I El-Kadi

1340h **EP53B-0627 POSTER** Orographic Signature on Multiscale Statistics of Extreme Rainfall: **M Ebtehaj**, E Foufoula-Georgiou

EP53C Moscone South: Poster Hall Friday 1340h
Processes in the Critical Zone: Interaction of Rock, Water, and Life III Posters (*joint with B, H*)

Presiding: S P Anderson, Univ of Colorado

1340h **EP53C-0628 POSTER** EFFECT OF NITROGEN AND METAL ADDITIONS ON NITROGEN FIXATION ACTIVITY IN BIOLOGICAL SOIL CRUSTS: **K Alexander**, D Lui, A D Anbar, F Garcia-Pichel, H E Hartnett

1340h **EP53C-0629 POSTER** Plant-Available Silica in Soils: A Mass Balance Approach: **P E Reyerson**, P M Jacobs, J A Mason

1340h **EP53C-0630 POSTER** Iron isotopes in a soil chronosequence: evidence of fractionation due to biological lifting of iron: **M S Schulz**, T D Bullen, A F White, J Fitzpatrick

1340h **EP53C-0631 POSTER** Annual Cycling of Dissolved Organic Matter in an Alpine Stream: **R S Gabor**, R McLoughlin, D M McKnight

1340h **EP53C-0632 POSTER** Dissolved Organic Carbon and Natural Terrestrial Sequestration Potential in Volcanic Terrain, San Juan Mountains, Colorado: **D B Yager**, A Burchell, R H Johnson, M Kugel, G Aiken, R Dick

1340h **EP53C-0633 POSTER** Intensified Weathering Control of Carbon Cycle along an Earthworm Invasion Chronosequence: Preliminary Data: **C Fernandez**, K Yoo, A K Aufdenkampe, C Hale

1340h **EP53C-0634 POSTER** GEOMORPHIC AND HYDROLOGIC INTERACTIONS IN THE DETERMINATION OF EQUILIBRIUM SOIL DEPTH: **L Nicotina**, A Rinaldo, D G Tarboton

1340h **EP53C-0635 POSTER** Field Measurement of Saturated Hydraulic Conductivity at the Hillslope Scale under different Soil Series and Management Practices: **M Elhakeem**, Y Chang, C G Wilson, **T Papanicolaou**

1340h **EP53C-0636 POSTER** Measurement and Modeling on Flow Hydrodynamics in Crushed Basalt in Support of Constructed Hillslopes in Biosphere 2: **M G Schaap**, P Gallo

1340h **EP53C-0637 POSTER** Morpho-Bathymetry of the Specchio di Venere Crater Lake, Pantelleria Island, Italy: Integration of GPS Surveys with non-GPS Data and Evidence of Sedimentary Control on Lake Bottom Topography: **P Madonia**, M Cangemi, A Bellanca, W D'Alessandro, R Neri, A Failla

1340h **EP53C-0638 POSTER** Natural flows of H₂-rich fluids in the ophiolites of Oman and the Philippines: Tectonic control of migration pathways and associated diagenetic processes: **E P Deville**, A Prinzhofner, C Vacquand, V Chavagnac, C Monnin, G Ceuleneer, C A Arcilla

EP53D Moscone South: Poster Hall Friday 1340h
Processes in the Critical Zone: Interaction of Rock, Water, and Life IV Posters (*joint with B, H*)

Presiding: E Kirby, Penn State University

1340h **EP53D-0639 POSTER** Weathering, Water, and Slope Aspect: **S P Anderson**, A Blum, J Lee, R M Cowie, M W Williams, Z A Frederick

1340h **EP53D-0640 POSTER** Aspect-Driven Changes in Slope Stability Due to Ecohydrologic Feedbacks: **M J Poulos**, J L Pierce, A N Flores, S G Benner, T J Smith, J P McNamara

1340h **EP53D-0641 POSTER** Long-term climate impact on soil chemistry in the Chilean Andes: **S A Balan**, A Kirk, D Belt, A Christensen, R Amundson

1340h **EP53D-0642 POSTER** Weathering along a periglacial stream, Western Greenland: **M Evans**, S Beal

1340h **EP53D-0643 POSTER** Seasonal contributions of weathering and atmospheric dust to water chemistry in the Lake Qinghai catchment, NE Tibetan Plateau: **Z Jin**, F Zhang

1340h **EP53D-0644 POSTER** Atmospheric dust contribution to budget of U-series nuclides in weathering profiles. The Mount Cameroon volcano: **E Pelt**, F J Chabaux, C Innocent, B Ghaleb

1340h **EP53D-0645 POSTER** Shallow Geophysical Exploration of the Boulder Creek Critical Zone Observatory: **K M Befus**, T Kelsay, A F Sheehan, M Leopold

1340h **EP53D-0646 POSTER** Surface and Shear Wave Analysis of the Critical Zone in Betasso Catchment, Colorado: **A B Andrus**, K M Befus, A F Sheehan

1340h **EP53D-0647 POSTER** MONITORING EROSION OF STONE SURFACES USING TIME-LAPSE AND PTM PHOTOGRAPHY: FIELD STUDY OF A 14TH CENTURY MONASTERY IN YORKSHIRE: **E Doehne**, S Pinchin

1340h **EP53D-0648 POSTER** Rockfall processes in alpine catchments: Analysing erosion on rockfaces and accumulation and surface parameters on the corresponding talus cones using Terrestrial Laserscanning Data: **F Haas**, T Heckmann, T Klein, M Becht

1340h **EP53D-0649 POSTER** Sediment Sources in four Small Mountain Streams In the Central Sierra Nevada, California: **S E Martin**, C T Hunsaker, R C Bales

EP53E Moscone West: 2008 Friday 1340h
Sediment Supply, Storage, and Delivery as Controlled by Hillslope-Channel Coupling II (*joint with H*)

Presiding: M B Singer, University of St Andrews; E J Gabet, San Jose State University; S M Mudd, University of Edinburgh

1340h **EP53E-01** Patterns of Post Glacial Sediment Yield in Chilliwack Valley, British Columbia (*Invited*): M A Church, J Tunnicliffe

1355h **EP53E-02** How should we model incision into coarse, loose, heterogeneous grain mixtures in mountain catchments?: **D Hobley**, H D Sinclair, P A Cowie

1410h **EP53E-03** Valleywide patterns of posteruption erosion and deposition in the South Fork Toutle River, Washington—evidence of valley morphology and hillslope-channel coupling affecting sediment supply, storage, and delivery: **J J Major**, L Mark

1425h **EP53E-04** Hillslope-channel coupling in a steep Hawaiian catchment accelerates erosion rates over 100-fold: **J D Stock**, M N Hanshaw, M Rosener, K M Schmidt, B A Brooks, G Tribble, J Jacobi

1440h **EP53E-05** Geomorphic connectivity in a recently burned watershed: **D M Staley**, J W Kean, T Wasklewicz

1455h **EP53E-06** Sediment storage and evacuation in systems with contrasting hillslope-channel coupling (*Invited*): **M A Madej**

1510h **EP53E-07** Interactions Between Hillslope Processes and Channel Form in a Logged Coastal Redwood Forest: **T E Lisle**, L M Reid, S Hilton

1525h **EP53E-08** Sediment Reservoirs at Mountain Stream Confluences: Dynamics and Effects of Tributaries Dominated by Debris Flow and Fluvial Processes: **S T Lancaster**, E F Underwood, W T Frueh

EP53F Moscone West: 2002 Friday 1340h
Young Valley Features on Mars and the Martian Fluvial Record II (*joint with P*)

Presiding: **A D Howard**, Univ of Virginia; **C Fassett**, Brown University; **J Moore**, NASA

1340h **EP53F-01** Hesperian fluvial landforms on Mars : Regional or global activity? (*Invited*): **N Mangold**

1400h **EP53F-02** The snows of Juventae: Mesoscale simulation of atmospheric response to chaos formation: **E S Kite**, S C Raskin, T I Michaels, M Manga

1415h **EP53F-03** Characterization Of Fluvial Activity In Parana Valles Using Different Age-Dating Techniques: **S Bouley**, R A Craddock, N Mangold, V Ansan

1435h **EP53F-04** Numerical modeling of Martian gully sediment transport: Testing the fluvial hypothesis (*Invited*): **R Parsons**, F Nimmo

1455h **EP53F-05** Fluvial valleys on Alba Patera, Mars, viewed by HRSC/MEx camera: **V Ansan**, N Mangold, P L Masson, G Neukum

1510h **EP53F-06** A polygenetic exhumed landscape in the Aeolis/Zephyria Plana region, Mars: **D M Burr**

1525h **EP53F-07** Late Noachian to Early Hesperian Climate Change on Mars: Evidence from Crater Lakes and Thermokarst Terrain near Ares Vallis: **N H Warner**, **S Gupta**, S Lin, J Kim, J Muller, J Morley

Geodesy

G53A Moscone South: Poster Hall Friday 1340h
Monitoring the Cryosphere and the Interaction With the Geosphere: Using Satellite and Terrestrial Observations to Reconcile Ice Mass Balance Estimates II Posters (*joint with C, OS, S, GC*)

Presiding: **W Abdalati**, University of Colorado; **I Velicogna**, Univ of California Irvine

1340h **G53A-0666 POSTER** A first-order accuracy assessment of GLAS elevation data near Summit, Greenland: **M R Siegfried**, R L Hawley, J F Burkhart, S O'Neel

1340h **G53A-0667 POSTER** Empirical Correction of Residual Error in the ICESat-1 Altimetry Time Series at Lake Vostok: **C A Shuman**, D J Harding, J P Dimarzio, X Sun, V P Suchdeo, A Brenner

1340h **G53A-0668 POSTER** Repeated GPS surveys of the salar de Uyuni for continued calibration of ICESat altimeter data: **K M Brunt**, A A Borsa, H A Fricker

1340h **G53A-0669 WITHDRAWN**

1340h **G53A-0670 POSTER** Validation of High-Resolution GRACE Solutions for the Greenland Ice Sheet using Aircraft and Satellite Altimetry: **A A Arendt**, J G Sonntag, W B Krabill, S B Luthcke

1340h **G53A-0671 POSTER** Relative Magnitude and Timing of Mass Change Mechanisms on the Greenland Ice Sheet from GRACE and Surface Mass Balance Models: **U K Rick**, W Abdalati, J E Box, E Hanna, D McGrath

G53B Moscone South: Poster Hall Friday 1340h
Monitoring the Cryosphere and the Interaction With the Geosphere: Measuring and Modeling Cryosphere-Geosphere Interactions II Posters (*joint with C, GC, T, PP, S, OS, NH, EP*)

Presiding: **J M Sauber**, NASA GSFC; **B Smith**, University of Washington

1340h **G53B-0672 POSTER** GPS Constraints on Glacial Isostatic Adjustment Models and Implications for Ice Sheet Mass Balance in West Antarctica: **M J Willis**, T J Wilson, T S James, S Mazzotti

1340h **G53B-0673 POSTER** Estimating the effects of current deglaciation in Iceland on earthquake occurrence and volcanism: **B Lund**, C Pagli, F Sigmundsson, P Schmidt, T Arnadottir, H Bjornsson, H Geirsson, E C Sturkell

1340h **G53B-0674 POSTER** GPS Measurement of Accelerating Uplift in Northern Hemisphere: **Y Jiang**, T H Dixon, S Wdowinski

1340h **G53B-0675 POSTER** Orogenic Response to Augmented Erosion Associated with Northern Hemisphere Glaciation: The St. Elias Orogen of Alaska: **A L Berger**, **S P Gulick**, J A Spotila, L L Worthington, P Upton, J M Jaeger, T L Pavlis

1340h **G53B-0676 POSTER** Relation of seismic rate changes to the timing of ice mass fluctuations and surface temperature variations: **J M Sauber**, N Ruppert, S B Luthcke, D D Rowlands

G53C Moscone South: Poster Hall Friday 1340h
Quantifying Sea Level Change II Posters (*joint with PA, OS, H, GC*)

Presiding: **R E Riva**, Delft University of Technology; **R J Bingham**, **M E Tamisiea**, Proudman Oceanographic Lab.; **E W Leuliette**, NOAA/Lab for Satellite Altimetry

1340h **G53C-0677 POSTER** Quantifying Geophysical Causes of Present-Day Sea Level Rise: **C Shum**, C Kuo, J Guo

1340h **G53C-0678 POSTER** The status of the observational sea level rise budget: **E W Leuliette**, L Miller

1340h **G53C-0679 POSTER** Land water storage change from satellite altimetry and GRACE; Inference on sea level: **A A Cazenave**, W LLOVEL, M Becker, J Cretaux

1340h **G53C-0680 POSTER** Regional variability on sea level and interannual variability inferred by Jason-1, Argo float and GRACE data over 2002-2008: S Guinehut, **W LLOVEL**, A A Cazenave

1340h **G53C-0681 POSTER** Regional variability in sea level from past reconstruction over 1950-2000 and coupled climate model hindcast: **W LLOVEL**, D Salas y Mélia, A A Cazenave

1340h **G53C-0682 POSTER** The Sensitivity of Sea-Level Fingerprints to the Geometry of Ice Sheet Mass Balance: **N Gomez**, J X Mitrovica, E Morrow, M E Tamisiea, P U Clark, G Cogley, J A Church, N J White

1340h **G53C-0683** *POSTER* The sea level fingerprint of 21st Century ice mass loss and Glacial Isostatic Adjustment: **R E Riva**, J L Bamber

1340h **G53C-0684** *POSTER* GIA Induced Low Degree Uplift Rates: W Van der Wal, **R E Riva**, D A Lavallee

1340h **G53C-0685** *POSTER* Optimal locations of GPS measurements in Laurentide and Fennoscandia for constraining 3D GIA models: P P Wu, **H Steffen**, H Wang

1340h **G53C-0686** *POSTER* Sea level changes from seismic dislocations: a self-consistent approach: **A Piersanti**, D Melini, G Spada

1340h **G53C-0687** *POSTER* Spatial Variability Of Sea Level Rise Due To Water Impoundment Behind Dams: **J W Fiedler**, C P Conrad

1340h **G53C-0688** *POSTER* A new analysis method using the particle filter algorithm applicable to long-period tide gauge records: **H Nagao**, T Higuchi, S Miura, D Inazu

1340h **G53C-0689** *POSTER* Use of PSI to Investigate the Sites at Tide Gauges Across British Coast: L M Adamska, A Sowter, S D Williams, D G Tragheim, R M Bingley, F N Teferle, **D N Hansen**

1340h **G53C-0690** *POSTER* On the origin of decadal and interdecadal variations in the sea level record at Brest (France): **M Karpytchev**, M Becker

1340h **G53C-0691** *POSTER* Past Sea Level Reconstruction and Variability of Sea Level Trend Patterns over 1958-2005 in the Mediterranean Sea basin: **B Meyssignac**, A A Cazenave, R A Morrow, W LLOVEL, P Maisongrande, L Fenoglio-Marc

1340h **G53C-0692** *POSTER* Tide gauge and GPS measurements of crustal motion and sea level rise along the eastern margin of Adria: **G Buble**, R A Bennett, S Hreinsdottir

1340h **G53C-0693** *POSTER* Implementation of CGPS at Estartit, Ibiza and Barcelona harbours for sea level monitoring: **J J Martinez-Benjamin**, M Ortiz Castellon, M Martinez-Garcia, B Perez, E Bosch, A Termens, X Martinez de Oses

1340h **G53C-0694** *POSTER* Reconstruction of sea level variability in the Gulf of Mexico during the period 1950-2007: **C Letetrel**, M Karpytchev, G Woppelmann

1340h **G53C-0695** *POSTER* Sea Level Change and Crustal Vertical Motion around Taiwan Derived by Altimetry and Tide Gauges: **C Wu**, C Kuo, C Shum, M Yang

G53D Moscone South: Poster Hall Friday 1340h
The Ocean's Dynamic Topography: Its Determination and Applications Posters (*joint with OS*)

Presiding: **J J Benveniste**, European Space Agency; **R J Bingham**; **P Knudsen**, DTU Space

1340h **G53D-0696** WITHDRAWN

1340h **G53D-0697** *POSTER* GOCE mission status, performance and outlook towards high-resolution geoid products (*Invited*): **R Floberghagen**, M Fehringer, D Muzi, M R Drinkwater, J J Benveniste

1340h **G53D-0698** *POSTER* Seasonal variations of the large-scale geostrophic flow-field and of eddy kinetic energy inferred from the TOPEX/Poseidon and Jason-1 Tandem Mission Data: **M G Scharffenberg**, D Stammer

1340h **G53D-0699** *POSTER* Mean Dynamical Ocean Topography in the Bering Sea Derived as a Variational Inverse of Climatological Data: **G Panteleev**, D Nechaev, V Luchin, P Stabeno, T Kikuchi

1340h **G53D-0700** *POSTER* Ocean bottom pressure modeling for detection of seafloor vertical deformation: **D Inazu**, R Hino, H Fujimoto

1340h **G53D-0701** *POSTER* New global and regional Mean Dynamic Topographies from the combination of GRACE data, altimetry and in-situ measurements. (*Invited*): **M Rio**, P Schaeffer, G Moreaux, S Bourgogne, J Lemoine, E Bronner, M Lequentrec-Lalancette, D Rouxel

1340h **G53D-0702** *POSTER* The DNSC08MDT mean dynamic topography and improving geodetic MDT models with future GOCE data: **O B Andersen**, P Knudsen

1340h **G53D-0703** *POSTER* Potential Monitoring of the Atlantic Meridional Overtuning Circulation Using Contemporary Satellite Observations: **H Kao**, C Kuo, C Shum, Y Song, J Duan, H Fok, J Guo

1340h **G53D-0704** *POSTER* Geostrophic ocean surface currents in the Fram Strait from integration of gravity and mean sea surface heights: **D I Lysaker**

G53E Moscone West: 3022 Friday 1340h
Ground-Based Geodetic Techniques and Science Applications II (*joint with NH, H, C, PP*)

Presiding: **D A Phillips**, UNAVCO; **B Brooks**, University of Hawaii; **G W Bawden**, US Geological Survey

1340h **G53E-01** Assessment of the uncertainty budget in Terrestrial Laser Scanner (TLS) characterization of the Happy Canyon fault scarp, Panamint Valley, southeastern California: **J S Oldow**, P Shilpakar, D Walker, A Biholar, B Burnham, G Mills, A J Herrs

1355h **G53E-02** Landslide Kinematics and Subsurface Inference from Terrestrial Laser Scanner Data: **A Aryal**, B A Brooks, G W Bawden, M Reid, G R Pawlak

1410h **G53E-03** Terrestrial LiDAR Measurements on a Large East Greenland Outlet Glacier: **G S Hamilton**, L A Stearns, D C Finnegan

1425h **G53E-04** Monitoring gully-head propagation with terrestrial laser scanning, West Bijou Creek, Colorado (*Invited*): **G E Tucker**, D A Phillips, F A Martinez Torres, E A Feliciano Bonilla, A F Sheehan

1440h **G53E-05** Lidar based morphometric analysis of hoodoos with implications for dryland hill slope process (*Invited*): **T F Wawrzyniec**, L D McFadden

1455h **G53E-06** Imaging The October 2008 Glacier Point Rock Falls, Yosemite Valley, With High-Resolution Photography and Repeat Terrestrial Laser Scanning (*Invited*): **G M Stock**, G W Bawden, J K Green, S Bond, M Leslar

1510h **G53E-07** The Echo Cliffs Precariously Balanced Rock; Discovery and Terrestrial Laser Scanning: **K W Hudnut**, W H Amidon, G W Bawden, J N Brune, S Bond, R W Graves, D E Haddad, A Limaye, D K Lynch, D A Phillips, E Pounders, D H Rood

1525h **G53E-08** Terrestrial Laser Scanning Applications in Paleoseismology (*Invited*): **R Arrowsmith**, D E Haddad, S O Akciz, J S Oldow, J Mauer, D D Rhodes

Hydrology

H53A Moscone South: Poster Hall Friday 1340h
Fate and Transport of Microconstituents Within the Subsurface Environment During Water Reuse Applications Posters (*joint with B*)

Presiding: **A Ramsburg**, Tufts University

1340h **H53A-0910** *POSTER* The fate and transport of reproductive hormones and their conjugates in the environment (*Invited*): **F X Casey**, S L Shrestha, H Hakk, D J Smith, G L Larsen, G Padmanabhan

- 1340h **H53A-0911** POSTER Clogging of fractured formations by biocolloids suspended in reclaimed wastewater: **C Chrysikopoulos**, C Masciopinto, R La Mantia, I D Manariotis
- 1340h **H53A-0912** POSTER Experimental study of MS2 and Φ X174 interactions with clays: V I Syngouna, C Chrysikopoulos
- 1340h **H53A-0913** POSTER Fate and transport of carbamazepine in a soil aquifer treatment (SAT) system: evaluation of a monitoring study and soil column experiments: G Arye, **I Dror**, B Berkowitz
- 1340h **H53A-0914** POSTER Use of Constructed Wetlands for Polishing Recharge Wastewater: **W Cardwell**
- 1340h **H53A-0915** WITHDRAWN

H53B Moscone South: Poster Hall Friday 1340h
General Hydrogeophysics III Posters (*joint with NS*)

Presiding: **R L Van Dam**, Michigan State University; **T C Johnson**, Idaho National Laboratory; **M Looms**, University of Copenhagen; **R Deiana**, University of Padova

- 1340h **H53B-0916** POSTER Geostatistical analysis of near-surface geophysical data: results from the P-Reactor Area at Savannah River Site, South Carolina: **A Cameron**, C C Knapp
- 1340h **H53B-0917** POSTER Bayesian Inference of Site-Specific Petrophysical Relations from Noisy Data: **M A Cardiff**, P K Kitanidis
- 1340h **H53B-0918** POSTER Hierarchical Bayesian Model for Estimating the Spatiotemporal Distribution of Geochemical Processes Associated with In-Situ Remediation Using Geophysical Datasets: **C Tuglus**, J Chen, S S Hubbard
- 1340h **H53B-0919** POSTER The Potential of Electric Imaging for Improvement of Numerical Simulations of Water Movement in Heterogeneous Soils: **D Zumr**, M Cislserova, M Levorova
- 1340h **H53B-0920** POSTER Improved understanding of the relationship between hydraulic properties and streaming potentials: G Cassiani, **A Brovelli**
- 1340h **H53B-0921** POSTER Estimating hydraulic conductivity by stochastic inversion of low frequency electrical spectra – balancing survey effort and estimation uncertainty: J S Keery, **A M Binley**
- 1340h **H53B-0922** POSTER Spectral induced polarization as an approach for identifying subsurface variations in peat hydrological properties: **N Kettridge**, A M Binley
- 1340h **H53B-0923** POSTER Delineating subsurface zones of natural bioreduction using the complex resistivity method: **A Flores-Orozco**, K H Williams, A Kemna, K M Campbell, R K Kukkadapu, A Peacock, P E Long
- 1340h **H53B-0924** POSTER Hydraulic conductivity and complex resistivity measurements on reconstituted samples from the Boise Hydrogeophysical Research Site (BHRS): **J L Montrey**, W Barrash, L D Slater
- 1340h **H53B-0925** POSTER Using the Electrical Resistivity Imaging Method for Identifying the boundary zone of the Groundwater Recharge Area in Chou-Shui Alluvial Fan in Central Taiwan: **H Chen**, P Chang, S Chang
- 1340h **H53B-0926** POSTER Measuring the Change in Water Table with Gravity Methods – a Controlled Experiment: **S Lund**, L Christiansen, O B Andersen, P J Binning, D Rosbjerg, P Bauer-Gottwein
- 1340h **H53B-0927** POSTER Gravity Monitoring of Canal Infiltration: Results from Dutch Flats, Nebraska: **P Gettings**, D S Chapman, W Kress
- 1340h **H53B-0928** POSTER Preliminary investigation of subsurface hydraulic parameter estimation using airborne electromagnetic surveys: **P A Calvin**, D Misra, P A Metz, V S Sonwalkar, R Ganguli

- 1340h **H53B-0929** POSTER Quantitative Hydrogeological Framework Interpretations from Modeling Helicopter Electromagnetic Survey Data, Nebraska Panhandle: **J D Abraham**, L B Ball, P A Bedrosian, J C Cannia, M Deszcz-Pan, B J Minsley, S M Peterson, B D Smith
- 1340h **H53B-0930** POSTER Design of Reconnaissance Helicopter Electromagnetic and Magnetic Geophysical Surveys of the North Platte River and Lodgepole Creek, Nebraska: **B D Smith**, J C Cannia, J D Abraham
- 1340h **H53B-0931** POSTER Application of the method of estimating slip plane through ground surface displacement of landslide; case studies in Japan and Romania: **K Ishida**, K Fujisawa, S Okuda, S Chiba, M Constantin, M C Jurchescu, K TAKECHI, Y Kodama, K Fukui, M Ootsuka, K Itoh, S Ishizaka
- 1340h **H53B-0932** POSTER The Effect of Rock Tensile Strength on Shallow Aquifer Properties Near Ridges Associated With Rift Basins: **R H Morin**, W H Schulz
- 1340h **H53B-0933** POSTER Borehole flowmeter measurements of horizontal groundwater flow before and during an aquifer test in central Indiana: **D C Lampe**
- 1340h **H53B-0934** POSTER Horizontal Borehole Flowmeter Evaluations in an Unconsolidated Aquifer Simulator: **E R Bayless**

H53C Moscone South: Poster Hall Friday 1340h
Hydroclimatology of Large Northern Watersheds: From Surface Observation, Remote Sensing, to Modeling II Posters (*joint with A, B, C*)

Presiding: **D Yang**, Univ Alaska Fairbanks; **L D Hinzman**, University of Alaska Fairbanks

- 1340h **H53C-0935** POSTER Water Cycle Dynamics in the Snake River Basin, Alaska: **R Busey**, L D Hinzman
- 1340h **H53C-0936** POSTER Comparing Field Measured Runoff and Precipitation in Several Large Arctic Alaskan Rivers: **E K Youcha**, D L Kane, H A Toniolo
- 1340h **H53C-0937** POSTER Northern Watershed Change, Modeled Permafrost Temperatures in the Yukon River Watershed: **R Bryan**, L D Hinzman
- 1340h **H53C-0938** POSTER Yukon River Hydrology and Climate Changes, 1977-2006: S Ge, **D Yang**, D L Kane
- 1340h **H53C-0939** POSTER Climate and Cryosphere (CliC) Project and its Interest in Arctic Hydrology Research: **D Yang**, T D Prowse, K Steffen, V Ryabinin
- 1340h **H53C-0940** POSTER TEMPORAL CHANGES IN SURFACE WATER FLOW AND VEGETATION IN THE MISSOURI RIVER BASIN AS REVEALED BY SATELLITE AND FIELD MEASUREMENTS: **L Qiao**
- 1340h **H53C-0941** POSTER The Effect of Vegetation Changes on Precipitation Recycling in the Mackenzie River Basin: **P K Snyder**
- 1340h **H53C-0942** POSTER Precipitation characteristics in a mountainous region of the Tuul river basin, Mongolia: **K Sugiura**, T Kadota, H Iwasaki, D Gombo, T Ohata
- 1340h **H53C-0943** POSTER Has Hydroclimatology in Eastern Siberia Impacted by Climatic Change?: **H PARK**, T Ohata, Y Iijima, H Yabuki, Y Kodama
- 1340h **H53C-0944** POSTER Uncertainty in Long Term Water and Energy Budgets across Northern Eurasia: **J Sheffield**, T J Troy, E F Wood
- 1340h **H53C-0945** WITHDRAWN
- 1340h **H53C-0946** POSTER Variation of Hydrological Regime with Permafrost Coverage over Lena Basin in Siberia: **B Ye**, D Yang, D L Kane

1340h **H53C-0947** *POSTER* Estimate Evapotranspiration Using Modis Data with a Modified Triangle Method for a Semi-arid Watershed: **F Zhou**, W Wang, Y Liu

H53D Moscone South: Poster Hall Friday 1340h
Nutrient Sources and Cycling in Aquatic Systems II Posters
(joint with B)

Presiding: **J Wang**, City University of New York; **C Kendall**, USGS; **E M Elliott**, University of Pittsburgh

1340h **H53D-0948** *POSTER* IN-SITU IONIC CHEMICAL ANALYSIS OF FRESH WATER VIA A NOVEL COMBINED MULTI-SENSOR / SIGNAL PROCESSING ARCHITECTURE: **A V Mueller**, H Hemond

1340h **H53D-0949** *POSTER* Quantifying stream nutrient uptake from ambient to saturation with instantaneous tracer additions: **T P Covino**, B L McGlynn, R McNamara

1340h **H53D-0950** *POSTER* Influence of light & algae on nutrient transformations at the sediment-water interface in an agricultural stream: D Scott, **J Pinney**

1340h **H53D-0951** *POSTER* Measurement of Nutrient Transport and Uptake Parameters in Streams Using a Pulse Injection: **R Haggerty**, A Argerich

1340h **H53D-0952** *POSTER* Hydrologic Retention in Supraglacial Streams: Results from an in-stream injection experiment: **M Q Nassry**, D Scott, E W Hood

1340h **H53D-0953** *POSTER* Can rehabilitation techniques in agricultural streams influence transient storage and nitrate uptake?: **J Mueller Price**, D W Baker, B Bledsoe

1340h **H53D-0954** *POSTER* Solute load sensitivity to stream flow gains and losses in transport simulations in coupled stream-subsurface systems: **M N Gooseff**, R A Payn, B L McGlynn, S M Wondzell

1340h **H53D-0955** *POSTER* Contaminant Flushing From An Urban Fringe Watershed: Insight Into Hydrologic and Soil Dynamics During the Wet Season: **C J Wessel**, O J Barco, T S Hogue

1340h **H53D-0956** *POSTER* Factors controlling differences in nitrate release during hydrologic events in a forested watershed in western New York: **S F Christopher**, M J Mitchell, S P Inamdar

1340h **H53D-0957** *POSTER* The Effect of Beaver Activity on the Ammonium Uptake and Water Residence Time Characteristics of a Third-Order Stream Reach: **M Briggs**, M N Gooseff, W M Wollheim, B J Peterson, K Morkeski

1340h **H53D-0958** *POSTER* Biogeochemical characterization of the Cointzio reservoir (Morelia, Mexico) and identification of a watershed-dependent cycling of nutrients: **J Némery**, R Alvarado, N Gratiot, C Duvert, F Mahé, C Duwig, M Bonnet, C Prat, M Esteves

1340h **H53D-0959** *POSTER* Spatial autocorrelation of denitrification and associated soil properties in a restored and a natural floodplain: **C H Orr**, K I Predick, E H Stanley

1340h **H53D-0960** *POSTER* A Lowland Catchment Response to Heavy Agricultural Nitrogen Loads Explained with a Multiple Isotope and Hydrochemical Approach: **S K Wexler**, K M Hiscock, P Dennis

1340h **H53D-0961** *POSTER* Determining Spatial and Temporal Variation in Sources of Nitrogen Deposition in the Rocky Mountains using Nitrogen Isotopes: **L Nanus**, D H Campbell, G Ingersoll, C Lehmann, C Kendall, E M Elliott, J K Bohlke

1340h **H53D-0962** *POSTER* Effects of Environmental Change on Carbon and Nitrogen Fluxes from a Midwestern Agricultural Watershed: **K M Riha**, G Michalski, T R Filley, B J Dalzell

1340h **H53D-0963** *POSTER* Tracing Sources and Biogeochemical Cycling of Ammonium and Nitrate in the Sacramento River and northern San Francisco Bay using Stable Isotope Techniques: **C Kendall**, M B Young, S R Silva, T E Kraus, A E Parker

1340h **H53D-0964** *POSTER* Nitrogen Isotope Fractionation Increases with the Cell-Specific Dissimilatory Nitrate Reduction Rate: **K Kritee**, D M Sigman, J Granger

1340h **H53D-0965** *POSTER* Source identification of nitrate in groundwater using stable isotopes and Cl/Br ratios in an agricultural area: **D Koh**, B Mayer

1340h **H53D-0966** *POSTER* IMPACT OF FOREST HARVESTING ON RESERVOIRS AND LAKES: CARBON DYNAMICS AND MICROBIAL CYCLING: **A Ouellet**, L Tremblay, M M Lucotte, Y Gelinas

1340h **H53D-0967** *POSTER* Long term trend in dissolved iron concentration in the Amur River basin: Observation and modeling, possible causes of abrupt increase in the late 1990s': **T Onishi**, M Yoh, H Shibata, S Nagao, M Kawahigashi, V Shamov

1340h **H53D-0968** *POSTER* Effect of land fill on the groundwater flow and nutrient supply in the coastal area: **S Onodera**, M Saito, Y Kato, Y Shimizu, S Yoshikawa

1340h **H53D-0969** *POSTER* Identifying Environmental Contaminations in Estuaries: Spatial Distribution of Nutrients and Heavy Metals in Jamaica Bay Area, Western Long Island, New York: **R K Dhar**, W Beazule, N Ma, K Clauson

1340h **H53D-0970** *POSTER* Nutrient fluxes and temporal and spatial variability in organic poor sediments in Lake Superior: **J Li**, S A Crowe, D Miklesh, S Katsev

1340h **H53D-0971** *POSTER* Using Radiometric Fingerprinting Methods to Track Sediment and Phosphorus Movement in Agricultural Watersheds: **N L Huisman**, K G Karthikeyan

1340h **H53D-0972** *POSTER* Changes in the Bioavailability of Particulate Phosphorus in the Cuyahoga River and Tinkers Creek, Northeast Ohio: **F Yuan**

1340h **H53D-0973** *POSTER* Flow Field and Nutrient Dynamics Control Over Formation of Parallel Vegetation Patterns in the Florida Everglades: **V Engel**, Y Cheng, M Stieglitz

1340h **H53D-0974** *POSTER* Phosphorus mass balance and internal load in an impacted subtropical isolated wetland subject to transient hydrologic conditions: **J H BHADHA**, J W Jawitz, J Min

1340h **H53D-0975** WITHDRAWN

1340h **H53D-0976** *POSTER* Enzymatic Hydrolysis of Organic Phosphorus in River Bed Sediments: **J Wang**, H K Pant

1340h **H53D-0977** WITHDRAWN

1340h **H53D-0978** *POSTER* Study of phosphorus loading and the surface and subsurface hydrology of calcareous Clear Lake, Manitoba, Canada: **N Neumann**, P J Curtis, R Whitehouse, B Reside

1340h **H53D-0979** *POSTER* A study on relationships between land-uses and nutrient transports in Hii River basin: **J Ide**, I Takeda, Y Mori, H Somura

H53E Moscone South: Poster Hall Friday 1340h
Observing and Predicting Hydroclimatic Processes in the North American Monsoon Region II Posters

Presiding: **D S Gutzler**, University of New Mexico; **D J Gochis**, NCAR; **E R Vivoni**, Arizona State University

1340h **H53E-0980** *POSTER* Delays in vegetation responses to precipitation and temperature in the Colorado River Basin: an MSSA approach: **J E Canon Barriga**, F Dominguez, J B Valdes

1340h **H53E-0981 POSTER** The Relationship of Transient Upper-Level Troughs to Variability of the North American Monsoon System: **S W Bieda**, C L Castro, S L Mullen, A C Comrie, E Pytlak

1340h **H53E-0982 WITHDRAWN**

1340h **H53E-0983 POSTER** High-resolution Numerical Simulations of the North American Monsoon Core Region using WRF-ARW: M W Douglas, **J F Mejia**

1340h **H53E-0984 POSTER** The Diurnal Cycle of Convection in NAME: Observations Versus Reanalysis: **P E Ciesielski**, R H Johnson

1340h **H53E-0985 WITHDRAWN**

1340h **H53E-0986 POSTER** Tree rings and monsoon season rainfall variability in the Southwestern US: Strategies for sensitive chronology development: **D Griffin**, D M Meko, R Touchan, C A Woodhouse, S W Leavitt, C L Castro

1340h **H53E-0987 POSTER** Ecosystem response to experimentally increased precipitation variability in a Chihuahuan Desert grassland: **S L Collins**, M Thomey, R Vargas, R Brown, J Johnson, D Navvig, M Friggens

1340h **H53E-0988 POSTER** Can Regional Climate Models Improve Warm Season Forecasts in the North American Monsoon Region?: **F Dominguez**, C L Castro

1340h **H53E-0989 POSTER** Trends in rainy season characteristics and temperature extremes over Mexico: **C F Dewes**, C Gautier, C Jones, H Eakin, L V Carvalho

1340h **H53E-0990 POSTER** Precipitation and Moisture Sources in North American Monsoon Surges: **N J Schiffer**, S W Nesbitt

1340h **H53E-0991 POSTER** Challenges for monitoring and predicting the North American Monsoon: **D S Gutzler**

1340h **H53E-0992 POSTER** Southwestern U.S. Mega-droughts and Associated Sea Surface Temperatures in Coupled Ocean-Atmosphere Control Runs: **T J Phillips**, C Bonfils, L Leung

H53F Moscone South: Poster Hall Friday 1340h
Shallow and Deep Geothermal Energy III Posters (*joint with NS, NG, MR*)

Presiding: **P Bayer**, ETH Zurich; **S M Ezzedine**, LLNL;
G A Ferguson, St. Francis Xavier University

1340h **H53F-0993 POSTER** Shallow and deep controls on the thermal structure of basins as inferred by 3 D numerical models - an example from the North East German Basin: M Cacace, M Scheck-Wenderoth, **B Lewerenz**

1340h **H53F-0994 POSTER** Seismic assessment of geothermal potential: Concept and application Part 1: Concept: **E Szalaiova**, K Iwanowski, W Rabbel

1340h **H53F-0995 POSTER** Seismic assessment of geothermal potential: Concept and application Part 2: Application: **K Iwanowski**, E Szalaiova, W Rabbel

1340h **H53F-0996 POSTER** Characteristics and origins of hot springs in the Tatun Volcano Group, northern Taiwan: **S Song**, C Liu, S Tsao

1340h **H53F-0997 POSTER** Geophysical Setting of the Blue Mountain Geothermal Area, North-Central Nevada and its Relationship to a Crustal-Scale Fracture Associated with the Inception of the Yellowstone Hotspot: **D A Ponce**, C Bouligand, J Casteel, J M Glen, J T Watt

1340h **H53F-0998 POSTER** Environmental Assessment of Ground Source Heat Pump Systems: **P Bayer**, D Saner, R Juraske, M Kübert

1340h **H53F-0999 POSTER** Use of MT3DMS for heat transport simulation of shallow geothermal systems: **N A Molina Giraldo**, J Hecht Méndez, P Blum, P Bayer

1340h **H53F-1000 POSTER** MeProRisk – a Joint Venture for Minimizing Risk in Geothermal Reservoir Development: **C Clauser**, G Marquart

1340h **H53F-1001 POSTER** International Legislation of Shallow Geothermal Energy Use: **S Hähnlein**, P Bayer, P Blum

1340h **H53F-1002 POSTER** Statistically Based Inference of Physical Rock Properties of Main Rock Types in Germany: A Koch, R Jorand, **C Clauser**

1340h **H53F-1003 POSTER** Modeling the non-standard behaviors observed during the tracer test at Soultz-sous-Forêts (France): S S Gentier, **T Tran Ngoc**, X Rachez, M Peter-Borie, C Souque

1340h **H53F-1004 POSTER** Can Geothermal Power Replace Fossil Fuels?: **R Klenner**, W D Gosnold

1340h **H53F-1005 POSTER** Geophysical Investigation of the Lake City Fault Zone, Surprise Valley, California, and Implications for Geothermal Circulation: **D K McPhee**, J M Glen, A E Egger, B A Chuchel

1340h **H53F-1006 POSTER** Interpretation of a 3D Seismic-Reflection Volume in the Basin and Range, Hawthorne, Nevada: J N Louie, **A M Kell**, S Pullammanappallil, J S Oldow, A Sabin, M Lazaro

1340h **H53F-1007 POSTER** Numerical Modeling of Thermal-Geochemical Processes in the Hydrothermal System of Pantelleria Island, Italy: S Bellani, **F Gherardi**

1340h **H53F-1008 POSTER** Analytic solution for modeling of the ground heat exchanger and groundwater system:: **A D Woodbury**, M Olfman

1340h **H53F-1009 POSTER** Geothermal Exploration in Akutan, Alaska, Using Multitemporal Thermal Infrared Images: C Kienholz, **A Prakash**, A Kolker

1340h **H53F-1010 POSTER** DYNAMIC MIXING MODEL OF THE CHIGNAHUAPAN THERMAL SPRING IN THE GEOTHERMAL ZONE OF THE ACOCULCO CALDERA, PUEBLA, MEXICO: **A Gutierrez-Cirlos**, V Torres-Rodriguez

H53G Moscone South: Poster Hall Friday 1340h
Science, Management, and Restoration of Aquatic Systems in Arid and Semiarid Basins III Posters (*joint with A, B, GC, PA*)

Presiding: **J Lee**, Univ Missouri-Kansas City; **M L Hughes**, The Klamath Tribes; **M W Gannett**, USGS; **D M Tratt**, The Aerospace Corporation

1340h **H53G-1012 WITHDRAWN**

1340h **H53G-1013 POSTER** Scale-dependent geomorphic responses to active restoration and implications for cutthroat trout: **N Salant**, S W Miller

1340h **H53G-1014 POSTER** Evaluating model accuracy: Predicted and observed sediment deposition following the Chiloquin Dam removal: **D D Tullos**, M Cox

1340h **H53G-1015 POSTER** Aftermath of an outburst flood: Holocene channel and floodplain development in the semi-arid lower Sycan River, Oregon: **P Lind**, P F McDowell, J E O'Connor

1340h **H53G-1016 POSTER** Tree-Ring Analysis of Netleaf Hackberry: Applications of Dendrochronology in Riparian Conservation: **A L McCoy**, D M Meko, J Wong, B J Orr

1340h **H53G-1017 POSTER** Measuring sap flow, and other plant physiological conditions across a soil salinity gradient in the lower Colorado River at Cibola National Wildlife Refuge: Vegetation and soil physiology linkages with microwave dielectric constant: **K C McDonald**, Y LASNE, R Schroeder, K morino, K R Hultine, P L Nagler

1340h **H53G-1018 POSTER** Minimum Irrigation Requirements for Cottonwood (*Populus fremontii* and *P. deltoides*) and Willow (*Salix gooddingii*) Grown in a Desert Environment: **E P Glenn**, S Hartwell, K morino, P L Nagler

1340h **H53G-1019 POSTER** Improving riparian wetland conditions through evaluation of infiltration and drainage behavior during and after a controlled flood event: **T A Russo**, A T Fisher, J W Roche

1340h **H53G-1020 POSTER** Quantifying Watershed-Scale Effects of Wildland Fires on Hydrologic Processes: **E K Waller**, M Moritz, J R Hunt

1340h **H53G-1021 POSTER** Estimating Recharge through Playa Lakes to the Southern High Plains Aquifer: **K Rainwater**, G Ganesan, D Gitz, R Zartman, W Hudnall, L Smith

1340h **H53G-1022 POSTER** An Analysis of the Energy, Water, and Salt Balance of a Saline Lake in the Sandhills Region of Semi-Arid Western Nebraska (USA): **J Ong**, J D Lenters, V A Zlotnik, S Jones

1340h **H53G-1023 POSTER** Water Tables, Evapotranspiration, and Climate Variability: A Decade of Observations From a Semi-Arid Riparian Ecosystem: **J R Thibault**, J R Cleverly, C Dahm

1340h **H53G-1024 POSTER** Evapotranspiration from Upper Klamath Lake: Reducing Uncertainty in the Water Balance: **D I Stannard**, M W Gannett, D Polette, J M Cameron, J M Spears

1340h **H53G-1025 POSTER** Airborne Hyperspectral Remote Sensing for Monitoring of Toxic Episodes Affecting the Salton Sea, Southern California: **D M Tratt**, K N Buckland, J L Hall, P D Johnson, B P Kasper, D K Lynch, M G Martino, L J Ortega, K R Westberg, S J Young

1340h **H53G-1026 POSTER** ADVANCED LAND USE CLASSIFICATION FOR NIGERIASAT-1 IMAGE OF LAKE CHAD BASIN: **R Babamaaji**, C Park, J Lee

1340h **H53G-1027 POSTER** Comprehensive Assessment of Water Quality in the Lake Chad Basin in Northern Nigeria: **V Mulugeta**, J Grindley, J Lee, J O Adegoke

1340h **H53G-1028 POSTER** Investigation of soil properties for identifying recharge characteristics in the Lake Chad Basin: **M L Banks**, G G Ndunguru, S J ADISA, J Lee, J O Adegoke, I B Goni, J Grindley, V Mulugeta

1340h **H53G-1029 POSTER** Trace Elements concentration and distribution across the Lake Chad Basin: **G G Ndunguru**, I B Goni, V Mulugeta, J Grindley, M L Banks, J Lee, J O Adegoke

1340h **H53G-1030 POSTER** Late Quaternary paleo-lake and glacier fluctuations in westernmost Tibet: **W H Amidon**, J Avouac

1340h **H53G-1031 POSTER** History of Late Holocene Tufa Deposition at Mono Lake, California: S Stine, **S R Zimmerman**, S R Hemming

1340h **H53G-1032 POSTER** Rare earth element and uranium-thorium variations in tufa deposits from the Mono Basin, CA: **E S Wilcox**, P B Tomascak, N Hemming, S R Hemming, T Rasbury, S Stine, S R Zimmerman

H53H Moscone West: 300I Friday 1340h
Detecting and Attributing Change in Coupled Human-Hydrologic Systems: Foundations for Successful Prediction and Adaptation IV (*joint with B, IN, EP, GC, NH, PA, V*)

Presiding: **J S Arrigo**, East Carolina University

1340h **H53H-01** Historical Climate Variability in the Northeast: Characterization of the Pre-Instrumental Climate State and its Influence on a Changing Water Balance: **J S Arrigo**, A Munoz Hernandez, K Zalzal

1355h **H53H-02** The historical effects of coal mining on the hydrology of Appalachia: **C M Ruffing**, A J Wreschnig, D J Bain, C M Hermans, S M McCormack, T Urbanova

1410h **H53H-03** Nonlinear impacts of small-scale natural events on Nineteenth Century human decision-making: **S M McCormack**, K M Schlichting, T Urbanova, T L Allen, C M Ruffing, C M Hermans

1425h **H53H-04** Urban infrastructure and longitudinal stream profiles: **G A Lindner**, A J Miller

1440h **H53H-05** WITHDRAWN

1510h **H53H-07** WITHDRAWN

1525h **H53H-08** Detecting and Attributing Change of Seasonal Base Flow Recession Slopes in Human Interfered Watersheds: **D Wang**, X Cai

H53I Moscone West: 3007 Friday 1340h
Functional Links Between Fluvial Geomorphic and Ecologic Processes: Quantifying Thresholds and Reference Conditions II

Presiding: **A Simon**, USDA-ARS National Sedimentation Laboratory; **H J Moir**, The Macaulay Institute; **P W Downs**, Stillwater Sciences; **T J Beechie**, NOAA Fisheries

1340h **H53I-01** Linking Geomorphic Processes and Ecologic Functions Over Long Channel Segments And Retaining Fine Details-Let's Have Our Cake And Eat It Too (*Invited*): **G B Pasternack**, P Bratovich, G Reedy, T Johnson, D Massa, J Bergman, C Purdy, C Campos

1355h **H53I-02** Linking suspended sediment transport metrics with fish functional traits in the Northwestern Great Plains (*Invited*): **J S Schwartz**, A Simon, L Klimetz

1410h **H53I-03** Using natural salmon colonization as a guide to identify functional links between physical and biological processes (*Invited*): **G R Pess**

1425h **H53I-04** Linking River Morphology to Larval Drift of an Endangered Sturgeon: **L Bazzetta**, R B Jacobson, P J Braaten, C M Elliott, J M Reuter

1440h **H53I-05** Collaborating with beaver: An affordable, process-based approach to stream restoration: **M M Pollock**, C Jordan, N W Bouwes, C Volk, I Tattam

1455h **H53I-06** Experimental *Salix* shoot and root growth statistics on the alluvial sediment of a restored river corridor: **N Pasquale**, P Perona, F Verones, R Francis, P Burlando

1510h **H53I-07** Quantifying geomorphic controls on riparian forest dynamics using a linked physical-biological model: implications for river corridor conservation: **J C Stella**, E B Harper, A K Fremier, M K Hayden, J J Battles

1525h **H53I-08** Ecology and Management of the Spring Snowmelt Recession: **S Yarnell**, J H Viers, J F Mount

H53J Moscone West: 2003 Friday 1340h
Innovative Field and Theoretical Methods for Hydrogeophysical Characterization of Aquifers II (*joint with NS, B, OS*)

Presiding: **B Malama**, Montana Tech of the University of Montana; **M Fitzgerald**, Penn State University; **A Ramsburg**, Tufts University; **N Ecmis**, Izmir Institute of Technology

1340h **H53J-01** Viewing Geophysics in a Hydrologic Context (and Vice Versa) (*Invited*): **T A Ferre**, A Hinnell

1354h **H53J-02** Assessing Feedbacks between Remediation-Induced Biogeochemical Transformations and Flow Characteristics using Multi-Scale Geophysical Approaches (*Invited*): **S S Hubbard**, Y Wu, J Chen, J B Ajo Franklin, L Li, C Tuglus, K H Williams

1408h **H53J-03** Hydrogeophysical investigations of three-dimensional lithology and river-groundwater interactions in restored and unrestored river corridors (*Invited*): **N Linde**, I Coscia, J Doetsch, A Green, S Greenhalgh

1422h **H53J-04** Fully Coupled Hydrogeophysical Inversion of Salt Tracer Experiments Using Temporal Moments of Potential Perturbations (*Invited*): **O A Cirpka**, D Pollock

1436h **H53J-05** Hydraulic Characterization of the Hyporheic Corridor at the Hanford 300 Area Using Geoelectrical Imaging and Distributed Temperature Sensing (DTS) Methods (*Invited*): **L D Slater**, F Day-Lewis, D Ntarlagiannis, K E Mwakanyamale, R J Versteeg, A L Ward, C E Strickland, C Johnson, J W Lane, A M Binley

1450h **H53J-06** Subsurface Source Zones Reconstruction Using Electrical Impedance Tomography Shape-Based Inversion (*Invited*): **E L Miller**, A Aghasi, A Ramsburg, L Abriola

1504h **H53J-07** Hydraulic Conductivity Characterization from Partially Drained Piezocone Tests (*Invited*): **J A Schneider**

1518h **H53J-08** Direct-Push Methods for High-Resolution Characterization of Hydraulic Conductivity (*Invited*): **J J Butler**, P Dietrich, S Knobbe, G Bohling, G Liu, E C Reboulet

H53K Moscone West: 301 I Friday 1340h
Quickflow and Quicksilver? Export of Mercury From the Terrestrial Landscape II (*joint with B*)

Presiding: **J B Shanley**, U. S. Geological Survey; **S J Nelson**, University of Maine

1340h **H53K-01** Terrestrial/Air Exchange in the Global Mercury Cycle: Measurement and Modeling (*Invited*): **R P Mason**

1355h **H53K-02** The role of terrestrial vegetation in mercury deposition: fate of stable mercury isotopes applied to upland and wetland forest canopies during the METAALICUS experiment (*Invited*): **J A Graydon**, V L St. Louis, S E Lindberg, K Sandilands, D P Krabbenhoft, M T Tate, R Harris, C A Emmerton, M Richardson, H Asmath

1410h **H53K-03** The relationship between dissolved organic carbon quality and mercury transport in a boreal watershed: **S Ghorpade**, A Heyes, C C Gilmour, C J Oswald

1425h **H53K-04** Sediment-driven mercury transport in post-fire storm runoff: **M P Burke**, M Ferreira, T S Hogue, J Jay, L K Rademacher

1440h **H53K-05** Evidence for Multiple Export Pathways of Mercury from the Inoperative New Idria Hg Mine, CA: **A D Jew**, P N Luong, C S Kim, J J Rytuba, M S Gustin, G E Brown

1455h **H53K-06** A Comparison of Mathematical Models of Fish Mercury Concentration as a Function of Atmospheric Mercury Deposition Rate and Watershed Characteristics: **R A Smith**, R B Moore, J B Shanley, E K Miller, N C Kamman, D Nacci

1510h **H53K-07** Where does that mercury come from? Assessing mercury speciation and bioaccumulation in terrestrial and aquatic amphibians: **M S Bank**

1525h **H53K-08** Mercury Isotopic Composition of Young-of-Year Fish in San Francisco Bay: **G E Gehrke**, J D Blum, D G Slotton, B K Greenfield

H53L Moscone West: 3009 Friday 1340h
Remote Sensing and Hydrogeophysics Applications for Modeling of Land Surface Hydrological Processes II (*joint with NS*)

Presiding: **A S Ward**, Pennsylvania State University; **J M Jacobs**, University of New Hampshire

1340h **H53L-01** Monitoring Drought at Continental Scales Using Thermal Remote Sensing of Evapotranspiration (*Invited*): **M C Anderson**, C Hain, J R Mecikalski, W P Kustas

1355h **H53L-02** Future Landsat Thermal Data for Energy Balance Modeling and Water Resource Management: **J R Irons**, C M Richardson, D C Reuter

1410h **H53L-03** Assessment of Large-scale Terrestrial Water Storage Dynamics at Multiple Timescales from Multiple Sources: **P J Yeh**

1425h **H53L-04** Assessing Water Availability in the Rio Grande Basin using NOAA Land Surface Model and NLDAS2 Forcing Data: **C P Khedun**, J R Giardino, V P Singh, J D Bolten

1440h **H53L-05** A new self-trained classification model for producing 30-m percent-water maps from Landsat imagery: **J A Rover**, B K Wylie, L Ji

1455h **H53L-06** Estimation of the spatially distributed surface energy budget for AgriSAR 2006: Integration of remote sensing and hydrologic modeling: E De Lathauwer, W Timmermans, S Giuseppe, F Mattia, A Loew, J Jimenez Munoz, V Hidalgo, J Sobrino, **V R Pauwels**

1510h **H53L-07** Estimating soil hydraulic properties from ground based IR soil surface temperature and TDR measurements: **C Steenpass**, J Vanderborcht, M Herbst, H Vereecken

H53M Moscone West: 3005 Friday 1340h
Impacts of Environmental Changes on Hydrologic and Ecobiologic Processes in Large River Basins II (*joint with PA*)

Presiding: **Z Yu**, University of Nevada Las Vegas; **F W Schwartz**, The Ohio State University

1340h **H53M-01** Assessing the influence of drought on vegetation vigor within the Laohahe Catchment by NDVI and PDSI indices:

L Ren, X Liu, F Yuan

1355h **H53M-02** Spatiotemporal distribution of algal and nutrient, and their correlations based on long-term monitoring data in Lake Taihu, China: **K Acharya**, Y Li, M Stone, Z Yu, M Young, D S Shafer, J Zhu, J J Warwick

1410h **H53M-03** Physically-based modeling of water exchange between surface water and groundwater : Conceptual and applied simulations (*Invited*): **R Therrien**, P Brunner, C Simmons, P G Cook

1430h **H53M-04** Impact of groundwater pumping vs. a large upstream dam on streamflows and temperature under varying climate: **J C Risley**, J E Constantz, H Essaid, S A Rounds

1445h **H53M-05** Simulated Response of Mercury and Nitrogen to Land Management and Land Use Change in a Large River Basin: **H E Golden**, C D Knightes

1500h **H53M-06** Simulating Space and Time Patterns of River-Aquifer Exchange – the Missing Scale (*Invited*): **J H Fleckenstein**, R G Niswonger

1520h **H53M-07** The Impact of Extreme Flooding on Mussel and Microbial Nutrient Dynamics at the Water-Sediment Interface: **J Bril**, C L Just, T Newton, N Young, G Parkin

H53N Moscone South: 104 Friday 1340h
Uncertainty Analysis and Risk Assessment in Groundwater Modeling IV

Presiding: **P D Meyer**, Pacific Northwest National Lab; **D M Tartakovsky**, Univ California San Diego

1340h **H53N-01** Optimizing Characterization of Site Hydrology in Support of New Reactor Licensing at the U.S. Nuclear Regulatory Commission (*Invited*): T J Nicholson, **R Raione**, H Ahn, D Barnhurst, J Giacinto, M McBride, N D Tiruneh

1355h **H53N-02** Using Ensemble Kalman Filters for Bayesian Geostatistical Inversion: **W Nowak**

1410h **H53N-03** Multiscale Bayesian inversion of binary permeability fields from static and dynamic observations: **J Ray**, S A McKenna, Y M Marzouk, B van Bloemenwaanders

1425h **H53N-04** Estimation of hydrostratigraphy by optimization of Markov-chain geostatistical model using mean facies and transition lengths as adjustable parameters: **D R Harp**, V V Vesselinov

1440h **H53N-05** Parameterization Impacts on Linear Uncertainty Calculation: **M N Fienen**, J Doherty, H W Reeves, R J Hunt

1455h **H53N-06** A full probabilistic description of infiltration into soils with uncertain hydraulic parameters: **P Wang**, D M Tartakovsky

1510h **H53N-07** Irrigation and Instream Management under Drought Conditions using Probabilistic Constraints: **D M Oviedo-Salcedo**, X Cai, A J Valocchi

1525h **H53N-08** Flow and Transport Characteristics of Fracture Networks with Length-Aperture Correlation: **D M Reeves**, R Parashar

Natural Hazards

NH53A Moscone South: Poster Hall Friday 1340h
Artificial Intelligence Techniques for Natural Hazards Forecasting I Posters (joint with H, PA)

Presiding: **F Chang**, National Taiwan University; **K Hsu**, UC Irvine

1340h **NH53A-1070 POSTER** Estimation of Flood Inundation Extent Using Hybrid Models (*Invited*): **L Chang**, Y Wang, H SHEN

1340h **NH53A-1071 POSTER** Artificial Intelligence Methods: Choice of algorithms, their complexity, and appropriateness within the context of hydrology and water resources. (*Invited*): **L A Bastidas**, S PANDE

1340h **NH53A-1072 POSTER** The intelligent operation of an urban drainage system using artificial neural networks: **F Chang**, Y Chiang, M Tsai, Y Wang, L Chang

1340h **NH53A-1073 POSTER** An application of artificial neural networks to the prediction of agricultural losses during typhoon periods: **Y Chiang**, W Cheng, F Chang

1340h **NH53A-1074 POSTER** Effect of the Different DEM and Geological Parameters on the Accuracy of Landslide Susceptibility Map: **D Kawabata**, J Bandibas, S NONOGAKI

1340h **NH53A-1075 POSTER** Landslide susceptibility mapping using a neuro-fuzzy: **S Lee**, J Choi, H Oh

1340h **NH53A-1076 POSTER** A SOFTWARE PACKAGE FOR UNSUPERVISED PATTERN RECOGNITION AND SYNOPTIC REPRESENTATION OF RESULTS: APPLICATION TO VOLCANIC TREMOR DATA OF MT ETNA: H K Langer, **S M Falsaperla**, B Behncke, A Messina, S Spampinato

1340h **NH53A-1077 POSTER** Long-Term Precipitation Forecasting Using Large Scale Climate Indices: An ANN Approach: **T C Jaw**, K Hsu, S Sorooshian

1340h **NH53A-1078 POSTER** Improving Soil Moisture and Temperature Estimation of NOAA LSM through Assimilation of In-Situ and Remote Sensing Measurements: **J Li**, K Hsu, S Sorooshian

1340h **NH53A-1079 POSTER** Hydrologic Model Selection and Prediction using a Sequential Bayesian Approach: **K Hsu**, H Moradkhani, S Sorooshian

NH53B Moscone West: 2006 Friday 1340h
Extreme Natural Hazards: Risk Assessment, Forecasting, and Decision Support IV (joint with A, B, IN, P, OS, NG, H, G, S, V)

Presiding: **E Sztein**, National Academy of Sciences; **J A Orcutt**, Scripps Institution of Oceanography; **K T Johnson**; **B F Atwater**

1340h **NH53B-01** An Evaluation of the Effectiveness of Efforts over the last Two Decades to Reduce Human Losses due to Natural Hazards, and A Proposal for Future Efforts (*Invited*): **B E Tucker**, A Chakos

1355h **NH53B-02** The Social Burdens of Natural Hazard Losses (*Invited*): **S L Cutter**

1410h **NH53B-03** Human Response to Emergency Warning: **J Sorensen**

1425h **NH53B-04** The 2008 Wenchuan Earthquake and the Rise and Fall of Earthquake Prediction in China: Q Chen, **K Wang**

1440h **NH53B-05** Puerto Rico Tsunami Warning and Mitigation Program-LANTEX 09 Survey: **W Diaz**, C von Hillebrandt-Andrade

1455h **NH53B-06** Numerical simulation of lithospheric plate dynamics and seismicity: **A Ismail-Zadeh**, V Rozenberg, L Melnikova, A Soloviev

1510h **NH53B-07** Massive Volcanic Flank Failure and Megatsunami Generation Evolve in Response to Quaternary Climate Change: **G M McMurtry**, G J Fryer, D R Tappin, J Fietzke

1525h **NH53B-08** Accounting for the extreme events tail in probabilistic hazard maps for volcanic eruptions: **E S Calder**, B Pitman, R Wolpert, S Bayarri, J Berger, E Spiller

Planetary Sciences

P53A Moscone South: 102 Friday 1340h
The Atmosphere of Mars: New Findings From Modeling and Observations II (joint with A, SA)

Presiding: **Y Moudden**, Colorado University; **E L Barth**, Southwest Research Institute

1340h **P53A-01** Solar Cycle and Seasonal Variations of the Mars Thermosphere-Ionosphere and Associated Impacts upon Atmospheric Escape (*Invited*): **S W Bougher**, M R Combi, A Valeille, V Tenishev

1400h **P53A-02** A Short-Lived Trace Gas in the Martian Atmosphere: A General Circulation Model of the Likelihood of Methane: **M R Chizek**, J R Murphy, M Kahre, R M Haberle, G Marzo

1410h **P53A-03** Ionization of the Lower Martian Atmosphere by Bursts of Astrophysical Gamma-rays: **J R Espley**, R J Lillis, J E Connerney, D Kocevski, W Farrell

1420h **P53A-04** Observed Strong Enhancements of N₂ and Ar Test New Theories of the Dynamics of Mars Polar Atmosphere: **A L Sprague**, T H Prettyman, W V Boynton, A E Metzger, D M Hunten, J R Barnes

1430h **P53A-05** Mars' South Polar Hood as Observed by the Mars Climate Sounder: **J Benson**, D Kass, A Kleinboehl, D J McCreese, J T Schofield

1440h **P53A-06** The South Polar Residual Cap and Secular Climate Change on Mars: What Can We Learn From Observations and Models?: **R M Haberle**, M Kahre, J Hollingsworth, J Barnes, F Forget

1450h **P53A-07** CRISM Limb Profile Observations: Aerosol Particle Sizes and O₂ Singlet Delta Emission: **R T Clancy**, M J Wolff, M D Smith, F P Seelos, S L Murchie, H Nair

1500h **P53A-08** CRISM Limb Observations of Aerosols and Water Vapor: **M D Smith**, M J Wolff, R T Clancy, F P Seelos, S L Murchie

1510h **P53A-09** Atmospheric Mapping Retrievals Using MRO/MARCI Ultraviolet Images: **M J Wolff**, R T Clancy, B A Cantor, R M Haberle, P B James

1520h **P53A-10** The Lower and Middle Atmosphere of Mars as Observed by the Mars Climate Sounder: **M I Richardson**, D J McCleese, N G Heavens, D Kass, A Kleinboehl, J T Schofield

1530h **P53A-11** Snow Clouds and the Carbon Dioxide Cycle on Mars: **P O Hayne**, D A Paige

P53B Moscone South: 309 Friday 1340h
The Galilean Satellites: 400 Years of Discovery II (*joint with C, SM*)

Presiding: **R T Pappalardo**, Jet Propulsion Laboratory; **R Greeley**, Arizona State University

1345h **P53B-01** Geology and Geophysics of Io (*Invited*): **A S McEwen**

1400h **P53B-02** The Geology and Astrobiology of Europa (*Invited*): **C F Chyba**, K P Hand

1415h **P53B-03** Ganymede: A Window into the Evolution of the Jupiter System (*Invited*): **G C Collins**

1430h **P53B-04** The geologic history of the Galilean satellite Callisto. (*Invited*): **R J Wagner**, G Neukum, U Wolf, R Greeley

1445h **P53B-05** Galilean Satellite Atmospheres and Aurora: **M A McGrath**

1457h **P53B-06** Evidence of a Global Magma Ocean in Io Revealed by Electromagnetic Induction: **K K Khurana**, X Jia, M G Kivelson, F Nimmo, G Schubert

1512h **P53B-07** New Model for Europa's Tidal Response Based after Laboratory Measurements: **J C Castillo**, C McCarthy, M Choukroun, N Rambaux

1527h **P53B-08** Europa: Perspectives on an Ocean World: K N Singer, **W B McKinnon**, R T Pappalardo, K K Khurana

P53C Moscone South: 307 Friday 1340h
Time of Day at Saturn: Bulk Rotation, Atmospheric, and Plasmaspheric Motion II (*joint with A, SM*)

Presiding: **N A Achilleos**, University College London; **R Helled**, UCLA

1340h **P53C-01** Rotation Rates of the Giant Planets (*Invited*): **G Schubert**, R Helled, J D Anderson

1355h **P53C-02** The Anomalous Rotational Modulation of Saturn's Radio Emissions (*Invited*): **D A Gurnett**, A M Persoon, J Groene, S Ye, Z Wang, W S Kurth

1410h **P53C-03** Saturn's Rotation Rate as Determined from its Nonaxisymmetric Magnetic Field: **M E Burton**, M K Dougherty, C Russell

1422h **P53C-04** Saturn's Periodic Magnetosphere: our Deepest Mystery so far? (*Invited*): **P C Brandt**, D G Mitchell, K K Khurana, B Zieger, K C Hansen, C Paranicas, J F Carbary

1437h **P53C-05** The Consequences of Saturn's Rotating Asymmetric Ring Current: D J Southwood, **M G Kivelson**

1449h **P53C-06** Rotation of Saturn and Jupiter and their Magnetized Envelopes: **C T Russell**, Z J Yu, H Wei, Y Jia, J S Leisner, M E Burton, M K Dougherty

1501h **P53C-07** Solar Wind Periodicity in Energetic Electrons at Saturn: **J F Carbary**, E Roelof, D G Mitchell, N Krupp

1513h **P53C-08** Dual periodicities in the magnetospheres of Jupiter and Saturn: **F J Cray**, T W Hill

1525h **P53C-09** Getting the Spin Right: The Importance of Knowing Saturn's Rate of Rotation for Assessing Global Circulation and Dynamics: **K H Baines**, A P Showman, T W Momary, R H Brown, B J Buratti, R N Clark, P D Nicholson

Paleoceanography and Paleoclimatology

PP53A Moscone West: 2004 Friday 1340h
Decadal- to Century-Scale Climate Variability Over the Past Millennium: Evidence From Non-Tree-Ring Archives III

Presiding: **D E Black**, Stony Brook University; **P B DeMenocal**, Lamont-Doherty Earth Obs; **J M Schaefer**

1340h **PP53A-01** ¹⁰Be dating of Late Holocene glacial landforms (*Invited*): **M R Kaplan**, J M Schaefer, A Putnam, R C Finkel, G Denton, D Barrell, J Strelin, R Schwartz

1352h **PP53A-02** ITCZ Shifts During the Last Millennium from Lipids on Tropical Pacific Islands (*Invited*): **J P Sachs**, D Sachse, Z Zhang, R Smittenberg, M Carre, I Mügler, D B Nelson, A Atwood, N Ladd

1404h **PP53A-03** Low-Frequency Tropical Pacific Sea-Surface Temperature over the Past Millennium: Reconstruction and Error Estimates: **J Emile-Geay**, K Cobb, M E Mann, S D Rutherford, A T Wittenberg

1416h **PP53A-04** A Marine Geochemical Reconstruction of Rainfall in the Pacific Northwest and its Relation to PDO Variability over the Past Millennium: **T S Ivanochko**, S E Calvert, T F Pedersen

1428h **PP53A-05** Timing and paleoclimatic significance of Holocene glacier fluctuations in the Cordillera Vilcabamba of southern Peru: **J M Licciardi**, J R Taggart, J M Schaefer, D C Lund

1440h **PP53A-06** An annually resolved precisely-dated speleothem record from the Guatemala/Belize border: **A Burnett**, A Winter, T Miller, G H Haug, R Edwards, H Cheng

1452h **PP53A-07** Highly variable ITCZ rainfall during the Medieval Climatic Anomaly from stalagmite proxy, southwestern Mexico: El Niño and La Niña forcing?: **M S Lachniet**, J P Bernal-Uruchurtu, Y Asmerom

1504h **PP53A-08** D/H Ratios From Sierra Nevada Varved Lake Sediments Record Decadal Hydroclimate Variability During The Medieval Period: **L D Roach**, D R Cayan, A L Sessions, C D Charles, R S Anderson

1516h **PP53A-09** Reconstructing Holocene conditions under ice in the Ross Sea and in the Southern Ocean using barnacles: **S N Burgess**, G M Henderson, B L Hall

1528h **PP53A-10** Using Borehole Temperature Profiles to Reconstruct and Test Surface Temperature Scenarios over the Last Millennium: **D S Chapman**, M G Davis, R N Harris

SPA - Aeronomy

SA53A Moscone South: Poster Hall Friday 1340h
The ITM System From Solar Maximum to Solar Minimum: Recent Progress and Outstanding Questions IV Posters

Presiding: **Q Wu**, NCAR; **X Zhu**, Johns Hopkins University

1340h **SA53A-1235 POSTER** Updated modeling of the N2 LBH band emissions in the Earth's thermosphere: **R Eastes**, A Kulshreshtha

1340h **SA53A-1236 POSTER** Quantum Calculations of the O + OH → H + O₂ Reaction: B Naduvalath, G Quemener, B K Kendrick

1340h **SA53A-1237 POSTER** A study of vertical evolution of Mesosphere and lower thermosphere temperature anomalies during the 2002 Southern Hemisphere Stratospheric Warming Event: S I Azeem, **E R Talaat**, G G Sivjee

1340h **SA53A-1238 POSTER** CO₂(v₂)-O Quenching Rate Coefficient Derived From Coincidental Fort Collins Lidar and SABER Measurements: A Feofilov, A Kutepov, C She, A K Smith, W D Pesnell, R A Goldberg

1340h **SA53A-1239 POSTER** Sudden Stratospheric Warming events' impacts on the mesopause region temperature, zonal meridional winds over midlatitude region by CSU Na lidar: **T Yuan**

1340h **SA53A-1240 WITHDRAWN**

1340h **SA53A-1241 POSTER** Electron-impact induced excitation of Lyman-Birge-Hopfield emissions for N₂: **J A Young**, C P Malone, P V Johnson, X Liu, B Ajdari, M A Khakoo, I Kanik

1340h **SA53A-1242 POSTER** Laboratory Measurement of CO₂(v₂) + O Temperature-Dependent Vibrational Energy Transfer: J A Dodd, M W Simone, K J Castle

1340h **SA53A-1243 POSTER** Investigations of exothermic heating and OH nightglow variations induced by a gravity wave packet at 18 degree south: **T Huang**, M P Hickey

1340h **SA53A-1244 POSTER** Observations of the Phase-Locked Two day Wave Over the Australian Sector Using Medium Frequency Radar and Airglow Data: **J H Hecht**, R L Walterscheid, L J Gelinas, R A Vincent, I M Reid, J M Woithe

1340h **SA53A-1245 POSTER** Atmospheric Influence of the Solar Proton Events and Ground Level Enhancement in January 2005: **C H Jackman**, B Funke, M Lopez-Puertas, S Versik, G P Stiller, A J Tylka, D R Marsh, F M Vitt, R R Garcia, C E Randall, E L Fleming

1340h **SA53A-1246 POSTER** Eliassen-Palm Fluxes of the Diurnal Tides from the Whole Atmosphere Community Climate Model-Extended (WACCM-X): **M Jones**, H Liu, A D Richmond

1340h **SA53A-1247 POSTER** Modeling the Effects of Tropospheric Tides on the Ionosphere using SAMI3 Coupled with TIME-GCM: **S E McDonald**, J Huba, M E Hagan, A I Maute, S Basu

1340h **SA53A-1248 POSTER** Observations of Waves with Observed Periods less than the Buoyancy Period in the Winter Polar Mesopause Region: **B P Williams**, D C Fritts

1340h **SA53A-1249 POSTER** Seasonal and Interannual Variability of Short Period Lamb Waves Observed over South Pole: **S Palo**, D Gerhardt

1340h **SA53A-1250 POSTER** Gravity Waves Propagation and Momentum Flux in the Mesopause: **D B Simkhada**, M J Taylor, S J Franke

1340h **SA53A-1251 POSTER** Development of a Doppler Asymmetric Spatial Heterodyne Spectrometer for Measuring Upper Atmospheric Winds: **D D Babcock**, J Harlander, C R Englert, F L Roesler, T R Pedersen, R Feldman

1340h **SA53A-1252 POSTER** The Andes Lidar Observatory (ALO) at Cerro Pachon, Chile, first light: **G R Swenson**, A Z Liu, S Franke, C G Carlson, T Mangogna, M J Taylor, P Pautet, J H Hecht, R J Rudy

1340h **SA53A-1253 POSTER** Development of a Falling Sphere Technique for E-region Wind Measurements: **B K Cannon**, C S Fish, M F Larsen, C Swenson

SPA - Solar and Heliospheric Physics

SH53A Moscone South: Poster Hall Friday 1340h
Solar Wind Turbulence: Advances in Theory and Observations
III Posters (joint with SM, NG)

Presiding: J J Podesta, Los Alamos National Laboratory; **C W Smith**, University of New Hampshire

1340h **SH53A-1288 POSTER** Short-Wavelength Solar Wind Turbulence: Kinetic Alfvén vs. Whistler Fluctuations: **S P Gary**, C W Smith

1340h **SH53A-1289 POSTER** Electrostatic ion-acoustic-like instabilities in the solar wind with a backstreaming alpha particle beam: **L Gomberoff**, K Gomberoff, A Deutsch

1340h **SH53A-1290 POSTER** Non-modal Plasma Stability in the Solar Wind: **E Camporeale**, T Passot, D Burgess

1340h **SH53A-1291 POSTER** Observational Evidence of Modified Two Stream Instability Driven Waves at an Interplanetary Shock: **L B Wilson**, C A Cattell, P J Kellogg, K Goetz, K Kersten, J C Kasper, A Szabo

1340h **SH53A-1292 POSTER** Damping of Outward Propagating Upstream Alfvén Waves by Shock Accelerated Solar Energetic Particles: **C K Ng**

1340h **SH53A-1293 POSTER** Perpendicular Proton Heating due to Energy Cascade of Fast Magnetosonic Waves in a Low-Beta Plasma: **S Markovskii**, B J Vasquez, B D Chandran

1340h **SH53A-1294 POSTER** Magnetic-helicity spectrum in the kinetic regime of solar wind turbulence: **J J Podesta**

1340h **SH53A-1295 POSTER** Wavenumber-Frequency structure of 2D Kinetic Plasma Turbulence: **T N Parashar**, M A Shay, S Servidio, W H Matthaeus, B Breech

1340h **SH53A-1296 POSTER** Multi-Spacecraft Observation Of Small-Scale Anisotropy In The Solar Wind Turbulence: **E Yordanova**, A Vaivads, L Sorriso-Valvo, S Perri, V Carbone

1340h **SH53A-1297 POSTER** The Turbulent Cascade and Proton Heating in the Solar Wind at 1 AU: Comparison with Observed Proton Heating and Dynamics of High Cross Helicity States: J E Stawarz, **C W Smith**, B J Vasquez, M A Forman, J Tessein, B T MacBride

1340h **SH53A-1298 POSTER** Kinetic, Magnetic and Cross-helicity Contributions to the Turbulent Cascade in the Solar Wind: **M A Forman**, J E Stawarz, C W Smith

1340h **SH53A-1299 POSTER** Scaling Laws of Turbulence: the role of density fluctuations in the heating of fast Solar Wind: **V Carbone**, R Marino, L Sorriso-Valvo, A Noullez, R Bruno

1340h **SH53A-1300 POSTER** The third-order law for magnetohydrodynamic turbulence with constant shear: **M Wan**, S Servidio, S Oughton, W H Matthaeus

1340h **SH53A-1301 POSTER** A Study of Turbulence Associated with Corotating Interaction Regions: J A Tessein, **C W Smith**, B J Vasquez

1340h **SH53A-1302 POSTER** Analysis of Self Similar Scaling in Kinetic and Magnetic Energy Density as a Function of Distance From Sun: **A Banerjee**, M A Coplan

1340h **SH53A-1303 POSTER** Generalized similarity and the physics of the outer scales in evolving solar wind magnetohydrodynamic inertial range turbulence as seen by ULYSSES: E Leonardis, **S C Chapman**, R M Nicol, K H Kiyani

1340h **SH53A-1304 POSTER** Vlasov simulations of strong Langmuir turbulence: **P Henri**, A Mangeney, F Califano, C Briand

1340h **SH53A-1305 POSTER** Characterization of short time transitions in the solar wind: **S Perri**, A Balogh

1340h **SH53A-1306 POSTER** The Strahl: A Significant Source of Vorticity in the Solar Wind: C A Gurgiolo, **M L Goldstein**, A Figueroa-Vinas, A N Fazakerley

1340h **SH53A-1307 POSTER** The Pitch-Angle Distribution Width Between 100 eV to 500 keV During the Solar Electron Burst of 2002 March 22: **C A de Koning**, J T Gosling, R M Skoug, J T Steinberg, L Wang, R P Lin

1340h **SH53A-1308 POSTER** A Simplified Transport Model for sub-Alfvénic Flows in the Corona: **B A Breech**, M L Goldstein, A V Usmanov, A Roberts

1340h **SH53A-1309 POSTER** Surface Alfvén Wave Damping in a Solar Wind Simulation Driven by Alfvén Waves: **R M Evans**, M Opher, R Oran, I Sokolov

1340h **SH53A-1310 POSTER** Solar Wind Density Turbulence: 7.7 Hz to 185 Hz: **D Malaspina**, P J Kellogg, S Bale, R E Ergun

SH53B Moscone South: 301 Friday 1340h
Fine Structure of Solar Magnetic Fields: First-Light Scientific Results From the 1.6-Meter New Solar Telescope in Big Bear II (*joint with A*)

Presiding: P R Goode, BBSO/NJIT; T Rimmele, National Solar Observatory

1340h **SH53B-01** First Results from 1.6 m Off-Axis Solar Telescope in Big Bear (*Invited*): **P R Goode**

1352h **SH53B-02** Small-scale studies of magnetic fields with the SOT/Hinode (*Invited*): **K Ichimoto**

1404h **SH53B-03** SMALL SCALE DYNAMICS IN THE QUIESCENT CHROMOSPHERE AS SEEN IN NST DATA: **V Yurchyshyn**

1416h **SH53B-04** Vorticity of Granular Flows from NST Observations: **A A Pevtsov**, V Abramenko, V Yurchyshyn, P R Goode

1428h **SH53B-05** Granular Scale Magnetic Flux Cancellations as Observed with the Hinode/SOT: **M Kubo**, B Low, B W Lites

1440h **SH53B-06** High Resolution Observations of Solar Quiescent Prominences with the Hinode Solar Optical Telescope: an Open Challenge to 21st Century Ground-based Solar Telescopes (*Invited*): **T E Berger**

1452h **SH53B-07** Radiative MHD simulations of sunspot structure: **M Rempel**, M Schuessler, R Cameron, M Knoelker

1504h **SH53B-08** Evolution of fine magnetic structures in sunspot light bridges as observed with Hinode/SOT: **T Shimizu**

1516h **SH53B-09** Dynamical Features of Filaments/Prominences According Their Location Relative to Active Regions: **K Ahn**

1528h **SH53B-10** The Advanced Technology Solar Telescope: Science Goals, Design and Project Status. (*Invited*): **T Rimmele**, S L Keil, J Wagner

SPA - Magnetospheric Physics

SM53A Moscone South: Poster Hall Friday 1340h
Magnetospheric Plasma Waves: Generation, Propagation, and Interaction With Energetic Particles IV Posters

Presiding: X Li, University of Colorado; J L Roeder, Aerospace Corp.

1340h **SM53A-1347 POSTER** Relativistic electron scattering by electromagnetic ion cyclotron fluctuations: test particle simulations: **K Liu**, D S Lemons, D Winske, S P Gary

1340h **SM53A-1348 POSTER** A Model for Energetic Electron Transport due to Ultra-Low-Frequency Waves in the Radiation Belts: **M Tornquist**, D Vassiliadis, M E Koepke, C Huang

1340h **SM53A-1349 POSTER** Global simulation of EMIC waves in the He⁺ band for 2001 April 21st storm from RCM-RAM-HOTRAY self-consistent modeling: **L Chen**, R M Thorne, V Jordanova, R B Horne, C Wang

1340h **SM53A-1350 POSTER** Electromagnetic Ion Cyclotron Wave Redistribution in the Earth's Magnetosphere due to Ring Current H⁺ in the Wave Dispersion Relation: **K Gamayunov**, M Zhang, H Rassoul

1340h **SM53A-1351 POSTER** Theoretical model of MHD low-frequency fluctuations in a 2D current sheet: **G Fruit**, P Louarn

1340h **SM53A-1352 POSTER** EMIC Waves Observed During the July 2009 Geomagnetic Storm: **J L Posch**, M J Engebretson, D Murr, M Lessard, T Raita, I R Mann, J Rae, H Luhr

1340h **SM53A-1353 POSTER** Eigenmodes of linear polarized EMIC waves in the Magnetosphere: **K Lee**, E Kim, J Johnson

1340h **SM53A-1354 POSTER** Can Electron Phase-Space Holes Help a Spacecraft Locate its Position in the Geometry of Guide-Field Reconnection?: **M V Goldman**, D L Newman, G Lapenta, A Divin, S Markidis, M L Goldstein, J Hwang, H Che

1340h **SM53A-1355 POSTER** Kinetic Formulation of Transport of Charged Particles Interacting With Electromagnetic Waves in Magnetized Plasmas: **A K Ram**, Y Kominis, K Hizanidis

1340h **SM53A-1356 POSTER** Mirror Mode Structures Detected by THEMIS in the Near-Earth Midnight Tail Plasma Sheet: **Y Ge**, J Raeder, D E Larson

1340h **SM53A-1357 POSTER** A comparison of magnetic field measurements and a plasma-based proxy to infer EMIC wave distributions at geosynchronous orbit: **L W Blum**, E MacDonald, S P Gary, M F Thomsen, J C Green, H E Spence

1340h **SM53A-1358 POSTER** Estimation of the Electromagnetic Energy Carried by the Alfvén waves Traveling in the Plasma Sheet: **A Matsuoka**, T Takada, M Hoshino, H Hayakawa, T Mukai

1340h **SM53A-1359 POSTER** Magnetospheric Resonances Driven by Solar Wind Dynamic Pressure Fluctuations: **S G Claudepierre**, M K Hudson, W Lotko, J Lyon, R E Denton

1340h **SM53A-1360 POSTER** The Magnetospheric Multiscale Missions Fast Plasma Investigations Dual electron spectrometer development: **M Shappirio**, M L Adrian, L A Avanov, D J Chornay, T E Moore, C R Aulet, A C Barrie, T Rosnack, C Tucker

1340h **SM53A-1361 POSTER** Properties of intense current filaments formed at the reconnection electron layer: **L Chen**, W S Daughton, N Bessho, A Bhattacharjee, R B Torbert

1340h **SM53A-1362 POSTER** Laboratory Measurements of Electrostatic Solitary Structures Generated by Beam Injection: B Lefebvre, **L Chen**, W N Gekelman, P M Kintner, J S Pickett, P Pribyl, S T Vincena, F C Chiang

1340h **SM53A-1363 POSTER** The Formation and Evolution of Double Layers in Earth's Auroral Upward Current Region: **D S Main**, D L Newman, R E Ergun

1340h **SM53A-1364 POSTER** High Power Ion Cyclotron Heating in the VASIMR: B W Longmier, M S Bruckardt, **E A Bering**, F Chang Diaz, J Squire

1340h **SM53A-1365 POSTER** Propagation of shear Alfvén waves in plasmas with two ion-species: **S T Vincena**, J E Maggs, G J Morales

1340h **SM53A-1366 POSTER** Experiments on the scattering of fast electrons by Alfvén waves: **W N Gekelman**, P Pribyl, Y Wang, A V Karavaev, X Shao, K Papadopoulos

1340h **SM53A-1367 POSTER** An Ideal MHD Model for ULF Waves in a Compressed Dipole Magnetic Field: **A W Degeling**, R Rankin, K Kabin, R Marchand

1340h **SM53A-1368** POSTER Propagation Properties of Electromagnetic Ion Cyclotron Waves near the Plasmaspace: **Y Liu**, B J Fraser, F Menk

1340h **SM53A-1369** POSTER EMIC Wave Occurrence During Geomagnetic Storm Events: CRRES Results: **A J Halford**, B J Fraser, S Morley

SM53B Moscone South: Poster Hall Friday 1340h
Magnetospheric Plasma Waves: Generation, Propagation, and Interaction With Energetic Particles V Posters

Presiding: **J W Labelle**, Dartmouth College; **C Huang**, Boston University

1340h **SM53B-1371** POSTER The Source Regions of Banded Chorus: **T F Bell**, U S Inan, N Haque

1340h **SM53B-1372** POSTER Weakly nonlinear ion-sound waves in inhomogeneous electron temperature, magnetized plasmas: H L Pecseli, **P Guio**

1340h **SM53B-1373** POSTER ELECTRON ACCELERATION DURING SUBSTORMS: **M Ashour-Abdalla**, M Zhou, D Schriver, M El-Alaoui, X Deng, R L Richard, R J Walker, V A Sergeev

1340h **SM53B-1374** POSTER Relativistic Equilibrium Distribution by Relative Entropy Maximization: **T K Nakamura**

1340h **SM53B-1375** POSTER Development of Data analysis system for comparison studies of simulation and observation of mode conversion process in the inner magnetosphere: **M J Kalae**, T Ono, A Kumamoto, N Terada, Y Katoh, Y Kasaba, Y Miyoshi

1340h **SM53B-1376** POSTER Modeling Alfvén Waves Generation by a Rotating Magnetic Field Source: **A V Karavaev**, N Gumerov, X Shao, A S Sharma, K Papadopoulos, A F Gigliotti, W N Gekelman

1340h **SM53B-1377** POSTER Collisional Effects on Nonlinear Saturation and Evolution of Mirror Instability: **O O Luk**, Z Lin

1340h **SM53B-1378** POSTER Laboratory Studies of Whistler and Lower Hybrid Wave Propagation*: **W E Amatucci**, D D Blackwell, G I Ganguli, C D Cothran, D N Walker, G Gatling

1340h **SM53B-1379** POSTER Coherent Nonlinear Scattering of Energetic Electrons in the Process of Whistler-Mode Chorus Generation: **M Hikishima**, S Yagitani, Y Omura, I Nagano

1340h **SM53B-1380** POSTER Pitch Angle Scattering of Energetic Particles by Waves Generated from a Rotating Magnetic Field Source: **X Shao**, A V Karavaev, A S Sharma, K Papadopoulos, N Gumerov, A F Gigliotti, W N Gekelman

1340h **SM53B-1381** POSTER Gyrokinetic Particle Simulation Of Drift Compressional Mode In Magnetic Dipole Geometry: **P Porazik**, Z Lin

1340h **SM53B-1382** POSTER Amplitudes and frequency sweep rates of chorus wave packets: **E Macusova**, O Santolik, J S Pickett, D A Gurnett, P Decreau, D Nunn, A G Demekhov, L E Titova

1340h **SM53B-1384** POSTER Reevaluating subionospheric detection of transmitter-induced precipitation of inner radiation belt electrons: **K L Graf**, U S Inan

1340h **SM53B-1385** POSTER The role of the plasmopause in ground-based observations of ELF/VLF chorus and hiss at L=2.4: **D I Golden**, M Spasojevic, U S Inan

1340h **SM53B-1386** POSTER A Comparison of Terrestrial and Kronian CMI growth rates: **R L Mutel**, J D Menietti, D A Gurnett, W S Kurth, J S Pickett, A N Fazakerley, A J Coates, C S Arridge, L Lamy, B Cecconi, P M Zarka

1340h **SM53B-1387** POSTER Cassini observations of chorus at Saturn: **G B Hospodarsky**, J D Menietti, T F Averkamp, W S Kurth, D A Gurnett, M Dougherty, O Santolik

1340h **SM53B-1388** POSTER Excitation of electron cyclotron harmonic waves within local plasma injections on Saturn: **X Tao**, R M Thorne, S Grimald, G B Hospodarsky

1340h **SM53B-1389** POSTER Three-Dimensional Mirror Mode Structures: Comparison with the Magnetic Peaks and Decreases: **M Shoji**, Y Omura

1340h **SM53B-1390** POSTER The relationship between global ULF wave structure and ionospheric conductance: 3D simulation results: **J Woodroffe**

1340h **SM53B-1391** POSTER Helicon Plasma Source and Ion Beam Creation Characteristics of the MadHex Thruster: **J Scharer**, M Wiebold, R He

1340h **SM53B-1392** POSTER Hydromagnetic waves and instabilities in kappa-distribution plasma: **B Basu**

1340h **SM53B-1393** POSTER Travelling Waves and Resonances: Pc3 Sources at High Latitudes: **F W Menk**, T A Howard

1340h **SM53B-1394** POSTER Observations of a Unique Type of ULF Waves by Low-altitude ST-5 Satellites: **G Le**, P J Chi, R J Strangeway, J A Slavin

SM53C Moscone South: 305 Friday 1340h
Advanced Modeling Techniques, Data Assimilation, and Analysis for Future Space Weather Applications II (joint with SA, SH)

Presiding: **J Koller**, Los Alamos National Lab; **S L Young**, Air Force Research Laboratory

1340h **SM53C-01** WITHDRAWN

1400h **SM53C-02** Automated Data Preparation and Physics Mining Tools for Space Weather Studies (*Invited*): **H Karimabadi**, T Sipes

1420h **SM53C-03** Validation of Model Forecasts of the Ambient Solar Wind (*Invited*): **P J MacNeice**, M Hesse, M M Kuznetsova, L Rastaetter, A Taktakishvili

1440h **SM53C-04** Uncertainty Quantification and Parameter Estimation Utilizing a Global Ionosphere Thermosphere Model: **A J Ridley**, D Bernstein, D J Pawlowski, A D'Amato

1455h **SM53C-05** Specifying the Earth's Plasmasphere With Data Assimilation of Ground-Based Field-Line Resonance Measurements: **A M Jorgensen**, S Rivera, N McCarthy, D M Ober, E Zesta, P J Chi, M Moldwin

1510h **SM53C-06** High-resolution empirical geomagnetic field model TS07D: Present status and outlook: N A Tsyganenko, **M I Sitnov**, A Y Ukhorskiy, P C Brandt, B J Anderson, A Lui

1525h **SM53C-07** Development of a Dynamical Magnetosphere Model by Coupling the WINDMI Plasma Physics Model to an Analytical Magnetospheric Magnetic Field Configuration: **E A Spencer**, S Patra, M L Mays, W Horton

SM53D Moscone South: 303 Friday 1340h
Relationship Between Auroral Phenomenology and Magnetospheric Processes IV (joint with SA)

Presiding: **A Keiling**, University of California, Berkeley; **E F Donovan**

1340h **SM53D-01** Auroral poleward boundary intensifications, their associated tail dynamics and ionospheric flows (*Invited*): **E Zesta**, Y Shi, L R Lyons, E F Donovan, V Angelopoulos, J P McFadden, C W Carlson, S B Mende, K Glassmeier

1355h **SM53D-02** An Active Auroral Streamer And The Concurrent Magnetotail Activity: **A Lui**, E L Spanswick, E F Donovan, J Liang, W Liu, V M Uritsky, J P McFadden, D E Larson

1410h **SM53D-03** Dipolarization Fronts, Bursty-Bulk Flows and Their Association With North-South Aurora and Substorm Onsets: **A Runov**, V Angelopoulos, M I Sitnov, V A Sergeev, Y Nishimura, L R Lyons, R Nakamura, H U Frey, J P McFadden, D E Larson, J W Bonnell, K Glassmeier, U Auster

1425h **SM53D-04** Relationship Between Ground-based and In-situ Plasma Sheet Measurements of Convection Penetration: **E R Sanchez**

1440h **SM53D-05** Multipoint observations of nightside auroral activity: the Cascades2 sounding rocket mission: **K A Lynch**, M R Mella, P M Kintner, E T Lundberg, M Lessard, S Jones, H C Stenbaek-Nielsen, D L Hampton, N V Ivchenko, H Dahlgren

1455h **SM53D-06** Motion of Auroral Features and Plasmasheet Flow: **E L Spanswick**, E F Donovan, A Lui, E L Kepko, J Liang, W Liu

1510h **SM53D-07** Equatorward moving auroral signatures of a flow burst observed prior to auroral onset: **E L Kepko**, E L Spanswick, V Angelopoulos, E Donovan, J P McFadden, K Glassmeier, J Raeder, H J Singer

1525h **SM53D-08** PFSIR observations of equatorward-expanding ionospheric F-region patch and its association with the flow and auroral activities: **J Liang**, E L Spanswick, M J Nicolls, E F Donovan, D Lummerzheim, W Liu

Seismology

S53A Moscone South: Poster Hall Friday 1340h
Marine Seismology and Bottom Interacting Ocean Acoustics
III Posters (joint with OS, T)

Presiding: **R A Stephen**, WHOI; **W S Wilcock**; **A Weglein**; **S C Singh**, Institut de Physique du Globe de Paris

1340h **S53A-1452 POSTER** ON THE MECHANISM OF MICROSEISMS: **W Lee**, F Schwab, B G Jo

1340h **S53A-1453 POSTER** Dense Ocean floor Network for Earthquakes and Tsunamis (DONET) -Development and Data application for the mega thrust earthquakes around the Nankai trough -: **Y Kaneda**, K Kawaguchi, E Araki, A Sakuma, H Matsumoto, T Nakamura, S Kamiya, K Ariyoshi, T Baba, M Ohori, T Hori

1340h **S53A-1454 POSTER** Compact ocean bottom cabled system for dense seismic and tsunami observation: **T Kanazawa**, M Shinohara, S Sakai, O Sano, H Utada, H Shiobara, Y Morita, T Yamada, K Yamazaki

1340h **S53A-1455 POSTER** CUMAS: a seafloor multi-sensor module for volcanic hazard monitoring - First long-term experiment and performance assessment: **G Iannaccone**, S Guardato, M Vassallo, T A Stabile, L Elia, L Beranzoli

1340h **S53A-1456 POSTER** Estimation of spatiotemporal variation of acoustic velocity in ocean and its modeling for GPS/Acoustic seafloor positioning: **S Sugimoto**, K Tadokoro, R Ikuta, T Watanabe, T Okuda, K Sayanagi, K Miyata, T Nagao

1340h **S53A-1457 POSTER** Studying shallow seafloor structure based on correlations of continuous seismic records: **M LANDES**, N M Shapiro, S C Singh

1340h **S53A-1458 POSTER** Ocean Bottom Mapping with Ambient Noise and Adaptive Array Processing: **J Traer**, P Gerstoft, H Song, W Hodgkiss

1340h **S53A-1459 POSTER** Seismic Structures of Shallow Oceanic Crusts, in light of OBS and Ambient Noise Analysis: **E Chang**, Y Gung, B Kuo, S Lallemand

1340h **S53A-1460 POSTER** On Short Period Ambient Noise of Taiwan (1) Ambient Noise Tomography (2) Probing Source of Ambient Noise: **Y Chen**, Y Gung, S You, L Chiao, W Liang, C Lin

1340h **S53A-1461 POSTER** An Experimental Seismic Data and Parameter Exchange System for Tsunami Warning Systems: **T L Hoffmann**, W Hanka, J Saul, B Weber, J Becker, A Heinloo, M Hoffmann

1340h **S53A-1462 POSTER** Chronology of tsunami and tephra on Paramushir Island, northern Kuril Islands: **Y Nakamura**, Y Nishimura, K Hirakawa, Y Tanioka, T Pinegina, E Kravchunovskaya

1340h **S53A-1463 POSTER** Deep seafloor arrivals - A new set of arrivals in long-range ocean acoustic propagation: **R A Stephen**, T Bolmer, M A Dzieciuch, P F Worcester, R Andrew, L Buck, J A Mercer, J A Colosi, B M Howe

1340h **S53A-1464 POSTER** T-waves excitation modeling for realistic earthquake source and oceanic crust: **S Yun**, M Park, W Lee

1340h **S53A-1465 POSTER** Seafloor P- to T-wave Conversion at the Scotia Volcanic-Arc, South Atlantic Ocean: **H Matsumoto**, D R Bohnenstiehl, R P Dziak, M Park, W Lee, R W Embley, M J Fowler, P Monigle

1340h **S53A-1466 POSTER** Hydroacoustic records of seafloor earthquakes, cryogenic sounds, and cetacean vocalizations in the Indian Ocean: **R Chateau**, J Royer, R P Dziak, D R Bohnenstiehl, V BRANDON, J H Haxel

1340h **S53A-1467 POSTER** Hydroacoustic monitoring of drifting icebergs in the South Pacific Ocean: J Chazette, O Hyvernaud, **D Reymond**

1340h **S53A-1468 POSTER** Three-dimensional seismic structure of a Mid-Atlantic Ridge segment characterized by active detachment faulting (TAG, 25° 55'N-26° 20'N): **M Zhao**, J Canales

1340h **S53A-1469 POSTER** Seismic Velocity Structure Across the Quebrada and Gofar Oceanic Transform Faults from 2D Refraction Tomography - A Comparison of Faults with High and Low Seismic Slip Deficits: **E C Roland**, J J McGuire, J A Collins, D Lizarralde

1340h **S53A-1470 POSTER** Shallow Structure of Young Oceanic Crust: Wavefield Tomographic Inversion of Seismic Data Near the Blanco Transform Fault: **G L Christeson**, J V Morgan, M Warner

1340h **S53A-1471 POSTER** Analysis of Recent Major Outer-Rise Earthquake Rupture Characteristics: **M Cleveland**, C Ammon, T Lay, H Kanamori

1340h **S53A-1472 POSTER** A global outer-rise/outer-trench-slope (OR/OTS) earthquake study: **J M Wartman**, S Kita, S H Kirby, G L Choy

1340h **S53A-1473 POSTER** Seismicity beneath the land slope of the Japan Trench: **T Yamada**, K Nakahigashi, A Kuwano, K Mochizuki, M Shinohara, S Sakai, T Kanazawa, T Takanami, R Hino

1340h **S53A-1474 POSTER** Geometry of Pacific plate in Kuril-Japan trench zones estimated from earthquake distribution using LT-OBS network and seismic structures by marine surveys: **M Shinohara**, T Yamada, A Kuwano, K Nakahigashi, Y Machida, K Mochizuki, T Kanazawa, T Takanami, R Hino

1340h **S53A-1475 POSTER** Clustering of deep focus earthquakes in the southwest Pacific: **R Myhill**, D McKenzie, K F Priestley

1340h **S53A-1476 POSTER** Rayleigh-wave Group Velocity Tomography in the Vicinity of the Hawaiian Hotspot: **A E Strader**, G Laske, J A Orcutt, C J Wolfe, J A Collins, S C Solomon, R S Detrick, D Bercovici, E H Hauri

1340h **S53A-1477 POSTER** MODELING OF THE BYERLY'S FALSE S PHASE FOR THE EARTHQUAKES OFF THE COAST OF NORTHERN CALIFORNIA, PART II: ADDITION OF MENDOCINO ARRAY DATA: **D Dolenc**, D S Dreger

1340h **S53A-1478 POSTER** Transition zone S velocity structure beneath the East Pacific Rise: **Y Wang**, S P Grand, M B Brandt

1340h **S53A-1479** POSTER Body Wave Analysis of the Subduction Structure under the Tyrrhenian Sea: **T Jia**, A Lerner-Lam, W Kim, D G Martinson, M S Steckler

1340h **S53A-1481** POSTER Morphologic expression of the accretion process in the SW margin of the Pacific of Colombia interpreted by means bathymetric high-resolution data: **C A Vargas-Jimenez**, C Gomez, L A Briceño, C A Rey

1340h **S53A-1482** POSTER Seismicity in the Continental Shelf off SE Brazil and the 5.2 mb Sao Vicente Earthquake of 2008: Further Evidence of Flexural Effects: **M Assumpcao**, J C Dourado, L C Ribotta, J R Barbosa

1340h **S53A-1483** POSTER Seismic activity around the source area of the 1940 Shakotan-Hanto-oki earthquake deduced from ocean bottom seismographic observation: **K Ichijo**, Y Murai, T Takanami, R Miura, Y Machida, Y Nishimura, Y Nakamura

1340h **S53A-1484** POSTER Insights into the mechanism of the Northern Gulf of Mexico MS 5.3 "Green Canyon event" of 10 February 2006: J A Dellinger, **J A Blum**

1340h **S53A-1485** POSTER Harmonic Oscillation at a Mud Volcano in the West Nile Delta: **M R Lefeldt**, S Hoelz, J Bialas, W Brueckmann

1340h **S53A-1486** POSTER Basement structure of the Laccadive Ridge and Basin from multi-channel seismic reflection and gravity data: **G R NAIR**, D K Pandey, R Sivaramakrishnan

S53B Moscone West: 2005 Friday 1340h
The Debate on the Extent to Which Static or Dynamic Stresses Trigger Earthquakes II (*joint with T*)

Presiding: **N van der Elst**, University of California, Santa Cruz;
R S Stein, USGS

1340h **S53B-01** Isolating sources and signals of dynamic and static earthquake triggering at near and far ranges (*Invited*): **T Parsons**, A A Velasco, E P Mallman

1355h **S53B-02** Tests of the hypothesis that the decay of aftershock density with distance indicates triggering by dynamic stress: K B Richards-Dinger, **R S Stein**, S Toda

1410h **S53B-03** Coulomb stress interactions among large earthquakes in the Gorda deformation zone, Mendocino fracture zone, Cascadia megathrust, and northernmost San Andreas fault: **C Rollins**, R S Stein

1425h **S53B-04** Impact of the fault distribution on forecasted aftershock activity: **S Hainzl**, G Zoeller, R Wang, G B Brietzke

1440h **S53B-05** Dynamic triggering - near and far (*Invited*): **D P Hill**

1455h **S53B-06** The 2004-2008 Worldwide Superswarm: **E E Brodsky**

1510h **S53B-07** Quantifying and forecasting dynamic earthquake triggering in the near and farfield: **N van der Elst**, E E Brodsky

1525h **S53B-08** High-Resolution Locations of Triggered Earthquakes and Tomographic Imaging of Kilauea's South Flank: **E M Syracuse**, C H Thurber, C J Wolfe, P Okubo, B A Brooks, P Segall, J H Foster

Tectonophysics

T53A Moscone South: Poster Hall Friday 1340h
Evolution of the Caribbean Plate: Linking Its Tectonic, Magmatic, Metamorphic, and Stratigraphic Records II Posters (*joint with GP, S, V*)

Presiding: **U Martens**, Stanford University

1340h **T53A-1554** POSTER Seismic anisotropy and mantle flow beneath western Venezuela: **J Masy**, F Niu, A Levander

1340h **T53A-1555** POSTER Geochemistry and Geochronology of the Virgin Islands Batholith: **K L Schrecengost**, A F Glazner, D S Coleman

1340h **T53A-1556** POSTER Genesis of Guatemala jadeitite and related fluid characteristics: an insight from zircon: **T Yui**, K Maki, T Usuki, U Martens, C Wu, T Wu, J G Liou

1340h **T53A-1557** POSTER Shallower structure of the collision zone between the Muertos fold-and-thrust belt and the aseismic Beata Ridge in the NE Caribbean Plate: **M Llanes Estrada**, A Carbo-Gorosabel, J Granja, A Munoz Martin, M Druet Vélez, M Gómez Ballesteros, U S Ten Brink, J M Davila, A Pazos, M Catalan, J Quijano, O López

1340h **T53A-1558** POSTER Relocating San Miguel Volcanic Seismic Events for Receiver Functions and Tomographic Models: **E Patlan**, A A Velasco, J Konter

1340h **T53A-1559** POSTER Incorporation of island-arc rocks into a Caribbean subduction channel: Geochemical constraints from eclogite boulders and greenschist rocks, Guajira region, Colombia: **M Weber**, A Cardona, U Altenberger, A Garcia-Casco, V Valencia, M Tobón, S Zapata

1340h **T53A-1560** POSTER Provenance of the Pendales Fm in the Sinu-San Jacinto Basin of Colombia's Caribbean margin: **A Abreu**, D Schonwalder, J Jaramillo, U Martens

1340h **T53A-1561** POSTER Is there Subduction in the Muertos Trough (NE Caribbean)? : Insights from gravity: **J G Bruna**, A Carbo-Gorosabel, A Munoz Martin, U S Ten Brink, M Llanes Estrada, D Cordoba Barba, J M Davila, M Catalan

1340h **T53A-1562** POSTER Caribbean affinities of mafic crust from northern Colombia: preliminary geochemical results from basaltic rocks of the Sinu-San Jacinto belt: **C BUSTAMANTE**, A Cardona, V Valencia, M Weber, G Guzman, C Montes, M Ibañez, M Lara, M Toro

1340h **T53A-1563** POSTER Intra-arc Deformation in Mona Passage, Northeast Caribbean: **J D Chaytor**, U S Ten Brink

1340h **T53A-1564** POSTER Micro plate tectonics in the Virgin Islands Basin, north eastern Caribbean: **S Raussen**, H Lykke-Andersen

1340h **T53A-1565** POSTER Uplift of late Quaternary marine terraces in the forearc of the Middle America Trench due to active thrusting inboard of the Panama Triple Junction, Burica Peninsula: **K D Morell**, T W Gardner, D M Fisher, A Teletzke, D Davidson

1340h **T53A-1566** POSTER North America - Caribbean plate motion as constrained by provenance of Eocene beds in Central Guatemala: **U Martens**, A Gutierrez

1340h **T53A-1567** POSTER CARIBENORTE Project: Studying the deep structure of the NE Caribbean Plate: **A Carbo-Gorosabel**, J M Davila, D Cordoba Barba, J L Granja, M Llanes Estrada, A Munoz Martin, M Druet, M Gomez, A Pazos, M Catalan, U S Ten Brink, J Payero, O Lopez, J Quijano

T53B Moscone South: Poster Hall Friday 1340h
Fault Zone Weakening and Reactivation Processes II Posters (*joint with S*)

Presiding: **K J McCaffrey**, Durham University; **C Collettini**, University of Perugia; **A Tommasi**, Universite Montpellier 2

1340h **T53B-1568** POSTER Incrementally Developed 'Dilational Hydro-Shears' Forming at High Angles to σ_1 in Foliated Mélange Matrix: A Fagereng, F Remitti, R H Sibson

1340h **T53B-1569 POSTER** Growth and Deformation Mechanisms of Talc along the Zuccale Fault (Central Italy): a Micro-Nano-Structural Investigation: **C Viti**, C Collettini

1340h **T53B-1570 POSTER** Post-laramide folds in early- to mid-Tertiary volcanic and/or gravel sequences in eastern Chihuahua, México: **J J Aranda-Gomez**, G Chávez-Cabello, M Cerca-Niño, B Harald, A Iriondo, W Kurt, G Gildardo

1340h **T53B-1571 POSTER** Fracture network heterogeneity in continental lithosphere: An example from the Lewisian Gneiss Complex, NW Scotland: **J C Martin**, R E Holdsworth, K McCaffrey, A Conway, M Krabendam

1340h **T53B-1572 POSTER** Basement inheritance controls on continental margin architecture: steep basement fabrics and segmented margins: **R Wilson**, K J McCaffrey, R E Holdsworth, P Japsen

1340h **T53B-1573 POSTER** Using the Messinian and Plio-Quaternary deposits as markers of the vertical motions in the tectonically inverted Algerian margin: **P Strzeczynski**, J LOFI, F Sage-Khadir, V Gaullier, A Cattaneo, J Déverchère

1340h **T53B-1574 POSTER** Fabric Induced Weakness of Tectonic Faults: D Elsworth, C Marone, **A Niemeijer**

1340h **T53B-1575 POSTER** Microstructural Evidence for Strain Localization at the Frictional-to-Viscous Transition, Norumbega Fault System, Maine: **N A Price**, S E Johnson, C C Gerbi

1340h **T53B-1576 POSTER** Paleostress and extension analyses based on a dyke swarm in Yongdang, SE Korea: **S park**, S Yang, Y Kim

1340h **T53B-1577 POSTER** Transition from peridotite-mylonite to serpentine-rich fault rocks along a strike-slip fault system, Twin Sisters ultramafic massif, Washington, USA: **K Mullen**, J Newman, S F Wojtal, V G Toy, W Lamb, B Tikoff

1340h **T53B-1578 POSTER** NW-SE Trending Fault-Segmentation Boundaries in the High-Strain-Rate Zone of Japan: **T Takeda**, H Sato, K Obara, B Enescu

1340h **T53B-1579 POSTER** Calico fault zone structures inferred from local earthquake travel time and waveform modeling: **H Yang**, L Zhu, E S Cochran

1340h **T53B-1580 POSTER** Deep Structure of Active Fault Systems Developed along the Itoigawa-Shizuoka Tectonic Line, Central Japan, from Recent Seismic Reflection/Refraction Surveys: **T Iwasaki**, Y Ikeda, K Kano, T Ito, H Sato, R Kobayashi, S Abe, S Kikuchi, M Higashinaka, S Suda, T Kawanaka

1340h **T53B-1581 WITHDRAWN**

1340h **T53B-1582 POSTER** Combination of geophysical methods for fault detection: a case study from the Møre-Trøndelag Fault Complex, Mid-Norway: **A Nasuti**, E Dalsegg, J Ebbing, E Lundberg, J Tonnesen, C Pascal

1340h **T53B-1583 POSTER** New Global Geological Maps of Crustal Basement Age: **A P Gubanov**, W D Mooney

1340h **T53B-1584 POSTER** Transpressive suture and flower structure: the Tomar-Badajoz-Cordoba shear zone, SW Iberia: D Marti Linares, I Palomeras, A Perez-Estaun, **R Carbonell**, F Simancas, P Ayarza, R Tejero, L Martín-Parra, J Matas, F Lodeiro, L Mansilla

T53C Moscone South: Poster Hall Friday 1340h
Fluid-Rock Interactions in Shallow Fault Zones: Implications for Fault Processes and Mechanical Behavior II Posters

Presiding: **C Verdel**, University of Michigan; **A M Schleicher**, University of Michigan

1340h **T53C-1585 POSTER** Hydrogen generation along simulated faults at coseismic slip conditions: **T Hirose**, K Suzuki

1340h **T53C-1586 POSTER** DILATANCY IN NATURAL AND SIMULATED FAULT MATERIALS: THE ROLE OF NORMAL STRESS, MINEROLOGY, AND PARTICLE SIZE DISTRIBUTION: **J E Samuelson**, C Marone

1340h **T53C-1587 POSTER** Changes in permeability caused by dynamic stresses in fractured sandstone: W Liu, **M Manga**

1340h **T53C-1588 POSTER** Syntectonic fluid flux during rift faulting: Record from the MIS core, Victoria Land Basin, Antarctica: **C Millan**, T J Wilson, T S Paulsen

1340h **T53C-1589 POSTER** Response of Alum Rock springs to the October 30, 2007 Alum Rock earthquake and implications for the origin of increased discharge after earthquakes (*Invited*): **M Manga**, J C Rowland

1340h **T53C-1590 POSTER** Combined microstructural and geochemical study of Sheep Mountain Anticline (Wy, USA): implications for paleofluid flow during folding above a basement thrust fault: N Beaudoin, **N Bellahsen**, L Emmanuel, O Lacombe

1340h **T53C-1591 POSTER** The three-dimensional pattern of crustal deformation associated with active normal fault systems observed using continuous GPS geodesy: **R A Bennett**, S Hreinsdottir

1340h **T53C-1592 POSTER** Architecture of a low-angle normal fault zone, southern Basin and Range (SE California): **J A Goyette**, B E John, E Campbell-Stone, H Stunitz, R Heilbronner, M Pec

1340h **T53C-1593 POSTER** Fluid flow along North American Cordillera detachments determined from stable isotope and high resolution chemical analyses: **A Quilichini**, C Teyssier, A Mulch, W Nachlas

1340h **T53C-1594 POSTER** Detection and Temperature Estimate of Fluid-Rock Interactions in Fault Zones Based on Trace Element and Isotope Systematics of Fault Rocks: **T Ishikawa**, T Hirono, Y Hamada, M Tanimizu, K Ujiie

1340h **T53C-1595 POSTER** Fluid-rocks interactions and micromechanical model of deformation of the Monte Perdido thrust fault (southern Pyrenees, Aragon, Spain): **B Lacroix**, F Meresse, M Buatier, D Charpentier, P Labaume, A Travé, M Dubois

1340h **T53C-1596 POSTER** Accommodation of Large Displacement along Thin Principal Slip Layer of a Fault: An Example of the Garam Thrust in the Paleozoic Taebaeksan Basin: **S Kim**, J Ree

1340h **T53C-1597 POSTER** Mineralogy and geochemistry of suspected mud volcano fluid migration pathways within the footwall of the active Chishan Fault, southern Taiwan: **S M Sobolewski**, J R Gourley

1340h **T53C-1598 POSTER** Micro- and Nanostructures of SAFOD Core Samples – First Results: **C Janssen**, R Wirth, E Rybacki, R Naumann, H Kemnitz, H Wenk, G H Dresen

1340h **T53C-1599 POSTER** Clay-Rich Gouge Identified in Serpentinite from the San Andreas Fault Zone at Nelson Creek, Monterey County, California: **D E Moore**, M J Rymer

1340h **T53C-1600 POSTER** K-Ar constraints on fluid-rock interaction and dissolution-precipitation events within the actively creeping shear zones from SAFOD cores: **S Ali**, S R Hemming, T Torgersen, M Q Fleisher, S E Cox, M Stute

1340h **T53C-1601 POSTER** The effect of phyllosilicates and matrix on fault strength – Implications for the San Andreas fault zone: **E van Diggelen**, J H De Bresser, C Spiers

1340h **T53C-1602 POSTER** Implications for differences in LWD resistivity measurements in NanTroSEIZE boreholes within the Nankai Trough, Offshore Japan: **K M Martin**, S P Gulick, P B Flemings, J Tudge

1340h **T53C-1603 POSTER** Subsurface electrical resistivity structure around the Noubi fault system, central Japan, by MT survey:

K Omura, T Matsuda, R Yamada

1340h **T53C-1604 POSTER** Crustal deformation and rupture processes related to upwelling of deep CO₂-rich fluids during the 1965-1967 Matsushiro Earthquake Swarm in Japan: A hydromechanical model with multiphase flow: **F Cappa**, J Rutqvist, K Yamamoto

1340h **T53C-1605 POSTER** Co-seismic thermal dissociation of carbonate fault rocks: Naukluft Thrust, central Namibia: **C D Rowe**, J A Miller, F Sylvester, N Backeberg, C Faber, B Mapani

1340h **T53C-1606 POSTER** Possible silica gel in the Olive Fault, Naukluft Nappe Complex, Namibia: A geologic record of dynamic weakening in faults during continental orogenesis: **C Faber**, C D Rowe, J A Miller, N Backeberg, F Sylvester

1340h **T53C-1607 POSTER** The fabric of Mass Transport Deposits in the Ursa Basin, Gulf of Mexico: **R J Day-Stirrat**, P B Flemings, H E Strong, J Schneider, D E Sawyer, A M Schleicher, J T Germaine

1340h **T53C-1608 POSTER** Investigations on geomagnetic secular variation anomalies through tectonomagnetic monitoring in the seismoactive zone of the Narmada-Son Lineament, Central India: **S Y Waghmare**

1340h **T53C-1609 POSTER** Fluid transport properties and estimation of overpressure at the Lusi mud volcano, East Java Basin: **W Tanikawa**, M Sakaguchi, H T Wibowo, T Shimamoto, O Tadaï

1340h **T53C-1610 POSTER** Structures and microfabrics of the Franciscan Complex (California): Inferences on the rheology and kinematics of a subduction channel: **A Krohe**, S Wassmann, C Treppmann, B Stoeckert

T53D Moscone South: Poster Hall Friday 1340h
Rifts and Basins of the U.S. Interior: A New EarthScope Frontier II Posters (*joint with GP, S*)

Presiding: **G R Keller**, University of Oklahoma; **S van der Lee**, Northwestern University

1340h **T53D-1611 POSTER** Subtle evidence for paleoseismicity in the cratonic interior, U.S. A: **W Z Jacobson**, C A Cowan, A C Runkel

1340h **T53D-1612 POSTER** Peripheral structures of the Rio Grande Rift in the Sangre de Cristo Mountains, around the Colorado-New Mexico border: **C J Fridrich**, J B Workman

1340h **T53D-1613 POSTER** Mmax and Lithospheric Structure in Central and Eastern North America: **W D Mooney**, J E Ritsema

1340h **T53D-1614 POSTER** Lithospheric structure beneath the central North Carolina-Tennessee Blue Ridge Mountains: **K Metcalf**, L S Wagner, D L Abt, S Hanson-Hedgecock

1340h **T53D-1615 POSTER** Characterization of the August 2009 New Mexico earthquake swarm in the central Rio Grande rift: **J Stankova-Pursley**, S L Bilek, C J Ruhl, R C Aster, C A Rowe, J B Johnson

1340h **T53D-1616 POSTER** Intrusions and Anomalous V_p/V_s Ratios Associated with the New Madrid Seismic Zone: **C A Powell**, M Withers, H R DeShon

1340h **T53D-1617 POSTER** The Effect of S-velocity Heterogeneity in the North American Mantle on Waveforms of Regional Surface Waves from the February 2008 Nevada Earthquake: **S Chang**, S van der Lee

1340h **T53D-1618 POSTER** Receiver function study of the rifted margin of the Gulf Coast Plain: A Pilot Project: **M Brundrett**, H Gurrola, J Pulliam, R J Stern, E Y Anthony, G R Keller, S S Gao, K L Mickus

1340h **T53D-1619 POSTER** Unveiling the lithospheric structure of the US Interior using the USArray Transportable Array:

M P Moschetti, M H Ritzwoller, F Lin, W Shen, Y Yang

1340h **T53D-1620 POSTER** An updated interpretation of the Hales 1969 onshore-offshore refraction experiment: an investigation of the rifted margin of the Northern Gulf of Mexico and Gulf Coast Plain: **G Duncan**, H Gurrola

1340h **T53D-1621 POSTER** Azimuthal Anisotropy Signature in the Great Basin Lithosphere from Rayleigh Wave Phase Velocity Maps: **C Beghein**, J A Snoke, M J Fouch

1340h **T53D-1622 POSTER** Lithospheric Structure Beneath the Eastern Edge of the Rio Grande Rift: **Y Xia**, S P Grand, J Pulliam

1340h **T53D-1623 POSTER** Seismic anisotropy of the Rio Grande Rift and surrounding regions: **J Pulliam**, C V Rockett, S P Grand

1340h **T53D-1624 POSTER** The crust and upper mantle beneath the Rio Grande Rift and surrounding regions inferred from ambient noise and earthquake tomography: **W Shen**, Y Yang, M H Ritzwoller, J Pulliam, S P Grand

1340h **T53D-1625 POSTER** Investigation of Laramide Deformation in North-Central New Mexico and Its Role in Guiding Miocene Extension: **C M Freer**, J Hamilton, M A Murphy

1340h **T53D-1626 POSTER** 3D P-wave velocity structure beneath the Abitibi-Grenville region, eastern Canadian Shield: **M Villemaille**, F A Darbyshire

1340h **T53D-1627 POSTER** The EarthScope Transportable Array Migrates Eastward: Engaging the Science Community and Students: **P M Dorr**, R W Busby, K Hafner, J Taber, R Woodward

1340h **T53D-1628 POSTER** Characterizing Near Fault Velocity Structure and Seismogenesis Along the New Madrid Seismic Zone: **H R DeShon**, S T Bistrat, C A Powell

1340h **T53D-1629 POSTER** Thermal isostasy, elevation of continental North America and intraplate stresses: **J Mareschal**, **C Perry**

1340h **T53D-1630 POSTER** A Graphical Approach to Quality Checking Crustal Thickness Point Data Using Isostasy: **B Wallet**, M S Okure, G R Keller

T53E Moscone West: 2007 Friday 1340h
Brittle Deformation of Solids and Granular Materials IV (*joint with MR, NG, S*)

Presiding: **Y Ben-Zion**, University of Southern California; **C G Sammis**, Univ Southern California

1340h **T53E-01** Rupture Dynamics on Nonplanar Faults with Strongly Rate-Weakening Friction and Off-Fault Plasticity: **E M Dunham**

1355h **T53E-02** A Micromechanical Model for the Generation of Off-Fault Damage by Earthquake Ruptures: **C G Sammis**, H Bhat, A Rosakis

1410h **T53E-03** The elastic energy of damaged rocks: **Y Hamiel**, V Lyakhovsky, Y Ben-Zion

1425h **T53E-04** Effects of gouge fragment shape on fault friction: New 3D modeling results: **K Mair**, S Abe

1440h **T53E-05** Modeling coupled fluid-grain deformation within fault zones: D W Sparks, **L Goren**, E Aharonov, R Toussaint

1455h **T53E-06** A simple lattice model for the effect of voids on slip avalanches in sheared granular materials: **K Dahmen**, Y Ben-Zion, J T Uhl

1510h **T53E-07** Stress relaxation and morphological instabilities at interfaces of contacting rocks: **J Mathiesen**, L Angheluta, C Misbah, F Renard

1525h **T53E-08** Energy budget of a propagating pulse in discrete and continuum fault models and its implications on models for scale dependence of strength: **T H Heaton, A E Elbanna**

T53F Moscone West: 2009 Friday 1340h
From Subduction to Collision, With Recent TAIGER and Other Results IV (*joint with S*)

Presiding: **S Lallemand**, CNRS; **T B Byrne**, University of Connecticut

1340h **T53F-01** Crustal extrusion of the hangingwall at the southwestern termination of the Taiwan orogen: Constraints from seismogenic strain inversions: **J C Lewis**, E A Lamont, T B Byrne, J M Crespi, R Rau

1355h **T53F-02** Serpentinization of the forearc mantle beneath NE Taiwan and the westernmost Ryukyu subduction zone: **B Kuo**, H Chou, S Hung

1410h **T53F-03** Crustal Structure of the Yakutat Microplate: New Parameters for Understanding the Evolution of the Chugach-St. Elias Orogeny: **L L Worthington**, G L Christeson, H J Van Avendonk, S P Gulick

1425h **T53F-04** Out-of-sequence thrust faults in the south Ryukyu forearc: **S Hsu**, Y Yeh, C Ku, C Tsai, J Sibuet, W Doo

1440h **T53F-05** Evolution of Luzon Arc Forearc Basin Offshore Southern Taiwan: **W Chi**, L Chen, C Liu, D L Reed, N Lundberg

1455h **T53F-06** Evaluating the Risk of Nucleation of a M8 Earthquake East of Hualien (Taiwan) : Preliminary Results from the ACTS Project: **S Lallemand**, C Lee, T Theunissen, F Klingelhoefer, P Schnürle, S Gautier, Y Font, C Liu, K D McIntosh, F T Wu

1510h **T53F-07** Indo-Burmese subduction of the Bengal basin controlled by 90°E ridge collision imaged from deep seismic reflection data: **C Rangin**, T Maurin

1525h **T53F-08** The Antillean-South American Collision Zone as Imaged by BOLIVAR Seismic Data: **A Levander**, M J Bezada, F Niu, M S Miller, J Masy, S A Clark, M Magnani, H G Ave Lallemand, J L Pindell

T53G Moscone West: 2011 Friday 1340h
Seismotectonics of the Arabian Plate and Its Boundaries II (*joint with G, S, NH*)

Presiding: **C L Johnson**, University of Utah; **F G Gomez**, University of Missouri

1340h **T53G-01** Tracking Arabia-India motion from Miocene to Present: **N R Chamot-Rooke**, M Fournier

1355h **T53G-02** Post-Pliocene localization of Arabia-Eurasia shortening in the Greater Caucasus and Kura fold-thrust belt (*Invited*): **E Cowgill**, N A Niemi, B Avdeev, A M Forte, I Murtuzayev

1410h **T53G-03** Spatial and temporal patterns of exhumation in the Greater Caucasus from low-temperature thermochronometry (*Invited*): **B Avdeev**, N A Niemi

1425h **T53G-04** Earthquake Hypocenters in the Kura Basin and Greater Caucasus: **R J Mellors**, G Yetirmishli, C Binter, R Gok, E A Sandvol, R Takedatsu, T Godoladze, N Turkelli

1440h **T53G-05** High-resolution Attenuation Tomography of Pg, Lg, and Sn in the Northern Middle East: **X Bao**, E A Sandvol, J “ Xie, E Zor, S Sakin, R Mohamad, N Turkelli, A H Gasanov

1455h **T53G-06** Seismic Expression of Fault Related Folding in Southeastern Turkey: **W Beauchamp**, D McDonald

1510h **T53G-07** InSAR analysis of the 2000 – 2002 earthquake sequence along the Sultan Dag front in the Isparta Angle (southern Turkey): **D V Manjunath**, F G Gomez, B A Brooks

1525h **T53G-08** A Natural Laboratory for Earth Scientists: Anatolia and Its Surroundings (*Invited*): **N Turkelli**, E A Sandvol

Volcanology, Geochemistry and Petrology

V53A Moscone West: 2020 Friday 1340h
Cenozoic Volcanism in Western North America: Plumes, Drips, Extension, and/or Subduction? II (*joint with G, S, T*)

Presiding: **R W Carlson**, Carnegie Institution of Washington; **M D Long**, Yale University

1340h **V53A-01** Geodynamics of the Yellowstone Hotspot and Mantle Plume: Seismic and GPS Imaging, Kinematics, and Mantle Flow: **R B Smith**, M Jordan, B M Steinberger, J Farrell, C M Puskas, G P Waite, S Husen, W Chang, R J O’Connell

1355h **V53A-02** New Hafnium Isotope and Trace Element Constraints on the Role of a Plume in Genesis of the Eastern Snake River Plain Basalts, Idaho: **R D Taylor**, M R Reid, J Blichert-Toft

1410h **V53A-03** Investigating the Physical State of the western U.S. Upper Mantle Using a Multi-Disciplinary Approach (*Invited*): **D Schutt**, S Hier-Majumder, A R Lowry, Y Yang

1425h **V53A-04** Seismic Velocity Structure in the Mantle Beneath the High Lava Plains and the Snake River Plain Hotspot Tracks: Implications for a Mantle Plume: **D E James**, M J Fouch, J B Roth, R W Carlson

1440h **V53A-05** Laboratory models of three-dimensional mantle flow: Implications on Northwest U.S. volcanism for plume and non-plume sources (*Invited*): **K A Druken**, C R Kincaid, R W Griffiths

1455h **V53A-06** Mantle Melting Conditions beneath the Basin and Range (*Invited*): **T Plank**, A K Tibbetts, S Hale, E I Smith, E H Hauri, C Lee, D W Forsyth

1510h **V53A-07** Cenozoic Magmatism in the Southwestern U.S. and Effects on the Lithosphere: **W S Baldridge**, J W van Wijk, J F Ni

1525h **V53A-08** New Moho Depths Corroborate an Ancient Lithospheric Remnant Under the Central Basin and Range: **V Schulte-Pelkum**, G P Biasi, A F Sheehan, C H Jones

V53B Moscone West: 2018 Friday 1340h
EARTHTIME and the Frontiers of U-Pb Geochronology II

Presiding: **J F Bowring**, College of Charleston; **N McLean**, MIT

1340h **V53B-01** ²³⁸U/²³⁵U determinations of some commonly used reference materials and U-bearing accessory minerals (*Invited*): **D Condon**, S Noble, N McLean, S A Bowring

1355h **V53B-02** New directions in LA-ICP-MS U-(Th-)Pb geochronology (*Invited*): **M S Horstwood**

1410h **V53B-03** Exploring the Limits of CA-TIMS: Intensity of Radiation Damage, Annealing, and Partial Dissolution Step(s): **J M Mattinson**

1425h **V53B-04** Results from a round-robin study assessing the precision and accuracy of LA-ICPMS U/Pb geochronology of zircon: **J M Hanchar**

1440h **V53B-05** When the CA-TIMS therapy fails: the over-enthusiastic, the mixed-up, and the stubborn zircon: **F Corfu**

1455h **V53B-06** A precise comparison of U-Pb dates from baddeleyite and zircon: evidence for excess ²⁰⁷Pb in baddeleyite: **J L Crowley**, M D Schmitz

1510h **V53B-2039** Characterizing the U-Pb systematics of baddeleyite through chemical abrasion: Application of multi-step digestion methods to baddeleyite geochronology: **M E Rioux**, S A Bowring, F O Dudas, R E Hanson

1525h **V53B-08** Development of the EarthChem Geochronology and Thermochronology database: Collaboration of the EarthChem and EARTHTIME efforts: **J D Walker**, J M Ash, J Bowring, S A Bowring, A L Deino, R Kislitsyn, A A Koppers

V53C Moscone West: 2016 Friday 1340h
Nanoscale and Microscale Processes at Mineral Grain and Phase Boundaries in Metamorphic and Igneous Rocks: Solid-State Diffusion, Dissolution-Reprecipitation, and Mass Transport II (*joint with MR, T*)

Presiding: **D E Harlov**, Duetsches GeoForschungsZentrum; **J J Ague**, Yale University

1340h **V53C-01** Relationship between carbon isotope composition and crystal morphology of coated and polycrystalline diamonds: **G F Janson**, K Muehlenbachs, T Stachel

1355h **V53C-02** Grain boundary diffusion in dry quartzites using the dispersed 'sink' method: sequestration of diffusant in near-source sink minerals: **J B Thomas**, R S Gannon, E B Watson

1410h **V53C-03** Insights from orthopyroxene reaction rims and layers (*Invited*): **R Milke**, R Abart, E Gardes

1425h **V53C-04** Real-time observation of crystallization and textural evolution in magmatic systems with the moissanite cell: **F Schiavi**, N Walte, H Keppler

1440h **V53C-05** Detailed geochemical analysis of a garnetite vein in eclogite, Ring Mountain, CA: **A M Cruz-Urbe**, M D Feineman

1455h **V53C-06** Fluid-aided incorporation of Y into almandine-pyropes garnet via coupled dissolution-reprecipitation: **D E Harlov**

1510h **V53C-07** FLUID EVOLUTION AND MINERAL REACTIONS DURING SHEAR ZONE FORMATION AT NUSFJORD, LOFOTEN, NORWAY (*Invited*): **K Kullerud**

1525h **V53C-08** Resetting Monazite Dates by Fluid Moderated Coupled Dissolution-Reprecipitation: **M L Williams**, M J Jercinovic, D E Harlov, B Budzyn

Atmospheric Sciences

A54A Moscone West: 3006 Friday 1600h
Atmospheric Sciences General Contributions: Chemistry and Composition V

Presiding: **R S Stolarski**, NASA

1600h **A54A-01** Long-Term Observations on Aerosol Elemental Carbon and Mass Concentrations in Winter-Time in New Delhi: Implications for Local Source Changes: **S G Aggarwal**, K Singh, N Singh, P K Gupta

1615h **A54A-02** Effects of Retrofitting Emission Control Systems on all In-Use Heavy Diesel Trucks: **D Millstein**, R A Harley

1630h **A54A-03** Impacts of Electronically Photo-Excited NO₂ on Air Pollution Control Strategies in the South Coast Air Basin of California: **M Carreras-Sospedra**, D Dabdub, J J Ensberg

1645h **A54A-04** Do ozone and dust anti-correlate?: **M J Evans**, J Marsham, B Johnson, J M Haywood, T Fairlie, L Carpenter, K Read

1700h **A54A-05** Reexamination of the Impact of Nitrous Oxide on Stratospheric Ozone: **R S Stolarski**, A R Douglass, P A Newman

1715h **A54A-06** A Direct Measurement of the Rate of Ozone Production in the Troposphere: **M Cazorla**, W H Brune

1730h **A54A-07** Evaluation of the RAQMS Regional Model During the Intercontinental Chemical Transport Experiment-North America: **H Liu**, R Pierce, J H Crawford, D B Considine, J A Al-Saadi, C Kittaka, M Hitchman, G J Tripoli

1745h **A54A-08** The Super-Fast Chemistry Mechanism for IPCC AR5 Simulations with CCSM: **P J Cameron-Smith**, M J Prather, J Lamarque, P G Hess, P S Connell, D J Bergmann, F M Vitt

A54B Moscone West: 3002 Friday 1600h
Atmospheric Sciences General Contributions: Chemistry and Composition VI

Presiding: **J H Kim**, Pusan National Univ.; **P B Voss**, Smith College

1600h **A54B-01** Direct Observation of Long-Range Transport Using Continuously Sounding Balloons and Near-Real-Time Trajectory Modeling: **P B Voss**, R A Zaveri, C M Berkowitz

1615h **A54B-02** Peroxyacetic Acid in Urban and Rural Atmosphere: Feedback on PAN-NO-NO₂ Cycle and Implication on Radical Chemistry: **Z Chen**, X Zhang

1630h **A54B-03** Meteorological impacts of El Niño on tropospheric ozone distribution during 1970-2006: **T Sekiya**, K Sudo

1645h **A54B-04** The analyses of satellite-derived HCHO measurements with statistical approaches: **J H Kim**, S Kim, S J Park, M Newchurch

1700h **A54B-05** Did The Time Dependence Of HALOE Sampling Affect The Upper Stratospheric HCl Trend?: **A R Douglass**, R S Stolarski

1715h **A54B-06** Evaluation of PSC formation and evolution in the GEOS-5 global climate model: **C M Benson**, E Nielsen, S Pawson

1730h **A54B-07** Combined use of mobile based and satellite observations for the characterisation and quantification of Paris pollution during July 2009: **R Shaiganfar**, S Beirle, T Wagner

1745h **A54B-08** Seasonal variation of anthropogenic NO_x emissions in China from different sectors: A new estimate using multiple satellite retrievals: **J Lin**, M B McElroy, F Boersma

A54C Moscone West: 3004 Friday 1600h
Cloud and Aerosol Retrieval Algorithms II

Presiding: **S E Platnick**, NASA GSFC; **R A Kahn**, NASA/Goddard Space Flight Ctr

1600h **A54C-01** Synergetic use of microwave radiometer and multifilter rotating shadowband radiometer observations for the validation of satellite cloud retrievals: **H M Deneke**, J M Meirink, W Greuell, E Wolters, R Roebeling, C Simmer

1615h **A54C-02** Estimation of cloud droplet size distribution parameters from measurements of polarized reflection by the Research Scanning Polarimeter: **M D Alexandrov**, B Cairns, C A Hostetler, R A Ferrare

1630h **A54C-03** Assessing the Value Added to Cirrus Retrievals by Ice Water Path Derived From Sub-millimeter Radiometry and by Radar Doppler Velocity: **M C Schwartz**, G G Mace

1645h **A54C-04** Developing and applying a CloudSat-centric A-Train and ECMWF analysis data set to better characterize clouds and convection: **W A Chen**, J F Li, D E Waliser, T L Kubar, E Fetzer, B H Kahn, P von Allmen, S Lee, Z J Lebo, J Seinfeld

1700h **A54C-05** Investigating differences between IR and visible cirrus optical depth retrievals using CALIOP and MODIS observations: **R Holz**, A K Heidinger, D D Turner, S A Ackerman, R Kuehn, M Vaughan, S E Platnick

1715h **A54C-06** Thin cirrus and the MODIS 1.375 μm channel: Optical thickness retrievals and uncertainties: **K Meyer**, S E Platnick

1730h **A54C-07** Cloud and Aerosol Amounts as a Function of Time of Day as Measured by TOMS, SeaWiFS and SBUV Instruments: **G J Labow**, J R Herman, D Larko, L Huang, J Mao, W Qin

1745h **A54C-08** 4STAR Spectrometer for Sky-scanning Sun-tracking Atmospheric Research: Airborne Concepts and Ground Prototype Measurements: **B Schmid**, C Flynn, J Redemann, S Dunagan, R R Johnson, Y Shinozuka, J M Livingston, P B Russell, E Kassianov, A Tran, A Siniuk, B N Holben

A54D Moscone West: 3008 Friday 1600h
Measurement and Modeling of Air-Surface Exchange Processes II

Presiding: **L Zhang**; **J T Walker**, US EPA

1600h **A54D-01** Forest-Atmosphere Exchange of Acyl Peroxy Nitrates (PAN, PPN, MPAN) Measured in the Western Sierra Nevada During BEARPEX 2009: **G M Wolfe**, S A Harrold, J A Thornton, B W LaFranchi, S E Pusede, E C Browne, R C Cohen, R Weber, A H Goldstein

1615h **A54D-02** New Insights Into the Surface / Atmosphere Exchange of Particles Based on Recent Advances in Measurement Technology (*Invited*): **E Nemitz**, G J Phillips, R Thomas, C F Di Marco, D Fowler

1630h **A54D-03** WITHDRAWN

1645h **A54D-04** Preliminary Results from a Mercury Dry Deposition Measurement Methods Intercomparison: **F J Marsik**, S Brooks, M S Gustin, T Holsen, M Landis, E M Prestbo, L Poissant

1700h **A54D-05** A dynamic bi-directional air-surface exchange model for mercury in CMAQ (*Invited*): **J O Bash**

1715h **A54D-06** WITHDRAWN

1730h **A54D-07** In-forest canopy chemical sinks and regional air quality: **J D Fuentes**, W H Brune, W R Stockwell

1745h **A54D-08** Roughness Characterization of and Turbulent Boundary Layer Flow over flat Snow Surfaces: **C Gromke**, M Guala, C Manes, B Walter, M Lehning

Biogeosciences

B54A Moscone West: 3016 Friday 1600h
North American Carbon Program Interim Synthesis Results and Similar Model-Data Comparisons II (*joint with A, GC*)

Presiding: **D M Ricciuto**, Oak Ridge National Laboratory; **K M Schaefer**; **P E Thornton**, Oak Ridge National Laboratory; **C Williams**, Clark University

1600h **B54A-01** Integration of Observations and Modeling Results in the North American Carbon Program (*Invited*): **R B Cook**, W M Post, P E Thornton, D N Huntzinger, A R Jacobson, K M Schaefer, D M Ricciuto, K J Davis

1615h **B54A-02** An overview of the North American Carbon Program Site-Level Interim Synthesis Results (*Invited*): **P E Thornton**

1630h **B54A-03** How uncertainty in gap-filled meteorological input forcing at eddy covariance sites impacts modeled carbon and energy flux (*Invited*): **D M Ricciuto**, P E Thornton, K Schaefer, R B Cook, K J Davis, N Synthesis

1645h **B54A-04** CO₂ Flux Measurement Uncertainty Estimates for NACP: **A Barr**, D Hollinger, A D Richardson

1700h **B54A-05** EVALUATION OF SITE AND CONTINENTAL TERRESTRIAL CARBON CYCLE SIMULATIONS WITH NORTH AMERICAN FLUX TOWER OBSERVATIONS: **B M Raczka**, K J Davis

1715h **B54A-06** Comparing Simulated and Observed Gross Primary Productivity: **K Schaefer**

1730h **B54A-07** Intercomparison of modeled and observed net ecosystem productivity during drought: **C R Schwalm**, C A Williams, K M Schaefer

1745h **B54A-08** Comparing intra- and inter- biogeochemical model uncertainties based on the results of the North American Carbon Program Site-level Interim Synthesis: **E Weng**, Y Luo

B54B Moscone West: 3018 Friday 1600h
Soil Organic Matter and Carbon Sequestration: From Models to Mechanisms III

Presiding: **K Lajtha**, Oregon State University; **N Cavallaro**

1600h **B54B-01** Effect of Soil Organic Matter Self-Assembly on Carbon Biodegradability (*Invited*): **J A Rice**, G Chilom, A Baglieri

1615h **B54B-02** Microbial respiration activities correlated to sequentially separated, particulate and water-soluble organic matter fractions from arable and forest topsoils: **M Kaiser**, S Wirth, R Ellerbrock, M Sommer

1630h **B54B-03** Linking thermal and conventional measures of soil organic matter stability: **A F Plante**, J M Fernández

1645h **B54B-04** Interactions among elevated CO₂, root litter diversity and decomposition: **M de Graaff**, C W Schadt, J W Six, A T Classen

1700h **B54B-05** Macroscale Respiration Rates from Microscale Diversity: **D C Forney**, D Rothman

1715h **B54B-06** Geology and Woodland Expansion's Influence on Belowground Carbon and Nitrogen in the Great Basin U.S: **B M Rau**, D W Johnson, R R Blank, A Lucchesi

1730h **B54B-07** Soil organic matter dynamics across density fractions from two Oxisol soil depth profiles: **M G Kramer**, K Lajtha

1745h **B54B-08** 50 Years And 400 Radiocarbon Measurements Since 1959: What Has The "Bomb Spike" Taught Us About Soil C Dynamics In New Zealand Soils?: **W T Baisden**, R L Parfitt, C Ross

Cryosphere

C54A Moscone West: 3014 Friday 1600h
Observatories, Instruments, and Autonomous Systems in Polar Regions II (*joint with A, B, G, GP, S, OS, NS, H, EP*)

Presiding: **L Lembke-Jene**; **A E Behar**, NASA/JPL; **R Azzolini**, ESF; **A K Brown**, The Ohio State University

1600h **C54A-01** 30 years of Arctic sea ice thickness measurements by Royal Navy submarines: **P Wadhams**, N Hughes, J M Rodrigues, N Toberg

1615h **C54A-02** Towards a comprehensive geophysical coverage of a test Glacier; example from various surveys during field campaigns over the Astrolabe outlet Glacier, East Antarctica: **E Le Meur**, E Berthier, D Blankenship, A Drouet, **G Durand**, B de Fleurian, O Gagliardini, S Garambois, Y Gim, J W Holt, D L Kirchner, B Legresy, J Mouginit, A Safaenili, M J Siegert, E Rignot, D Young

1630h **C54A-03** Polar Engineering and Research to Address Operational Challenges in Austere Environments: **J L Mercer**, J Richter-Menge, J C Weale, J H Lever, M A Knuth, S A Shoop, R Haehnel, S A Arcone, K Bjella, D C Finnegan, Z Courville, B T Tracy

1645h **C54A-04** Lidar Measurements of Gravity Wave Spectra from Eureka, Canada: **E M McCullough**, R J Sica, K B Strawbridge, J R Drummond

1700h **C54A-05** Unmanned Aircraft to Monitor the Arctic Environment: **E C Weatherhead**, R Angliss

1715h **C54A-06** Measuring the Surface Motion of Fast-Moving Glaciers with Expendable, Low-Cost GPS (*Invited*): **I M Howat**, A E Behar, A K Brown

1730h **C54A-07** Monitoring Greenland ice sheet's climate and exploring Moulins (*Invited*): **K Steffen**, A E Behar, D McGrath, W T Colgan, T P Phillips, J Adler

1745h **C54A-08** Exploration of the Ocean Cavities Beneath Antarctica's Floating Ice Shelves Using the Autosub2/3 Autonomous Underwater Vehicles (*Invited*): **A Jenkins**, P Dutrieux, K W Nicholls, P Abrahamsen

Education and Human Resources

ED54A Moscone West: 3020 Friday 1600h **Simulations, Animations, and Interactive Multimedia for Planetary Sciences Teaching and Learning II** (*joint with P*)

Presiding: **R M Russell**, UCAR; **E L Wood**, LASP

1600h **ED54A-01** Exploring Space Science Concepts using Interactive Animations and Learning Modules (*Invited*): **K Hallau**

1615h **ED54A-02** Physics and 3D in Flash Simulations: Open Source Reality: **J B Harold**, P Dusenbery

1630h **ED54A-03** Seeing the Invisible: Educating the Public on Planetary Magnetic Fields and How they Affect Atmospheres: **M O Fillingim**, D A Brain, L M Peticolas, G Schultz, D Yan, S Guevara, S Randol

1645h **ED54A-04** Project SPECTRA! Using computer simulations to introduce spectroscopy to middle and high school students: **N Marks**, **E L Wood**

1700h **ED54A-05** Public Engagement for the U.S. Rosetta Project using Interactive Multimedia: **H Smith**, S Graham, **C J Alexander**

1715h **ED54A-06** Interactives: Comets, Orbital Motions, and Virtual Ballooning to Explore Planetary Atmospheres: **R M Russell**, R M Johnson, J Genyuk

1730h **ED54A-07** Lunar Exploration Island, NASA's Return to the Moon in Second Life: **F M Ireton**, L Bleacher, B Day, B C Hsu, B K Mitchell

1745h **ED54A-08** Stellarium as an Educational Resource in Planetary Astronomy: **M G Connors**, B Martin

Earth and Planetary Surface Processes

EP54A Moscone West: 2008 Friday 1600h **Sediment Supply, Storage, and Delivery as Controlled by Hillslope-Channel Coupling III** (*joint with H*)

Presiding: **M B Singer**, University of St Andrews; **E J Gabet**, San Jose State University; **S M Mudd**, University of Edinburgh

1600h **EP54A-01** Sediment Supply Differences Between Soil and Bedrock Dominated Landscapes, San Gabriel Mountains, CA: **A M Heimsath**, R DiBiase, K X Whipple, J Walsh

1615h **EP54A-02** Channel incision and the role of sediment supply in the San Gabriel Mountains, California: **R A DiBiase**, K X Whipple, A M Heimsath

1630h **EP54A-03** Sediment transfer processes in a debris-flow dominated catchment in the Swiss Alps: **B W McArdeell**, C Berger, F Schlunegger

1645h **EP54A-04** Sediment budget of a debris flow event in the French Prealps: **J I Theule**, A Loye, F Liébault, D Laigle, M Jaboyedoff

1700h **EP54A-05** Topographic and lithologic controls on occurrence of cobble-boulder channel beds: implications for salmonid over-wintering habitat: **E T Donaldson**, L S Sklar, J A Marshall, F K Ligon, W E Dietrich

1715h **EP54A-06** Sediment source control on fluvial sediment characteristics: **M Attal**, A C Whittaker, S M Mudd, J Lavé, E Dodman

1730h **EP54A-07** Formation of a ravine network by seepage: coupling groundwater to sediment transport: **O Devauchelle**, A P Petroff, D M Abrams, D Rothman

1745h **EP54A-08** Stochastic Geomorphology: A Framework for Creating General Principles on Erosion and Sedimentation in River Basins (*Invited*): **L E Benda**

Geodesy

G54A Moscone West: 3022 Friday 1600h **GRAV-D: Gravity Data Collection for Geoid Enhancement II** (*joint with T*)

Presiding: **R Forsberg**, DTU-Space; **V A Childers**, NOAA/National Geodetic Survey

1600h **G54A-01** Geoid determination by airborne gravimetry – principles and applications: **R Forsberg**, A V Olesen

1615h **G54A-02** Airborne Gravimetry and Downward Continuation (*Invited*): **C Jekeli**, H Yang, J Kwon

1630h **G54A-03** GEOID09, USGG2009, and DEFLEC09: New National Models for the United States of America and Its Territories: **D R Roman**, Y M Wang, J Saleh, X Li

1645h **G54A-04** NGS' GRAV-D Project: Current update and future prospects: **V A Childers**, D A Smith, D R Roman, T M Diehl, M C Eckl

1700h **G54A-05** An Assessment of Airborn Gravimetry Collected under the NGS GRAV-D Project: **S A Holmes**

1715h **G54A-06** An Examination of Corrections for High Altitude, High Speed Airborne Gravimetry: **S A Preaux**, T M Diehl, V A Childers

1730h **G54A-07** Measurement of Horizontal Gravity Components using an Airborne Gravimeter: **S Ferguson**, R Xi, S Sander

1745h **G54A-08** Grace and the geoid in South America: **D Blitzkow**, A Oliveira Cancoro de Matos

Hydrology

H54A Moscone West: 3007 Friday 1600h **Assessing Forms, Processes, and Habitats in Freshwater Environments Using High-Resolution Remote Sensing II** (*joint with EP*)

Presiding: **P Carbonneau**, Durham University; **M A Fonstad**; **C J Legleiter**, University of Wyoming; **H Piégay**, CNRS

1600h **H54A-01** Increasing the scope of riverine ecology with state-of-the-art fluvial remote sensing (*Invited*): **C Torgersen**

1630h **H54A-02** The Last Variable: Speculations on Mapping Stream Velocity using Imagery and Models: **M A Fonstad**

1645h **H54A-03** Computational modeling of river flow using bathymetry collected with an experimental, water-penetrating, green LiDAR: **P J Kinzel**, C J Legleiter, J M Nelson

1700h **H54A-04** River Elongation as a Proxy for Lateral Channel Activity: **J W Lauer**

1715h **H54A-05** Video monitoring of wood transport in a free-meandering piedmont river: **B J MacVicar**, H Piégay, L Tougne, I Ali
 1730h **H54A-06** Multi-scale Hydroacoustic Remote Sensing of Sturgeon and Their Habitats in A Large, Turbid River: **R B Jacobson**, A DeLonay, C Vishy, C M Elliott, J M Reuter, K A Chojnacki
 1745h **H54A-07** The Riverscape Analysis Project: Using Remote Sensing to Leverage Salmon Science and Management Applications Around the Pacific Rim: **S Chilcote**, N Maumenee, J Lucotch, D Whited, T Bansack, J S Kimball, J Stanford

H54B Moscone West: 2003 Friday 1600h
Evaporation and Water Transport Dynamics in the Atmospheric Boundary Layer II (*joint with A, B*)

Presiding: **M L Roderick**, The Australian National University; **M B Parlange**, EPFL - Lausanne

1600h **H54B-01** Atmospheric Boundary-Layer Dynamics and the Constancy of the Bowen Ratio (*Invited*): **A Porporato**
 1615h **H54B-02** The exploration of land-atmosphere coupling in large-eddy simulation of the stable boundary layer: **N Shingleton**, J Stoll
 1630h **H54B-03** An explanation for decreasing trends in pan evaporation based on research on interactions between surface evaporation and the atmospheric boundary layer: J Vila, **C van Heerwaarden**
 1645h **H54B-04** Variation of Evapotranspiration as Function of Surface Type: **R Ringgaard**, M Herbst, T Friborg, H Soegaard
 1700h **H54B-05** Heterogeneous Surface Fluxes and Regional Precipitation Climatology (*Invited*): **J A Smith**, J K Yeung, M L Baeck, E Bou-Zeid
 1715h **H54B-06** Nested atmospheric simulations to study diurnal evaporation cycles over heterogeneous land surfaces: **E Bou-Zeid**, C Talbot, J A Smith
 1730h **H54B-07** The simultaneous effects of complex topography and vegetation structure on turbulence within the atmospheric boundary layer: G G Katul, **D Poggi**
 1745h **H54B-08** On the theory relating changes in area-average and pan evaporation (*Invited*): **W Shuttleworth**, A Serrat-Capdevila, M L Roderick, R Scott

H54C Moscone West: 301 I Friday 1600h
Quickflow and Quicksilver? Export of Mercury From the Terrestrial Landscape III (*joint with B*)

Presiding: **J B Shanley**, U. S. Geological Survey; **S J Nelson**, University of Maine

1600h **H54C-01** WITHDRAWN
 1615h **H54C-02** Spatial and temporal variability of mercury run-off during 8.5 years in 19 boreal forest streams within the Swedish national monitoring program: **K Eklof**, J Fölster, K Bishop
 1630h **H54C-03** Methylmercury in diverse stream ecosystems across the United States (*Invited*): **M E Brigham**
 1645h **H54C-04** Streamwater mercury dynamics within three headwater catchments in Shenandoah National Park, VA: **A Riscassi**, T M Scanlon
 1700h **H54C-05** Not all Surface Waters show a Strong Relation between DOC and Hg Species: Results from an Adirondack Mountain Watershed: **D A Burns**, J Schelker, K R Murray, M E Brigham, G Aiken
 1715h **H54C-06** In-stream production of methylmercury in a northern California river during summer baseflow: **M T Tsui**, J C Finlay, Y H Noller, S J Balogh

1730h **H54C-07** Sedimentary mercury dynamics in Great Bay Estuary (NH) (*Invited*): **A Amirbahman**, L Brown, M A Voytek, C Chen
 1745h **H54C-08** Methylmercury production and export from a restored tidal marsh: Crissy Field, Golden Gate National Recreation Area, San Francisco, CA: **L Windham-Myers**, K Ward, M C Marvin-DiPasquale, J Agee, L Kieu, E Kakouros

H54D Moscone West: 3009 Friday 1600h
Remote Sensing and Hydrogeophysics Applications for Modeling of Land Surface Hydrological Processes III (*joint with NS*)

Presiding: **D Ryu**, The University of Melbourne; **C Rudiger**, The University of Melbourne

1600h **H54D-01** AN ACTIVE-PASSIVE COMBINED ALGORITHM FOR HIGH SPATIAL RESOLUTION RETRIEVAL OF SOIL MOISTURE FROM SATELLITE SENSORS (*Invited*): **V Lakshmi**, I E Mladenova, U Narayan
 1630h **H54D-03** Improving Catchment-Scale Rainfall Accumulation Using Satellite Retrievals of Soil Moisture: **D Ryu**, J Martin, W Crow, J F Elliott, A B Smith
 1645h **H54D-04** Improved Soil Moisture Estimation from TRMM Precipitation Radar Backscatter Corrected for Azimuth Modulation: **H Stephen**, S Ahmad, T C Piechota
 1700h **H54D-05** Relating Soil Moisture to TRMMPR Backscatter in Southern United States: **S Puri**, H Stephen, S Ahmad
 1715h **H54D-06** Downscaling Satellite Soil Moisture Estimates in the Southern Great Plains through a Calibrated Multifractal Model for Land Surface Applications: **G Mascaro**, E R Vivoni, R Deidda
 1730h **H54D-07** Validation of soil temperature dataset against ground measurements in Oklahoma: **T R Holmes**, T J Jackson, R H Reichle, J B Basara
 1745h **H54D-08** Improving an InSAR and GPS constrained land subsidence model with GRACE data: **K J Anderson**, J S Famiglietti

H54E Moscone West: 3005 Friday 1600h
Impacts of Environmental Changes on Hydrologic and Ecobiologic Processes in Large River Basins III (*joint with PA*)

Presiding: **Z Yu**, University of Nevada Las Vegas; **F W Schwartz**, The Ohio State University

1600h **H54E-01** An Alternative Futures Analysis of Ecosystem Service Trade-offs in Agricultural Production, Water Quality and Water Yield from the Soyang Lake Watershed in South Korea: **J D Tenhunen**, S Kang, B Huwe, B Kim, T Koellner, Y Ok, T Nguyen
 1615h **H54E-02** The impacts of groundwater over-abstraction on the environment: **M A Sophocleous**
 1630h **H54E-03** A Physically-based Approach to Assess the Impact of Climate Change on Canadian Water Resources (*Invited*): **E A Sudicky**, J Chen, W R Peltier, Y Park
 1650h **H54E-04** On the Complexity of Nutrient Transport in a Large Watershed in Ohio: **F W Schwartz**, G Allen
 1710h **H54E-05** Modeling the impact of the nitrate contamination on groundwater at the groundwater body scale : The Geer basin case study (*Invited*): **S Brouyere**, P Orban, C Hérivaux
 1730h **H54E-06** Hydrological Impacts of Climate Change: A Case Study on the Ebro River Basin (Spain): **M Zambrano-Bigiarini**, A Bellin, B Majone, C I Bovololo, S Blenkinsop
 1745h **H54E-07** IMPACTS OF DAM BUILDING ON THE STREAM TEMPERATURE REGIME OF THE YANGTZE RIVER: **Q Li**

Natural Hazards

NH54A Moscone West: 2002 Friday 1600h
Land-Ocean-Atmospheric Processes Associated With Natural and Man-Made Hazards II (*joint with A, H, OS, S*)

Presiding: **F R Rack**, University of Nebraska-Lincoln; **Y A Kontar**, University of Illinois at Urbana-Champaign; **R P Singh**

1600h **NH54A-01** Geohazards in the IYPE: An Example of a Holistic Approach to Achieving a Vision (*Invited*): **L D Woodfork**, W Eder, W Janoschek

1615h **NH54A-02** Integrated Tsunami Data Supports Forecast, Warning, Research, Hazard Assessment, and Mitigation (*Invited*): **P K Dunbar**, K J Stroker

1630h **NH54A-03** India's Initiative in Mitigating Tsunami Hazard & Tsunami Potential in Northern Bay of Bengal (*Invited*): **H K Gupta**

1645h **NH54A-04** Ocean Drilling in Service to Understanding Oceanic Geohazards (*Invited*): **J K Morgan**, E A Silver

1700h **NH54A-05** Effect of 2004 tsunami on groundwater in a coastal aquifer of Sri Lanka: Tank experiments, field observations and numerical modelling (*Invited*): **M S Vithanage**, P K Engesgaard, K H Jensen, J Obeysekera, K G Villholth, T H Illangasekare

1715h **NH54A-06** On Dangerous Anthropogenic Interference and Climate Change Risk (*Invited*): **M E Mann**

1730h **NH54A-07** Enhanced Geothermal Systems in Urban Areas – Lessons Learned from the 2006 Basel ML3.4 Earthquake: **T Kraft**, P M Mai, S Wiemer, N Deichmann, J Ripperger, P Kästli, C E Bachmann, D Fäh, J Woessner, D Giardini

1745h **NH54A-08** Locating and Evaluating Sea-Disposed Munitions—Examples from the Hawaii Undersea Military Munitions Assessment (HUMMA) Project: **M Edwards**, R H Wilkens, C Kelley, E H De Carlo, K Macdonald, S Garcia, M VanWoerkom, Z Payne, V Dupra, M Rosete, M Cox, S Fineran, J C King, G Carton

NH54B Moscone West: 2006 Friday 1600h
Development and Characterization of Natural Hazard Catalogs II (*joint with A, H, S*)

Presiding: **R J Murnane**, BIOS; **A H Knap**

1610h **NH54B-01** Using Physics to Generate Tropical Cyclone Event Catalogs: **K Emanuel**, S Ravela

1635h **NH54B-02** Developing From Public and Private Resources Earthquake Catalogs Used in Risk Analysis: **C E Taylor**, J Lee, Z Hu, W Graf, C Huyck, R J Murnane

1700h **NH54B-03** Characterization of synthetic seismicity distributions with spatially fractal properties: **M Spada**, S Wiemer, E H Kissling

1715h **NH54B-04** Incorporating seasonal climate forecast models into tropical storm catalogs: **T H Jagger**, J Elsner

1730h **NH54B-05** Stochastic Tropical Cyclone Model for the North Atlantic: SST and Landfall: **T M Hall**

1745h **NH54B-06** Frequency assessment of spatially distributed generations of flood scenarios: an application on Italian territory: **M Lomazzi**, **G Roth**, R Rudari, A C Taramasso, T Ghizzoni, R Benedetti, G Espa, C Terpessi

Planetary Sciences

P54A Moscone South: 307 Friday 1600h
Planetary Rings: Theory and Observation II

Presiding: **L W Esposito**; **L J Spilker**, JPL

1600h **P54A-01** Long-term evolution of Saturn's E ring particles (*Invited*): **S Kempf**, U Beckmann, P Strub, R Srama, G Moragas-Klostermeyer, J Schmidt, F Spahn, M Roy, M E Burton

1615h **P54A-02** Saturn rings thermal phase curves measured by CASSINI-CIRS: a modeling attempt (*Invited*): **N Altobelli**, L J Spilker, C LEYRAT, S Piorz, A Flandes, R Morishima, S Edgington

1630h **P54A-03** A Resonance-Based Model for the Architecture of the Cassini Division (*Invited*): **M M Hedman**, P D Nicholson

1645h **P54A-04** Structure and variability of Saturn's B and F rings from UVIS occultations (*Invited*): **N Albers**

1700h **P54A-05** Small-scale ring structure observed in Cassini UVIS occultations: **M Sremcevic**, J E Colwell, L W Esposito

1710h **P54A-06** The effect of resonant shepherding moons on the motion of Mab: **K Kumar**, I De Pater, B A Ambrosius, P N Visser, E J Schrama, M Showalter, J J Lissauer

1720h **P54A-07** Ephemeral Microstructures in Saturn's Rings Revealed by Cassini UVIS Stellar Occultations: **J E Colwell**, L W Esposito, M Sremcevic

1730h **P54A-08** Observations of ejecta clouds produced by impacts onto Saturn's rings: **M S Tiscareno**, J A Burns, M M Hedman, D DiNino, C Porco, K A Beurle, M W Evans

1740h **P54A-09** CIRS-CASSINI Prime mission on Saturn's B ring: infrared optical depths and energy balance: **C C Ferrari**, L J Spilker, S M Brooks, S Edgington, S Piorz

1750h **P54A-10** Response of Saturn's Rings to Thermal Forcing Observed with Cassini CIRS: **S Piorz**, N Altobelli, J E Colwell, M Showalter, L J Spilker

P54B Moscone South: 102 Friday 1600h
The Atmosphere of Mars: New Findings From Modeling and Observations III (*joint with A, SA*)

Presiding: **P Withers**, Boston University; **V Tenishev**, University of Michigan

1600h **P54B-01** WITHDRAWN

1620h **P54B-02** Electrodynamics of Martian Dust Disturbances: **E L Barth**, S C Rafkin, W Farrell

1630h **P54B-03** Massive hysteresis in Martian wind-blown sand: **J F Kok**

1640h **P54B-04** LARGE-SCALE CYCLOGENESIS, FRONTAL WAVES AND DUST ON MARS: MODELING AND DIAGNOSTIC CONSIDERATIONS: **J Hollingsworth**, M Kahre

1650h **P54B-05** Wave interactions in the atmosphere of Mars: **Y Moudden**, J M Forbes

1700h **P54B-06** Water Vapor from Mars Global Surveyor Thermal Emission Spectrometer Limb Soundings: **T H McConnochie**, M D Smith

1710h **P54B-07** Mars' Water Cycle: Interpreting Phoenix Lander Observations with a General Circulation Model: **M Kahre**, R M Haberle, J Hollingsworth, J De Múlenaere

1720h **P54B-08** Preliminary reconstruction of martian atmospheric structure from Phoenix entry measurements: **P Withers**, D C Catling

1730h **P54B-09** Lidar measurements of Aeolian dust: Mars and Earth: **C S Dickinson**, R Davy, L Komguem, W Junkermann, J A Whiteway

1740h **P54B-10** Measurements and Modeling of Clouds in the Atmospheric Boundary Layer on Mars: **J A Whiteway**, F Daerden, L Komguem, C S Dickinson, R Davy, P Taylor

1750h **P54B-11** A Global Observing System for Mars: The dual satellite Mars Astrobiology and Climate Observatory (MACO): **E R Kursinski**, J Lyons, C Newman, M I Richardson, D Ward, A C Otarola

P54C Moscone South: 309 Friday 1600h
Titan and Lakes: Geography, Limnology, and Astrobiological Potential II (*joint with C, H*)

Presiding: **R M Lopes**, Jet Propulsion Laboratory, Caltech; **R Nelson**, Jet Propulsion Laboratory

1600h **P54C-01** Cassini ISS observations of seasonal changes in Titan's meteorology and surface features (*Invited*): **E P Turtle**, J Perry, A S McEwen, J Barbara, A D Del Genio, R A West, A G Hayes

1615h **P54C-02** Observations and Modeling of Transient Lacustrine Features in Titan's South Polar Region (*Invited*): **A G Hayes**, O Aharonson, J I Lunine, P Paillou, L C Wye, G Mitri, H A Zebker, S D Wall, E R Stofan, C Elachi

1630h **P54C-03** Specular Scattering on Titan observed by Cassini VIMS: Liquids in the North Polar Region: **K Stephan**, R Jaumann, L A Soderblom, J M Soderblom, J W Barnes, C Sotin, C A Griffith, R H Brown, K H Baines, B J Buratti, R N Clark, R L Kirk, D M Lytle, R Nelson, P Nicholson

1645h **P54C-04** Discovery of fog at the south pole of Titan: **M E Brown**, A Smith, C Chen, M Adamkovics

1700h **P54C-05** Earthly Analogues for the Limnology, and Astrobiological Potential on Titan (*Invited*): **J C Priscu**

1715h **P54C-06** Laboratory experiments on the interaction between ice and hydrocarbons: implications for the formation of lakes on Titan (*Invited*): **C Sotin**, R Mielke, M Choukroun, C Neish, M Barmatz, K L Mitchell

1730h **P54C-07** Formation of Titan's Lakes by Episodic Dissolution and Precipitation of a Surface Layer Under Semi-Arid Conditions: Comparison with the Pans and Calcretes of Etosha (Namibia):

O Bourgeois, T Lopez, S Le Mouélic, C Fleurant, G Tobie, T Cornet

1745h **P54C-08** Atmosphere-Surface Interactions of Titan's Lakes: Fluxes and Clouds: **S C Rafkin**

SPA - Solar and Heliospheric Physics

SH54A Moscone South: 301 Friday 1600h
Scientific Uses of Heliophysics Virtual Observatories II (*joint with SA, SM*)

Presiding: **S F Fung**, NASA Goddard Space Flight Center; **T A King**, UCLA

1610h **SH54A-01** High Level Community Perspective of VxOs and Their Science Expectations (*Invited*): **R J Strangeway**

1630h **SH54A-02** Active Missions and the VxOs with THEMIS as an Example (*Invited*): **D G Sibeck**, J Merka

1650h **SH54A-03** Unique Science Needs: CAWSES-II and Virtual Observatories (*Invited*): **J U Kozyra**, P A Fox, S K Avery, A S Rodger, J E Melkers, L J Paxton, R J Barnes

1710h **SH54A-04** The Impact of the Virtual Observatories on Space Weather Science, Modeling, and Predictions (*Invited*): **J C Green**, R S Weigel, E A Kihn, D Baker

1730h **SH54A-05** Experience in Preparing and Using Virtual Observatory Data: **T P Armstrong**, D Patterson, E J Summerlin

1745h **SH54A-06** Addressing Science Use Cases with HELIO: **R D Bentley**, J Aboudarham, A Csillaghy, C Jacquey, M A Hapgood, M Messerotti, P Gallagher, K Bocchialini, N E Hurlburt, D Roberts, L Sanchez Duarte

SPA - Magnetospheric Physics

SM54A Moscone South: 305 Friday 1600h
Advanced Modeling Techniques, Data Assimilation, and Analysis for Future Space Weather Applications III (*joint with SA, SH*)

Presiding: **J Koller**, Los Alamos National Lab; **S L Young**, Air Force Research Laboratory

1600h **SM54A-01** Data Assimilation Using a Variational Method for a 1D Radiation Belt Diffusion Model: **R Marchand**, A W Degeling, S O'Donnell, R Rankin, K Kabin

1615h **SM54A-02** How sensitive is reanalysis, using the UCLA 1-D VERB code, to boundary conditions and changes in the loss model?: **M Daae**, Y Shprits, J Koller, Y Chen

1630h **SM54A-03** Sun-to-Earth Imaging for Operational Space Weather Monitoring: **D H Chua**, B E Wood, S P Slinker, R R Meier, C R Englert, D G Socker, J Huba, J Krall

1645h **SM54A-04** Classifications of substorm and storm triggering mechanisms: **T Lerud**, E M Harnett, R Winglee

1700h **SM54A-05** Modeling geomagnetic shielding of solar energetic particles and cosmic rays: **B T Kress**

1715h **SM54A-06** New Global Solar Magnetic Field Maps Using the ADAPT Data Assimilation and Flux Transport Model: **C N Arge**, C Henney, J Koller, S L Young, C R Compeau, D MacKenzie, J W Harvey

1730h **SM54A-07** The Role of the IMF in Forecasting CME-Induced Terrestrial Space Weather: **J Jahn**, H A Elliott

1745h **SM54A-08** Automatic determination of the conic coronal mass ejection model parameters: **A Pulkkinen**, A Taktakishvili, T Oates

SM54B Moscone South: 303 Friday 1600h
Relationship Between Auroral Phenomenology and Magnetospheric Processes V (*joint with SA*)

Presiding: **R Karlsson**, School of Electrical Engineering; **E F Donovan**

1600h **SM54B-01** Reconnection Hall current system observed in the magnetotail and in the ionosphere: **K Snekvik**, L Juusola, N Ostgaard, O Amm

1615h **SM54B-02** Modeling magnetotail field during substorm dipolarizations: **K Kabin**, E L Spanswick, R Rankin, E F Donovan

1630h **SM54B-03** OpenGGCM Modeling of Proton Aurora Near Substorm Onset: **M L Gilson**, J Raeder, E F Donovan, E Spanswick, H U Frey

1645h **SM54B-04** Diffuse auroral electron scattering by electrostatic electron cyclotron harmonic (ECH) waves and electromagnetic whistler-mode chorus in the inner magnetosphere: **B Ni**, R M Thorne, R B Horne, N P Meredith, Y Shprits, L Chen

1700h **SM54B-05** Shock-Auroras: The Manifestation of Solar Wind-Magnetosphere-Ionosphere Interactions: **X Zhou**

1715h **SM54B-06** Global Distributions of the Characteristics of Auroral Particles: **P C Anderson**

1730h **SM54B-07** Global MHD simulation and analysis of Feb. 22, 2009 THEMIS substorm event: **P Zhu**, J Raeder, K Sakaguchi, K Shiokawa, C Hegna

1745h **SM54B-08** A Survey of Electron Beams Associated With Saturnian Auroral Hiss: **A Kopf**, D A Gurnett, G B Hospodarsky, W S Kurth, J D Menietti, M Dougherty, D G Mitchell, J S Leisner, K K Khurana, S Grimald, C S Arridge, P Schippers, N andre, A J Coates, O Santolik

Seismology

S54A Moscone West: 2005 Friday 1600h **The Debate on the Extent to Which Static or Dynamic Stresses Trigger Earthquakes III** (*joint with T*)

Presiding: S Toda, Disaster Prevention Research Institute;
K B Richards-Dinger

1600h **S54A-01** Influence of seasonal surface load variations and interseismic stress build-up on Himalayan seismicity, implications for earthquake triggering (*Invited*): **J Avouac**

1615h **S54A-02** Thirty Years (1980 to 2009) of Southern California Seismicity: Searching for Temporal and Spatial Variations Possibly Associated with Tectonic Stress Changes: **E Hauksson**, W Yang, K Hutton, P M Shearer, L M Jones

1630h **S54A-03** Earthquake Stress Transfer within Continents: Migrating Earthquakes and Long Aftershock Sequences: S A Stein, **M Liu**, H Wang

1645h **S54A-04** What controls the location where rupture nucleates in large earthquakes? Some insight from the 1999 Turkish earthquakes: **M P Bouchon**, H Karabulut, J Schmittbuhl, V Durand, M Bouin, D Marsan, G Daniel, F Renard, T Candela, O Lengliné

1700h **S54A-05** Geometry of crustal faults: implications for seismicity distributions: **J O Kaven**, D D Pollard

1715h **S54A-06** Detecting early aftershocks in California and Japan based on a matched filter technique: **Z Peng**, B Enescu, P Zhao, S Hainzl

1730h **S54A-07** The difference lunar-solar zenith distance and the tidal triggering of earthquakes: **P Zhu**

1745h **S54A-08** On to what extent stresses resulting from the earth's surface trigger earthquakes: **C D Klose**

Tectonophysics

T54A Moscone West: 2007 Friday 1600h **Brittle Deformation of Solids and Granular Materials V** (*joint with MR, NG, S*)

Presiding: T A Dewers, Sandia National Laboratories; **K Issen**, Clarkson University

1600h **T54A-01** Particle size distributions, microstructures and chemistry of fault rocks in a shallow borehole adjacent to the San Andreas Fault near Little Rock, CA: **N Wechsler**, J S Chester, T K Rockwell, Y Ben-Zion

1615h **T54A-02** Pulverized Fault Rocks and Damage Asymmetry along the Arima-Takatsuki Tectonic Line, Japan: Fault Structure, Damage Distribution and Textural Characteristics: **T M Mitchell**, T Shimamoto, Y Ben-Zion

1630h **T54A-03** Progressive pulverization of fault rocks along active faults: **M Doan**, G Gary

1645h **T54A-04** Progressive Microscopic Damage and the Development of Macroscopic Fractures in Porous Sandstones: **T Tamarkin**, W Zhu

1700h **T54A-05** Non-coaxiality and particle size effects in pressure sensitive materials: **H B Muhlhaus**, L N Moresi, L Gross, L Olsen-Kettle

1715h **T54A-06** Borehole breakouts in a porous sandstone subjected to far-field stresses ranging from hydrostatic to highly differential: a strain localization phenomenon: **B C Haimson**, S A Stanchits, G H Dresen

1730h **T54A-07** Bed-parallel compaction bands in aeolian sandstone: Their identification, characterization and implications: **A Aydin**, R Ahmadov

1745h **T54A-08** X-ray aided permeability computations inside compaction bands in sandstones: **J Andrade**, N Lenoir, W Sun, J W Rudnicki

T54B Moscone West: 2009 Friday 1600h **From Subduction to Collision, With Recent TAIGER and Other Results V** (*joint with S*)

Presiding: C Liu, National Taiwan University; **K D McIntosh**, University of Texas; **K D McIntosh**, University of Texas

1600h **T54B-01** Overview and early highlights of the TAIGER project marine, active-source seismic program (*Invited*):

K D McIntosh, H J Van Avendonk, C Liu, S Hsu, C Lee, T K Wang, F T Wu

1615h **T54B-02** Deep Seismic Imaging of a Transition Zone from Subduction to Collision Offshore Southwest Taiwan: **C Liu**, K D McIntosh, A T Lin, H Hsu, F T Wu, Y Wang, S Chung, S Chen

1630h **T54B-03** Marine TAIGER OBS Experiment and its future prospects: **C Lee**, T Wang, H J Van Avendonk, Y Huang, J Lin, S Lallemand, F Klingelhoeher

1645h **T54B-04** Imaging of Crustal Structures in the Northernmost South China Sea Based on TAIGER-OBS Data: **T K Wang**, J Deng, B Yang, C Lee, C Liu

1700h **T54B-05** Four Years of Absolute Gravity in the Taiwan Orogen (AGTO): **M Mouyen**, F Masson, C Hwang, C Cheng, N Le Moigne, C Lee, R Kao, N Hsieh

1715h **T54B-06** Imaging the Crustal Structures of the northernmost fossil transform plate boundary of the South China Sea from seismic and gravity data: **Y Yeh**, S Hsu

1730h **T54B-07** Uni- and Bi-polar Continental Mantle Lithosphere Subduction Forcing Crustal Architecture Variations in Analogue Models: **S Luth**, E Willingshofer, D Sokoutis, S Cloetingh

1745h **T54B-08** IS THE PROPAGATION OF ARC-CONTINENT COLLISION A LINEAR PROCESS? INSIGHTS FROM 3D THERMO-MECHANICAL ANALOGUE EXPERIMENTS: **D A Boutelier**

T54C Moscone West: 2011 Friday 1600h **Seismotectonics of the Arabian Plate and its Boundaries III** (*joint with G, S, NH*)

Presiding: R E Reilinger, MIT; **F G Gomez**, University of Missouri

1600h **T54C-01** CRUSTAL TECTONICS AND SEISMICITY OF THE MIDDLE EAST: **H A Ghalib**, R Gritto, M S Sibol, R B Herrmann, G I Aleqabi, P F Caron, R A Wagner, B S Ali, A A Ali

1615h **T54C-02** Comparisons of the kinematics and deep structures of the Zagros and Himalaya mountain belts, and of the Iranian and Tibetan Plateaus, and geodynamic implications: **D Hatzfeld**, P Molnar

1630h **T54C-03** A comprehensive GPS velocity field along the Dead Sea fault system: A preliminary view of near-field kinematics from the Gulf of Aqaba to Iskanderun: **R Jaafar**, F G Gomez, R E Reilinger, S McClusky, J Abu Rajab, E Al-Tarazi, G Karam, A Alchalbi, M Daoud

1645h **T54C-04** The Dead Sea Rift at The Hula Basin – An Example of Active Continental Transform Branching: M Politi, **A Agnon**

1700h **T54C-05** Constraints on the seismic cycle and timing of earthquake ruptures from paleoseismology and archeoseismology along the Dead Sea Fault (*Invited*): **M Meghraoui**

1715h **T54C-06** Tectonic development of the SW Arabian Plate margin within the central Arabian flank of the Red Sea rift system: **E Szymanski**, D F Stockli, P R Johnson, F H Kattan, M A Cosca
 1730h **T54C-07** Amagmatic Lithospheric Rifting as Expressed in the Red Sea (*Invited*): **J R Cochran**
 1745h **T54C-08** Geodynamic Evolution of the Nubia-Arabia-Somalia Plate Boundary System: **R E Reilinger**, S McClusky, P Vernant, G Ogubazghi, S Fisseha, A ArRajehi, R O Bendick, J Sholan

Volcanology, Geochemistry and Petrology

V54A Moscone West: 2020 Friday 1600h
A Multidisciplinary Look at Volcanism in Continental and Oceanic Plate Interiors II (*joint with NS, S, T*)

Presiding: C P Conrad, University of Hawaii; **E I Smith**, UNLV

1600h **V54A-01** Characteristics and origin of Continental and Oceanic Intraplate Volcanism: **E I Smith**, C P Conrad, R L Johnsen, A K Tibbetts

1615h **V54A-02** Deciphering The Sources Of Cenozoic Volcanism In Central Mongolia Using Trace Element And Isotope Geochemistry: **A C Hunt**, I J Parkinson, N Harris, N W Rogers, T Barry, M Yondon

1630h **V54A-03** New Hf Isotope Perspectives on Magma Sources Beneath the Colorado Plateau, Western U.S.A. (*Invited*): **M R Reid**, R Bouchet Bert Manoz, J Blichert-Toft, F C Ramos

1645h **V54A-04** Western U.S. volcanism as a consequence of small-scale convection beneath North America (*Invited*): **E Humphreys**, B Schmandt

1700h **V54A-05** Small-scale sublithospheric convection reconciles geochemistry and geochronology of 'Superplume' volcanism in the western and south Pacific (*Invited*): **M D Ballmer**, G Ito, J Van Hunen, P J Tackley

1715h **V54A-06** Shear-Driven Upwelling Induced by Lateral Viscosity Variations and Asthenospheric Shear: A Mechanism for Intraplate Volcanism: **C P Conrad**, B Wu, E I Smith, T A Bianco, A K Tibbetts

1730h **V54A-07** The 4th volcanic zone, petit-spot, in response to plate flexure (*Invited*): **N Hirano**

1745h **V54A-08** Non-Plume Models For Intraplate Volcanism: **G R Foulger**

V54B Moscone West: 2016 Friday 1600h
New Insight Into Ultrahigh-Pressure Metamorphism and Rheology in Collisional Orogenic Belts II (*joint with MR, T*)

Presiding: W G Ernst, Stanford University; **Z Jin**; **R C Liebermann**, COMPRES

1600h **V54B-01** Alpe Arami garnet peridotite from depth >300 km: revisited in 15 years (*Invited*): **L Dobrzhinetskaya**, C E Leshner, K N Bozhilov, H W Green

1615h **V54B-02** Long Duration of Dabie-Sulu UHP Metamorphism, Eastern Central China: **J G Liou**, F Liu, R Y Zhang

1630h **V54B-03** Dislocations in olivine: insights from numerical modeling (*Invited*): **P Cordier**, A Metsue, P CARREZ, C Denoual, D Mainprice

1645h **V54B-04** Petrofabrics and seismic properties of experimentally deformed granulites: **Y Wang**, J Zhang, H W Green, Z Jin

1700h **V54B-05** Pseudotachylites and Earthquakes: New Evidence for the "Jelly Sandwich" Rheology of Continental Lithosphere (*Invited*): **W Chen**, Z Yang

1715h **V54B-06** Nitrogen cycle between surface and mantle (*Invited*): **A Watenphul**, W Heinrich

1730h **V54B-07** Tubular Mg-ferrite in Mg-wustite inclusions in diamond of superdeep origin: control of Fe-valence by crystallographic structure: **R Wirth**, L Dobrzhinetskaya, B Harte, H W Green

1745h **V54B-08** In situ diamonds in polished chromitite fragments from the chromite deposits in Polar Ural and Tibet: **J Yang**, W Bai, L Dobrzhinetskaya, A Makeev

V54C Moscone West: 2018 Friday 1600h
Uranium Distribution in Time and Space: A Faithful Record of Earth's Evolution II (*joint with PP*)

Presiding: A Bekker, University of Manitoba; **E J Krogstad**; **M Fayek**, University of Manitoba

1600h **V54C-01** Evolution of uranium and thorium minerals: **R M Hazen**, R C Ewing, D A Sverjensky

1615h **V54C-02** Epithermal uranium deposits in a volcanogenic context: the example of Nopal 1 deposit, Sierra de Pena Blanca, Mexico: **G Calas**, S ANGIBOUST, M Fayek, A Camacho, T Allard, P Agrinier

1630h **V54C-03** Uranium in the Nuclear Fuel Cycle: Creation of Plutonium (*Invited*): **R C Ewing**

1645h **V54C-04** Evolution of U fractionation processes through geologic time : consequences for the variation of U deposit types from Early Earth to Present: **M Cuney**

1700h **V54C-05** Natural Variation of $^{238}\text{U}/^{235}\text{U}$ in Geo- and Cosmochemistry: **S Weyer**, G Brennecke, C Montoya Pino, J Noordmann, E A Schauble, M Wadhwa, A D Anbar

1715h **V54C-06** Natural Isotopic Fractionation of $^{238}\text{U}/^{235}\text{U}$ in the Water Column of the Black Sea: **S J Romaniello**, G Brennecke, A D Anbar, A S Colman

1730h **V54C-07** Changes in the Precambrian ocean U cycle linked to the evolution of surficial redox conditions: **C A Partin**, A Bekker, C Scott, B C Gill, T W Lyons

1745h **V54C-08** Oxidative weathering recorded by U-Th-Pb behavior in shales: **E J Krogstad**, A Bekker