ECSWorkshop
Introduction Slides

MLSOC Early Career Scientist Workshop
MLSOC 2013 Annual Meeting
8 Dec 13
Natalie Accardo

Anisotropy in W. Antarctica

Galicia 3D Seismic Cruise

Initiation of Rifting in Malawi

Radial Anisotropy in MER
Submarine Erosional Features on the Cascadia Frontal Thrust: Insights into New Erosional Processes on the Cascadia Margin: 1Jeffrey Beeson, 1Chris Goldfinger, 2Will Fortin

1College of Earth, Ocean, and Atmospheric Sciences, Oregon State University, Corvallis, Oregon 97331
2Department of Geology & Geophysics, University of Wyoming, Laramie, Wyoming, 82071
Understanding the Cascadia Subduction Zone: Contributions From the Cascadia Initiative and Multidisciplinary Studies III Posters
Will Fortin – University of Wyoming

- Ph.D. Advisor: Steve Holbrook
  - Seismic Oceanography: quantifying turbulence
  - Cascadia Subduction Zone: imaging and inversion
- [www.willfortin.com](http://www.willfortin.com)
Will Fortin – University of Wyoming

- AGU 2013 – Velocity inversion of the CSZ
- Tuesday morning, Poster S21C-2445
James Gibson
L–DEO
Pockmarks, fluid flow, and sediments outboard of the deformation front at the Cascadia Subduction Zone from analysis of multi-channel seismic and multi-beam sonar dat

James C. Gibson¹, Suzanne M. Carbotte¹, Shuoshuo Han¹, Helene Carton¹, Pablo Canales², Mladen Nedimovic³
¹ Lamont-Doherty Earth Observatory, Columbia University, New York, NY, USA
² Woods Hole Oceanographic Institution, Woods Hole, MA, USA
³ Dalhousie University, Halifax, Canada
Shuoshuo Han
L–DEO
East Pacific Rise 9°N (MGL0812)

Thr, Dec.12, 11:05 AM - 11:20 AM; 3009 (Moscone West)

OS42A-04 Architecture of Off-Axis Magma Bodies at EPR 9°37-40’N and Implications for Oceanic Crustal Accretion

Shuoshuo Han
LDEO, Columbia Univ.
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Cascadia Subduction Zone (MGL1211)

Shuoshuo Han
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Tue, Dec.10, 9:00AM – 12:00AM; Hall A-C (Moscone South)

S21C-2440 Multichannel Seismic Images of Cascadia Forearc Structure at the Oregon Margin
Modified from Nedimovic et al., 2009
Brian Jordan
M.S. Student at Rice University
(advisor = Dale Sawyer)

About Me:

B.S. in Geology (University of Wisconsin – Eau Claire)

Geologist for ARCADIS in Baltimore, MD – 4 years

Participated in the Galicia 3-D cruise (Summer 2013)
Galicia 3D Project:
Characterizing the Aptian Event Reflector

Peridotite Ridge

Aptian Event Reflector

Continental Crust Block
Research interests

1. Structure and tectonics of the central Sunda Subduction Zone

Datasets: Active-source 3-D tomography (57 ocean bottom (OBS), 23 terrestrial seismometers, 1750 km of shot profiles), 2-D seismic reflection

Targets: Downgoing plate (e.g., subducting fracture zones), overriding plate (e.g., accretionary prism, forearc), megathrust segmentation, Mentawai Fault, mantle serpentinization, Moho, …

People: Tim Henstock, Lisa McNeill, Becky Cook

Marianne Karplus (M.S.Karplus@soton.ac.uk) Postdoctoral Research Fellow
Research interests

2. Continental breakup in the Deep Galicia Basin (3-D structure)

Datasets: Active-source 3-D seismic tomography (64 OBS in 3-D box plus one 2-D profile), 3-D seismic reflection


Datasets: Active-source reflection/refraction, passive-source receiver functions, ambient noise tomography

People: Tim Minshull, Gaye Bayrakci, Richard

Marianne Karplus (M.S.Karplus@soton.ac.uk) Postdoctoral Research Fellow

University of Southampton
Emily Roland, USGS Postdoc
Anchorage, AK (eroland@usgs.gov)

Research Interests:
The connection between fault slip behavior and fault zone structure

(Oceanic) transform faults:
• East Pacific Rise Transforms
• S. California
• Queen Charlotte-Fairweather

Subduction zones:
• Alaska-Aleutian

Places lived
Places worked
Places cruised on MGL
Emily Roland, USGS Postdoc
Anchorage, AK  (eroland@usgs.gov)

Research Tools:
Both passive (OBS, earthquake) and active
(reflection/refraction) seismic observations

Research Interests:
The connection between fault slip behavior and fault zone structure

Langseth acquired OBS refraction data
From Roland et al., 2012
Modeling Dynamic Rupture with Implications for An Alaskan-Aleutian Megathrust Earthquake and Resulting Tsunami

Hanging Wall Geometry

Kenny Ryan\textsuperscript{1}
David Oglesby\textsuperscript{1}
Eric Geist\textsuperscript{2}
Dynamic EQ/Tsunami Effects

Rayleigh Wave
Dynamic EQ/Tsunami Effects

Rayleigh Wave
Angela L. Slagle
Associate Research Scientist
Lamont-Doherty Earth Observatory
of Columbia University
aslagle@ldeo.columbia.edu

Research interests

- Stratigraphic mapping and interpretation of sub-seafloor features through integration of seismic, geophysical logging, and core data sites: passive margins, subduction zones, rift zones, active volcanic arcs
- Carbon sequestration in ocean basalt reservoirs, permeability/porosity of oceanic crust
  sites: Juan de Fuca, equatorial Pacific, Kerguelen Plateau, Central Atlantic Magmatic Province

Sea-going experience

- Six IODP expeditions, 2009-2013 (JOIDES Resolution, D/V Chikyu)
- North Atlantic site survey and MCS cruise, KN166-14, 2002 (R/V Knorr)
- Geophysical and sampling surveys, Hudson River, 2001-2004
Downhole log - seismic data integration

Example from Canterbury Basin, New Zealand (IODP Exp. 317)

**Strategy:** Generate synthetic seismograms from core and downhole logging data, to establish depth-time relationships for correlation of borehole data and seismic stratigraphy

**Ongoing analysis in other regions:**

- Atlantis Massif, Mid-Atlantic Ridge 30°N (IODP Expedition 340T)
- Lesser Antilles arc, Caribbean Sea (IODP Expedition 340)
- Gulf of Alaska (IODP Expedition 341)
Danielle Sumy
USC
Danielle F. Sumy

Postdoctoral Research Associate, University of Southern California
Induced Seismicity Consortium, Dept. of Petroleum Engineering

Who am I? Observational and Statistical Seismologist

Educational History: PhD LDEO 2011; NSF postdoc at USGS 2011-2013

Research Interests: Earthquake Mechanics and Triggering

Research Areas: 9°50’N EPR, Gulf of CA, San Andreas, OK, Geothermal