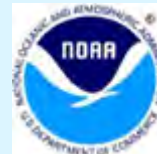




University-National Oceanographic
Laboratory System
~UNOLS~
**Deep Submergence Science
Committee Meeting
(DeSSC)**
December 11, 2016

**New User Program Presentations
Part I**



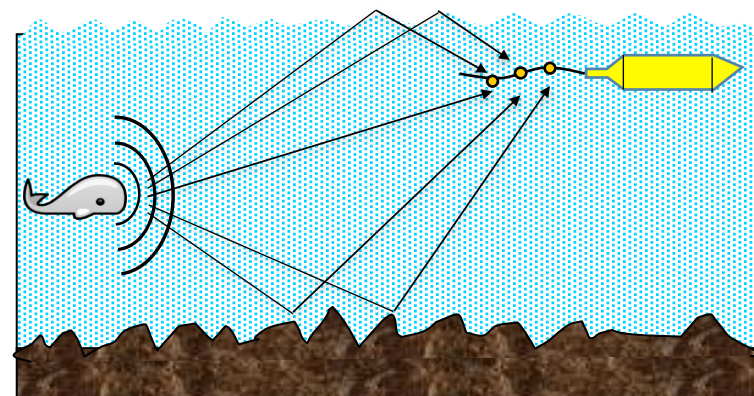
Shima Abadi



Assistant Professor, University of Washington
Mechanical Engineering (Bothell)/Electrical Engineering (Seattle)

- Ph.D.: University of Michigan
 - Underwater Acoustics
 - Sound Source Localization
 - Direction of Arrival Estimation
- Post-doc: Lamont–Doherty Earth Observatory & University of Washington
 - Marine Mammal Localization using Streamer Data Recorded during Seismic Reflection Surveys

Marine Mammal Monitoring
using a Hydrophone Array Towed
by an AUV



Joshua Baghdady

jbaghda@clemson.edu

- Hometown: Clemson, South Carolina, USA
- Second year Master's student in Electrical Engineering
- Applied to Stanford for PhD beginning fall 2017
- Emphasis: Optical Communication Systems
- Research: Use of Orbital Angular Momentum (OAM) to widen the operable bandwidth of underwater wireless communication channels
- Applied to DeSSC NUP to gain better understanding of deep sea facilities/capabilities in hopes of ultimately testing OAM technology on NDSF resources



Tamara Baumberger

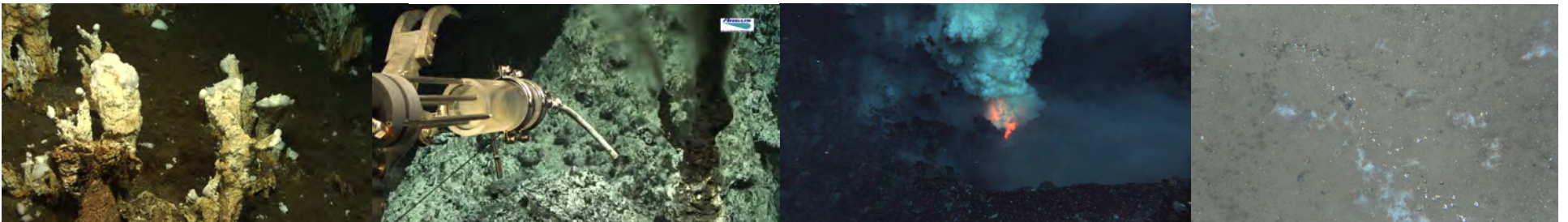
Current position: NRC postdoc at NOAA PMEL in Newport, OR

My research interests:

- Fluid and gas chemistry of hydrothermal vents and submarine volcanic eruptions
- Gas chemistry of cold seeps

With special focus on:

- Sources and fate of carbon and hydrogen in hydrothermal systems and cold seeps
- Helium isotopes in hydrothermal vents and cold seeps



Hannah Bercovici

Research Experience:

- Galápagos research at Colgate University
- WHOI Intern
- HVO Intern



Future Research Interests:

- Planetary geology/oceanography
- Hydrothermal vents on Europa
- The relation between mantle plumes, LLVSPs, and TPW events



Jill R. Bourque

Benthic Ecologist

**Wetland and Aquatic Research Center
U.S. Geological Survey
Gainesville, FL**



- **Research Interests:**
 - Community ecology and habitat connectivity among benthic systems
 - Deep-sea corals
 - Chemosynthetic environments
 - Submarine canyons
 - Hadal trenches
 - Mangroves and Seagrasses



(Merry) Yue Cai

Associate Research Scientist
Lamont-Doherty Earth Observatory
Columbia University

Geochemist

1. Interested in solid earth geochemistry (subduction zone processes, mantle dynamics, magma genesis and geochronology).
2. Also applying geochemical tools in paleoclimate projects through collaborations.

Anni Djurhuus

- Past: PhD at University of Oxford on microbial biogeography
 - Seamounts
 - Deep-sea hydrothermal vent
- Present: Postdoc at University of South Florida
 - Shallow water bacterial and viral biogeography with seascapes
- Future: Viruses in extreme environments...

Julianne Fernandez

Ph.D. Candidate...

University of Cincinnati

Cincinnati, OH, USA

Research Interests

- Methane emissions and sources from Lake Erie
- Photograph investigation of natural gas infrastructure in Lake Erie
- CO₂ fluxes in the North American Great Lakes
- Methane sources and concentrations in the deep ocean

AGU session B21F: Gas Fluxes from and into Inland Waters: Scaling Based on Hydrodynamics and Biogeochemistry | Posters

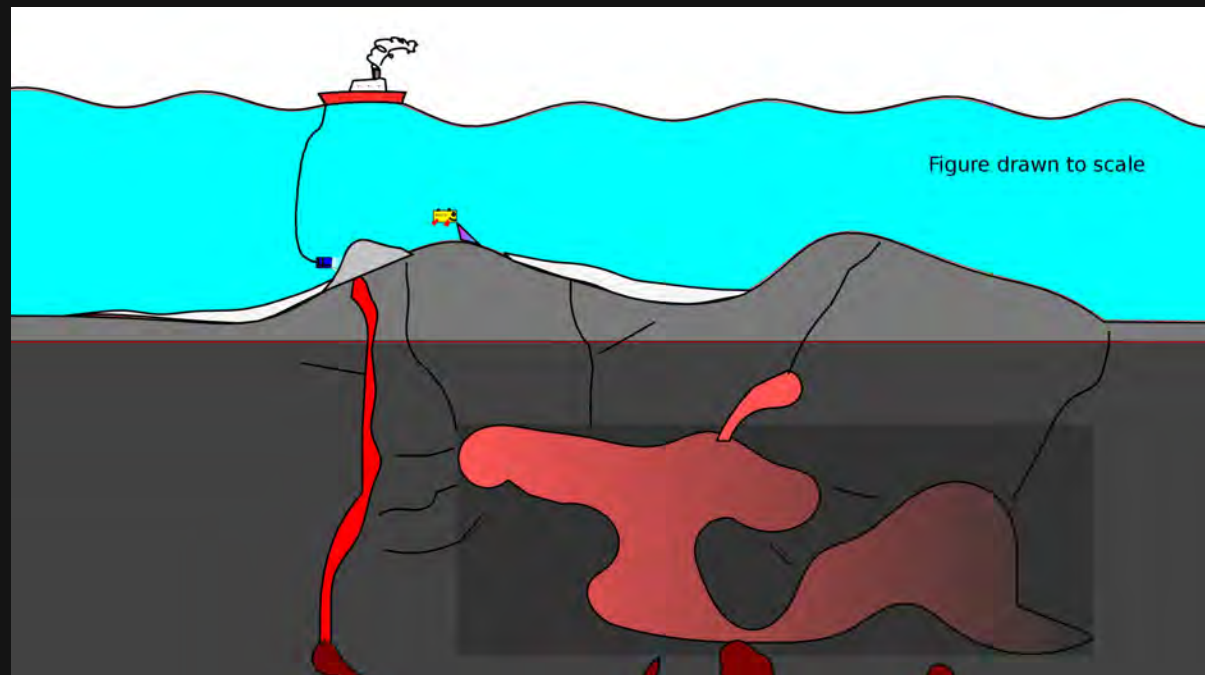
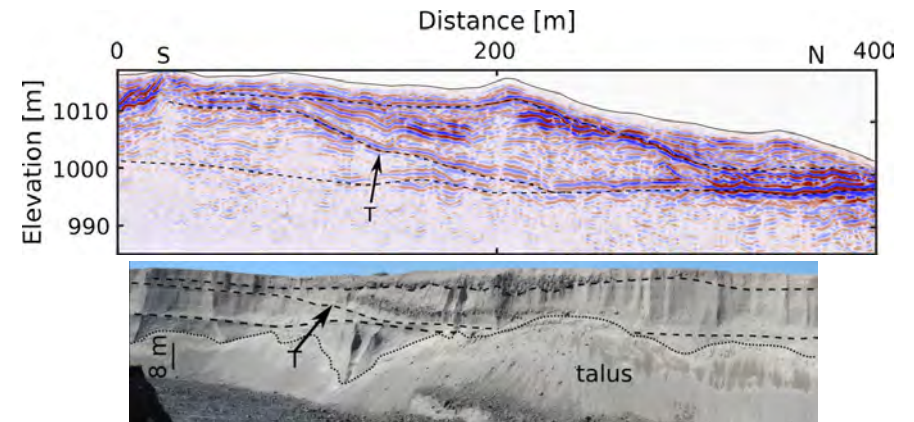
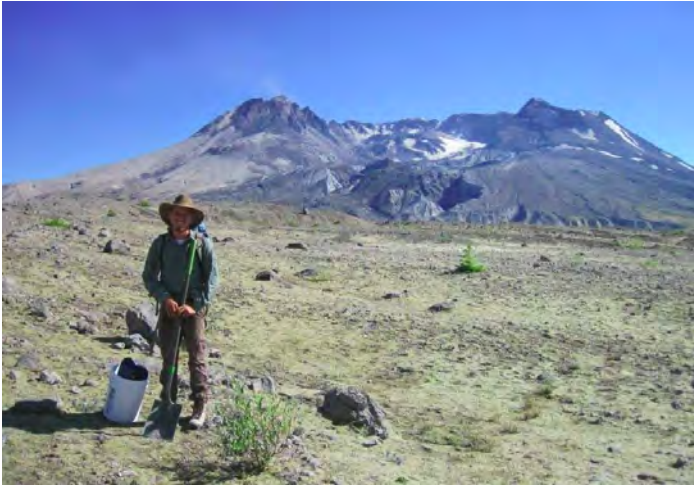
Abstract: 129847: Are the Laurentian Great Lakes a CO₂ Source or Sink?
Tuesday 13th December, 08:00-12:20 (present from 10-12)

Keith Fuller

PhD Student, Biological Sciences
University of South Carolina

- Past research using geometric morphometric techniques to study evolution in extinct shark taxa
- Ongoing examining genetic separation within cryptic species of elasmobranch
- Current research investigating niche overlap between cryptic species of hammerhead shark in SC
- Here to see the tools available for ecological questions in the deep-sea environment

Andrew Gase: Searching for marine volcanology/geophysics opportunities



Mackenzie Gerring

PhD Candidate

NSF Graduate Research Fellow

Deep-Sea Fish Physiology & Ecology

Abyssal & Hadal Depths

Functional Morphology

Pressure Adaptation

Trophic Ecology

Life History



University of Hawaii

mgerring@hawaii.edu



John Greene

- **2nd year PhD student at Texas A&M University studying Marine Geophysics**
- **Current Projects**
 - Refining the Formation and Early Evolution of the Eastern North American Margin
 - Understanding Silica Diagenesis in the Western Pacific
 - Looking to incorporate Deep Submergence Geophysics into my future research
- **Experience: 4 research cruises (+ 1 scheduled)**
 - 127 total days at sea
 - First cruise included AUV Sentry aboard R/V Sikuliaq
 - Hoping for opportunity to sail with other Deep Submergence Vehicles soon!

