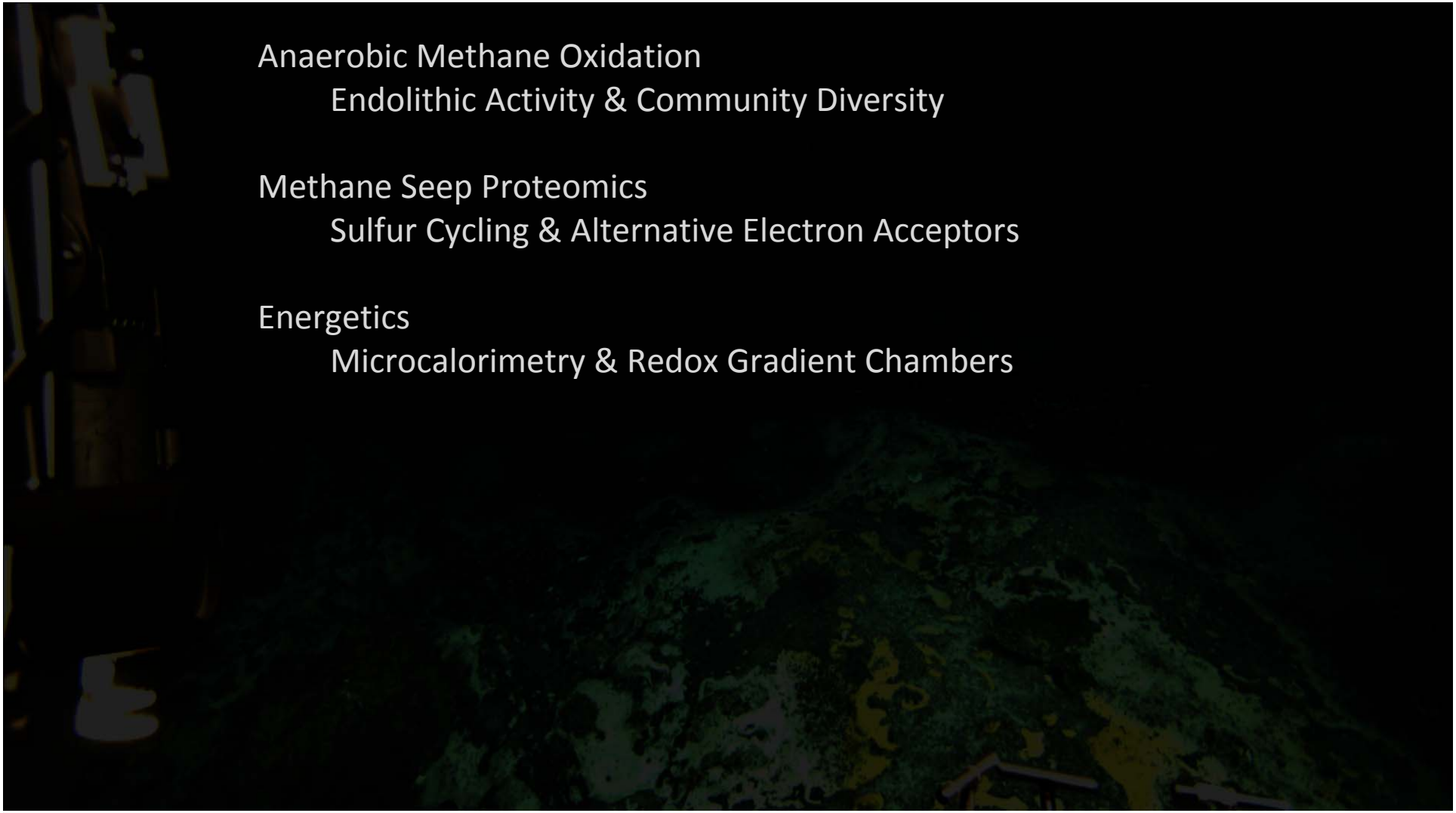
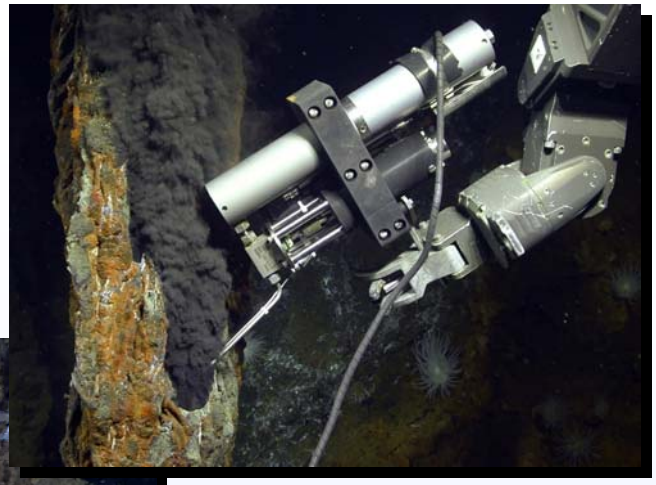
Early Career Scientists/Student Introduction

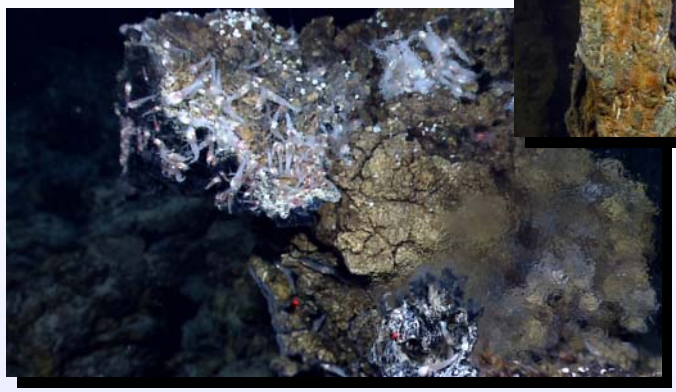
Part II

Jeffrey Marlow // 4th year (already?) grad student // Caltech



Caltech
www.caltech.edu





Jill McDermott

MIT/WHOI Joint Program in Chemical Oceanography

➡ OS22B-07. Abundance of volatile and organic species in intermediate temperature fluids from the Von Damm and Piccard deep sea hydrothermal fields, Mid-Cayman Rise

Jill M. McDermott, Jeffrey S. Seewald, Eoghan P. Reeves, Christopher R. German, Sean P. Sylva, Frieder Klein

11:50am - 12:05pm Tuesday

Amanda N Netburn

PhD Student, Scripps Institution of Oceanography

Research Interests:

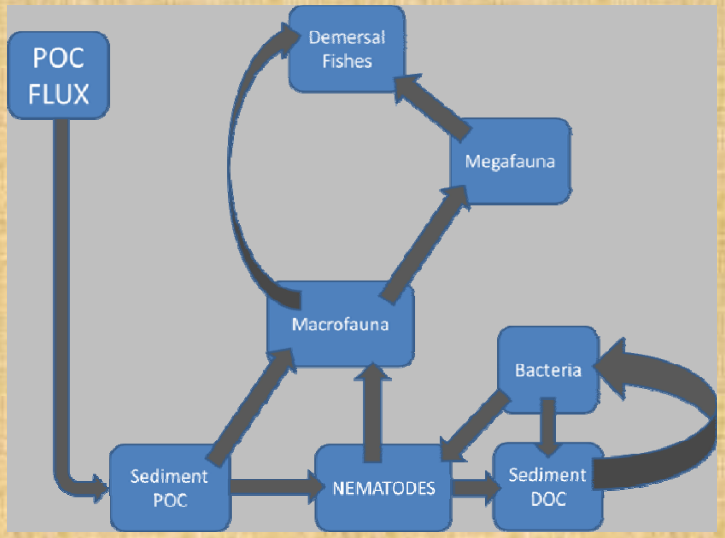
- Ecology and physiology of mesopelagic fishes in oxygen minimum zones
- Effects of oceanic fronts on mesopelagic communities
- Bioacoustics
- Deep sea conservation

Clifton C. Nunnally

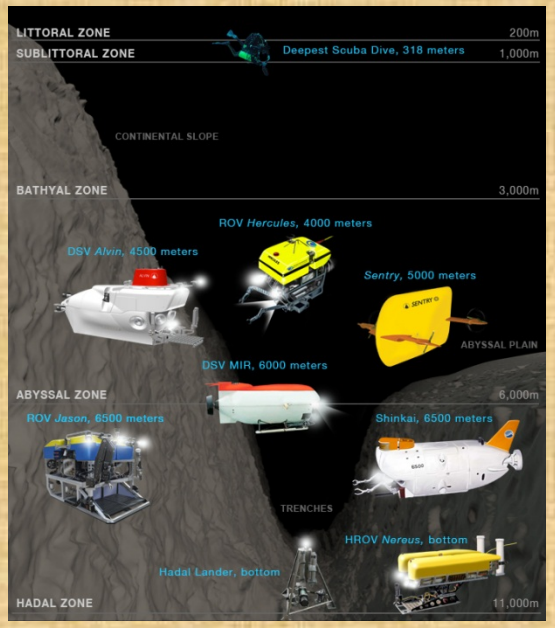
Benthic ecologist and deep-sea biologist

Sediment infaunal communities

Trophodynamic Ecosystem Models



HADES: Trench Ecology



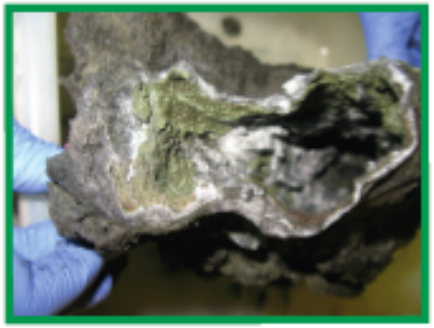
Community function + population structure

⟶ carbon cycling

Microbial Ecology of Primary Productivity at Hydrothermal Vents

carbon fixation in chimneys
Poster: B43G-0496
Thursday 1:40-6:00

microbe-mineral interactions



microbial activity in fluids

Heather C. Olins
4th year doctoral candidate
Girguis Laboratory
Harvard University

Kirk Sato

PhD Student
Scripps Institution of Oceanography
Advisor: Lisa Levin

Research Interests:

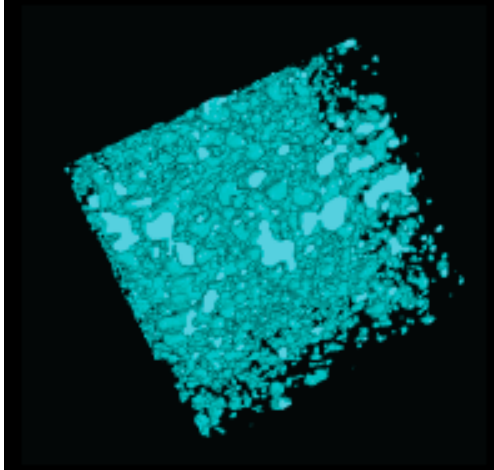
-Zonation of benthic megafauna

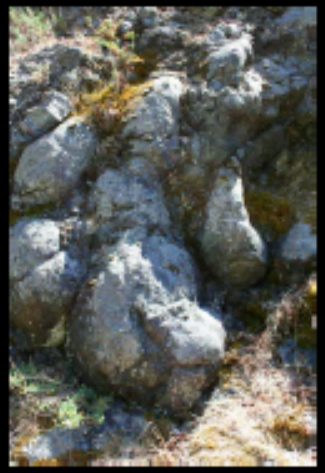
-OMZ Expansion, OA, Habitat compression

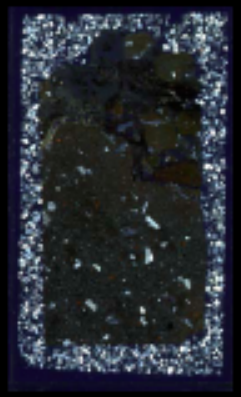
-Submarine canyon processes and biodiversity

SUSAN SCHNUR

2nd Year PhD Student • CEOAS / Oregon State University
M.Sc. Geography (GIS) • University of Zürich • 2011
B.A. Geology • Carleton College • 2007



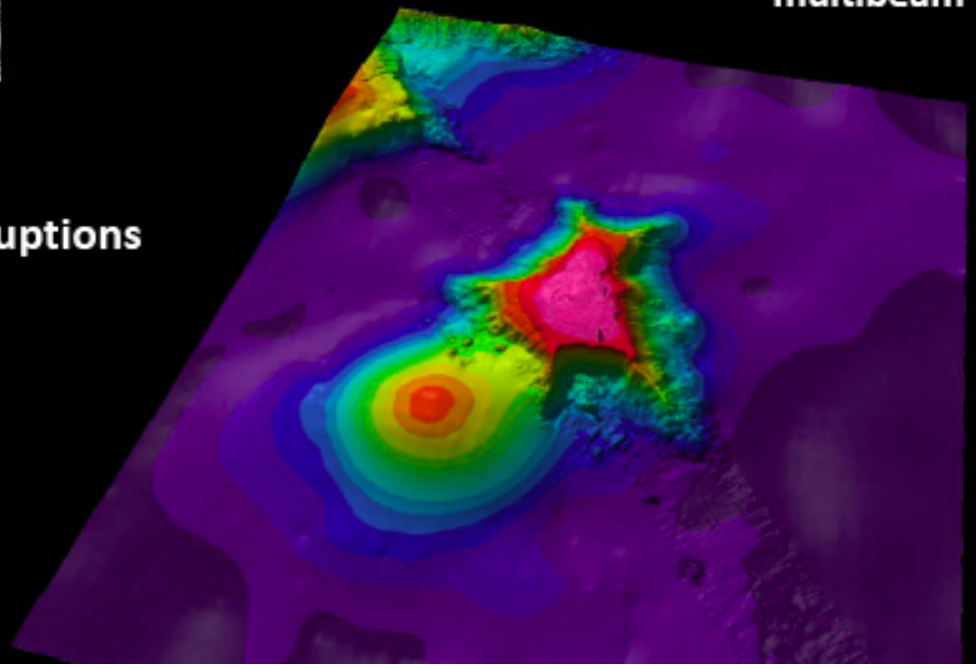




ISHMAEL GUYOT

Young Walvis Ridge Guyot Province

SRTM30 PLUS merged with 180 m resolution shipboard multibeam



RESEARCH INTERESTS

- Seamount Formation
- Physical Volcanology of Subaqueous Eruptions
- Porosity
- Image Analysis, GIS, Seafloor Mapping

CAREER INTERESTS

- Ocean Exploration
- Seafloor Mapping

Iliya Smithka

Interests:

- Mantle processes
- Mantle chemistry
- Mid-ocean ridge processes
- Mid-ocean ridge basalt chemistry

University of Florida PhD student

Verena Starke – Microbial Ecologist

Research Interests

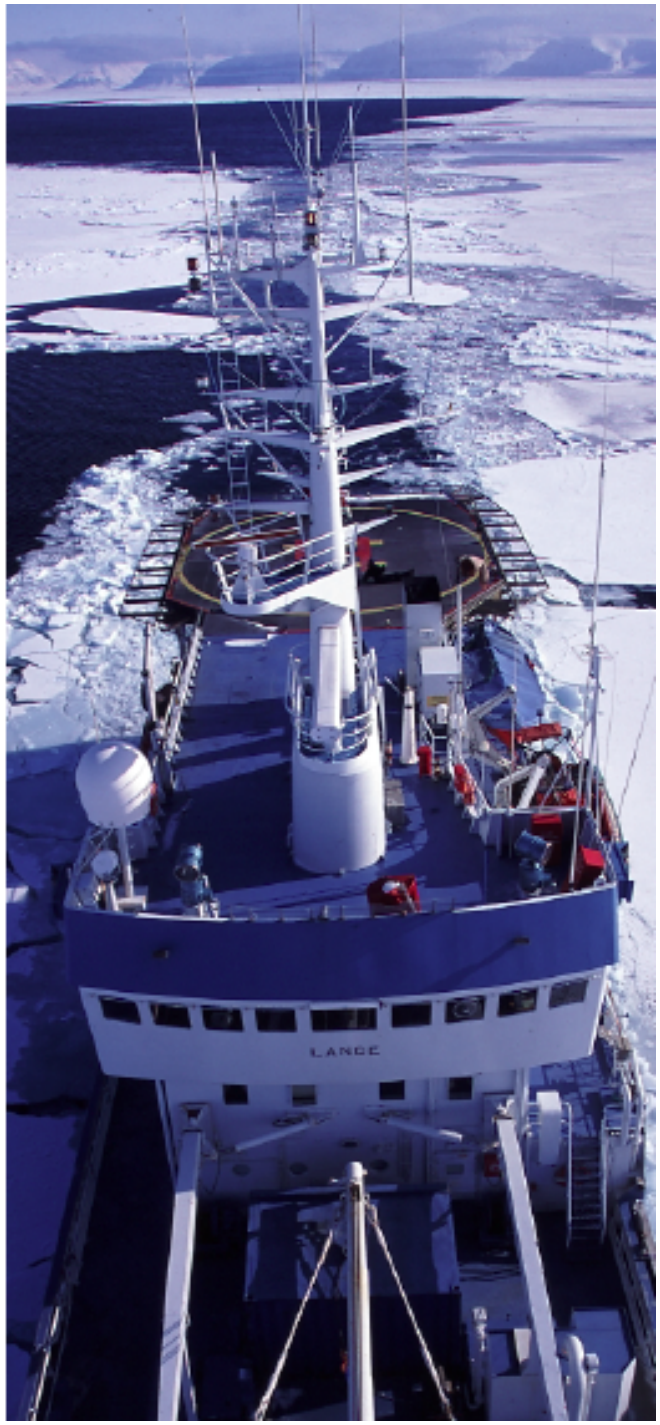
- Ecology of microbial community changes driven by mineral precipitation
- Future study of microbial communities in the presence of mineral precipitation at submarine hydrothermal systems
- Use of ecological methods to reveal information about different environmentally adapted microbial communities.

Experience

- Participated in six ship-based expeditions (the Arctic Mars Analog Svalbard Expedition, AMASE), mostly on the Norwegian Polar Institute's R/V Lance.
- Gained experience with laboratory work, logistics, and other aspects of working on an ocean-going research vessel.

Goals for the Workshop

- Looking for a post-doc
- Expanding my research to the deep ocean and hydrothermal vent systems
- Meet experts in the field



ERIC W STEVENS

University of Minnesota, Twin Cities
with Dr. Jake Bailey

- Master's student in Geobiology.

- Currently studying microbial preservation in mineralized barite crusts from the Gulf of Mexico.

- Future research interests are to use modern microbial systems to better interpret ancient microbial communities in the rock record.

AGU Poster Info:

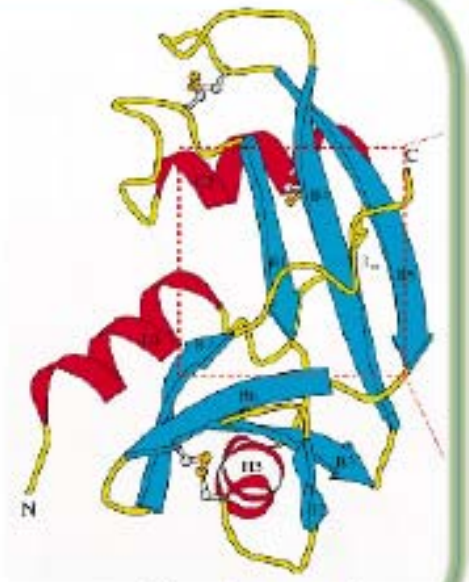
Friday, Dec 7. 8:00 AM -12:20 PM. **B51D-0592**

Title: Barite Crusts From A Brine Pool In The Gulf Of Mexico: Entomb Filamentous Sulfur Bacteria

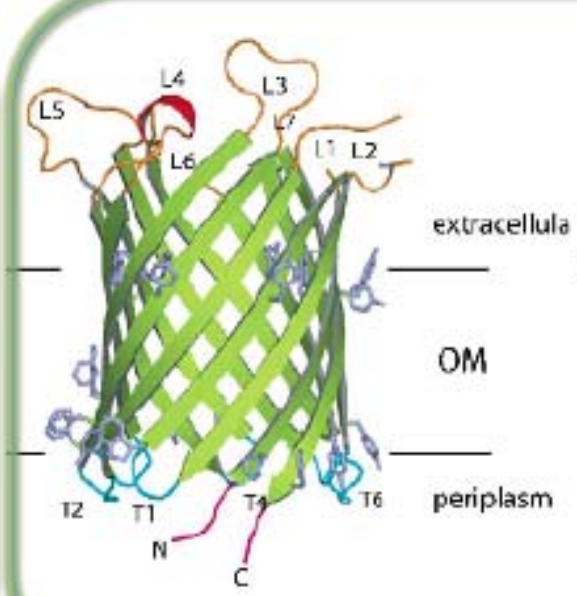
Gowtham Subbarao, Scripps Institution of Oceanography

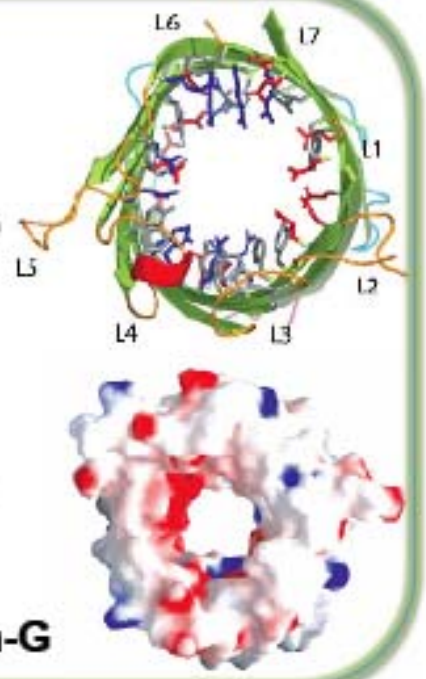
>> Research background: *Protein Structure-function relationships*

Botrocetin



Angiogenin





Outer Membrane Protein-G

Ongoing projects:

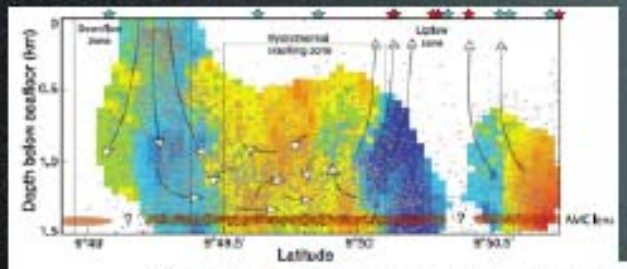
1] Microbe-mineral interactions
(Costa Rica Margin)

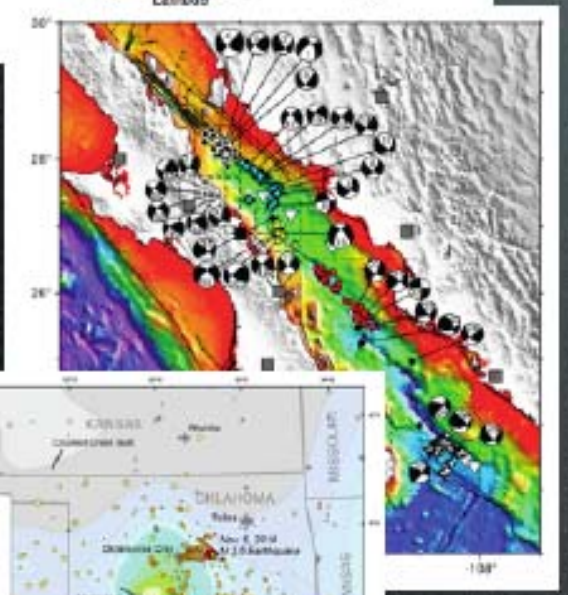
2] Microbial diversity
(specific sector of Southern Ocean)

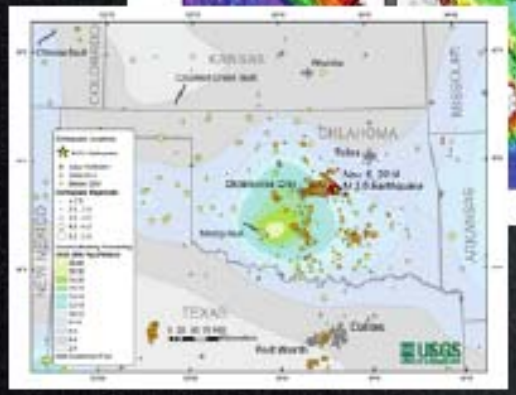
Research aspirations:

- Slow-to-intermediate spreading ridges
- Targeted sites: seafloor/ subsurface biosphere
- Opportunities/ collaborations—
  Deep-sea scientists + marine engineers

Danielle F. Sumy
NSF Postdoctoral Fellow, USGS-Pasadena





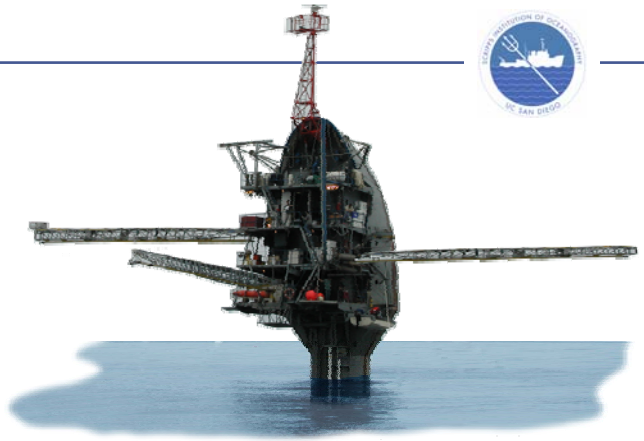


- **Research Interests:**
  - **Earthquake Triggering**
    - Tides: 9º50'N EPR [Stroup et al., 2007, 2009]
    - Tremor: Cholame, SAF [Poster, S33B-2538]
    - Aftershocks: Oklahoma [Talk, S53I-05]
  - **Earthquake Mechanics**
    - Gulf of California [Sumy et al., 2013]
    - Oklahoma [M. Wei, Poster, S51E-2455]
  - **Field Deployments: OBSs and Airguns**
  - **Looking for: Faculty Position and Collaborators**

GeoPRISMS/EarthScope Networking Luncheon: Tuesday, 11:30-1:30
IRIS Early Career Breakfast: Wednesday, 7 am

Peter Sutherland

Graduate student
Scripps Institution of Oceanography
sutherlandp@ucsd.edu



Research Experience

- **Surface wave processes**: effects of surface wave breaking on the transfer of energy and momentum between the atmosphere and ocean.
- **Instrument integration and development**
- **Scientific imaging**: automated scene reconstruction, stereo imagery, PIV, optical flow, feature identification and tracking.

Research Interests

- **Sensor development**; creating instruments using emerging technologies to gain new insights about the ocean.
- **Air-sea interactions**; surface wave and upper ocean dynamics.
- **Deep ocean exploration**; using new tools and techniques, like autonomous craft and computer vision, study the deep ocean.
- **Maritime Archaeology**

Poster: Wednesday Dec. 5, 08:00 – 12:00, **A31C-0044**, *In-situ measurements of the effects of wave breaking on near-surface turbulence* .

In search of an interesting Post-Doc!

Dr. Chunyang Tan

Affiliation

University of Minnesota

Phone

612-323-9352

Email

tanxx241@umn.edu

Address

310 Pillsbury DR SE,
Minneapolis, MN 55455

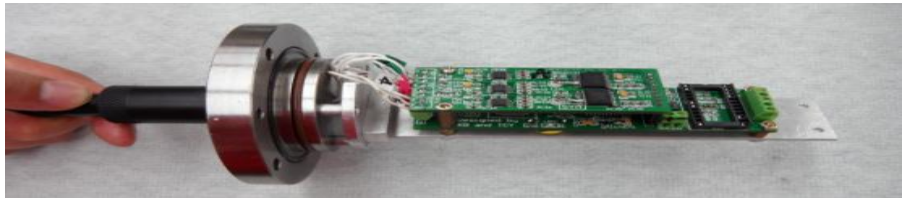
RESEARCH INTEREST

- Ocean observing instruments related to deep sea hydrothermal systems
- Cabled ocean observatory
- Deep sea hydraulic systems related to HOV or ROV

RECENT RESEARCH EXPERIENCE

- In situ pH Calibrator for hydrothermal diffuse fluid systems. This device is now attaching to MARS ocean observatory

- In situ datalogger with the size of 25*31*114mm, which containg eight channels: two high input impedance channels ($10^{16}\Omega$) for ceramic pH sensors, two low input impedance channels, two thermocouple channels and two thermistor channels.



CRUISE EXPERIENCE

- July-August 2008: WHOI KNOX18RR cruise with R/V Roger Revelle and ROV Jason II/Medea at Mid-Atlantic Ridge.
- Nov. 12, 2012: MBARI cruise with R/V Rachel Carson and ROV Ventana (Dive #3675). Deployment of pH Calibrator on MARS seafloor observatory.

EXPECTATIONS

- More cruise opportunities with DSV Alvin or ROV
- Work with scientists and engineers to develop some novel instruments
- Ocean engineer position in ocean research facilities

Liyan Tian (ltian@dtm.ciw.edu)

Postdoc Fellow, DTM, Carnegie Institution of Washington

Research Focus: Petrogenesis of volcanic rocks using trace elements, radiogenic isotopes (Sr-Nd-Pb), and stable isotope (Li)

- **Chemical and isotopic constraints on the evolution of back-arc basins (e.g., *Tian et al., 2011, JGR, 116)***
- **Intra-plate magmatism of isolated volcanoes in the Pacific (e.g., *Tian et al., 2011, Geochem. Geophys. Geosyst., 12*)**
- **Li isotope constraints on the nature of EPR MORB mantle (e.g., *Tian et al., 2012 AGU, V23B-2821, Dec. 4, 1:40-6:00pm*)**

Future Interests:

- **Non-traditional stable isotopic systematics (e.g., B, Mg, and Fe) of oceanic basalts**
- **Fluid origins, paths, and fluid-rock reactions at convergent margins**
- **Other interdisciplinary topics**

LOOKING FOR A JOB!

Katie Wrubel

- Graduate student (M.S. in Environmental Science at WSUV in Dr. Brian Tissot's Benthic Ecology lab)
  - NOAA Dr. Nancy Foster Scholarship
  - Graduating in 2013
- Research: Fish-habitat associations in the Olympic Coast National Marine Sanctuary
  - Looking at fish associations with physical and biogenic habitats at depths 75-400m
  - Conducted deep-sea research as an undergrad and grad student with two NMSPs
- Career: Interested in continuing deep-sea research to inform sound marine policy

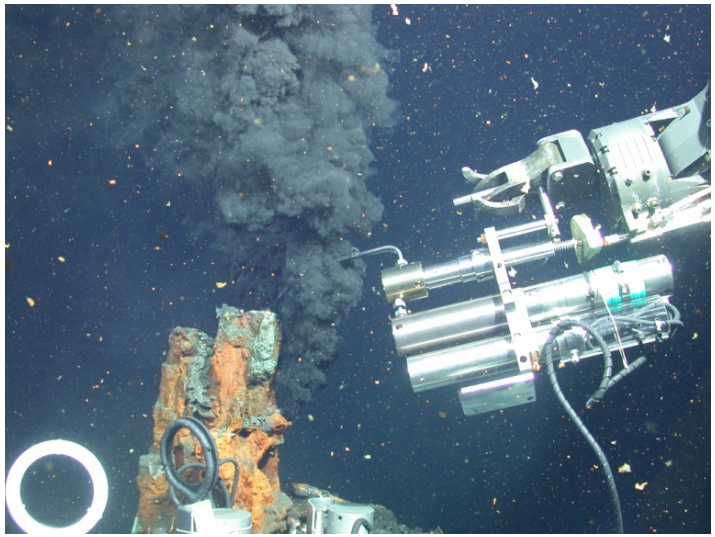
Shijun Wu, Postdoc, University of Minnesota

Research interest

Deep-sea sampling technology and instrument for hydrothermal fluid/seawater

Gas-tight time-series sampler

Experimental techniques for the simulation of deep-sea extreme environment



Experience

2007.12-2008.1
R/V Atlantis Cruise 15-28

2008.7-2008.8
R/V Roger Revelle Cruise KNOX18RR

2012.11
CALLISTO deployment in Monterey Bay

Harrison P. Zimmer

Ocean Engineering: BS 2011, MS 2013

THE UNIVERSITY OF RHODE ISLAND

THINK BIG WE DO

Masters Work: VIV Research with Dr. Jason Dahl

Thesis: Effect of Modal Variations on

- Cylinder Deflection/Oscillations
- DPIV Wake Visualization

Previous Work:

2009-10: Ernest F. Holling's Scholarship (NOAA & HURL)

2011-12: Inner Space Center at URI (NOAA & OET)

Current: Technician (URI Dept. of Ocean Engineering)

NOAA

Inner Space center

URI Ocean Engineering