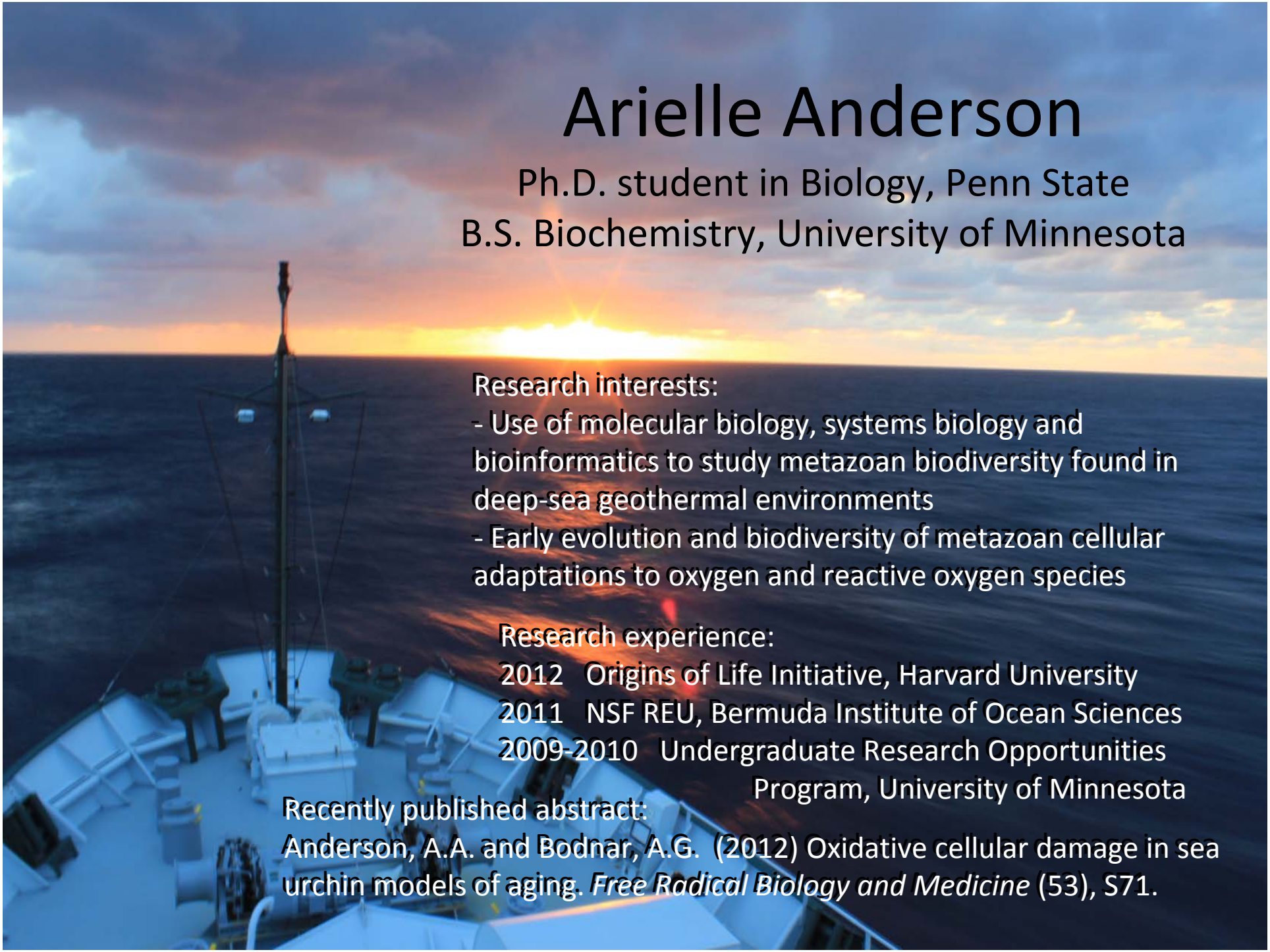
Early Career Scientist/Student Introductions

Part I



Arielle Anderson

Ph.D. student in Biology, Penn State
B.S. Biochemistry, University of Minnesota

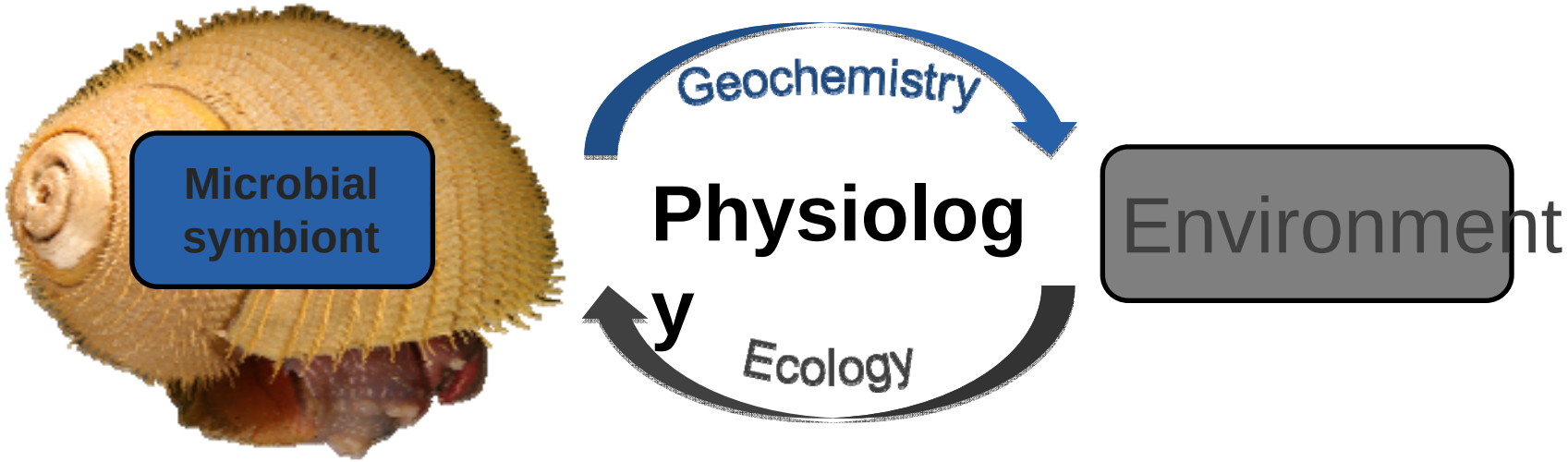
Research interests:
- Use of molecular biology, systems biology and bioinformatics to study metazoan biodiversity found in deep-sea geothermal environments
- Early evolution and biodiversity of metazoan cellular adaptations to oxygen and reactive oxygen species

Research experience:
2012 Origins of Life Initiative, Harvard University
2011 NSF REU, Bermuda Institute of Ocean Sciences
2009-2010 Undergraduate Research Opportunities Program, University of Minnesota

Recently published abstract:
Anderson, A.A. and Bodnar, A.G. (2012) Oxidative cellular damage in sea urchin models of aging. *Free Radical Biology and Medicine* (53), S71.

Roxanne Beinart

Deep sea symbioses: the interaction between microbial symbiont physiology and the environment



1. **Surveys** of host/symbiont in relation to their habitats.
2. **Genomics/transcriptomics** to examine symbiont physiological potential and poise.
3. Direct measurements of the **metabolism** of symbioses to assess impact on geochemistry

Sarah Bennett

NASA Jet Propulsion Laboratory, Caltech

Deep-sea hydrothermal systems

Plume biogeochemistry

Macrofauna

Microbiology

Sulfides

Iron

Carbon

Nitrogen

Sulfur

Stable Isotopes + Trophic levels

OS22B-08 – 3022 Moscone West, TUESDAY at 12.05 PM

NERC Isotope Geosciences Laboratory, UK

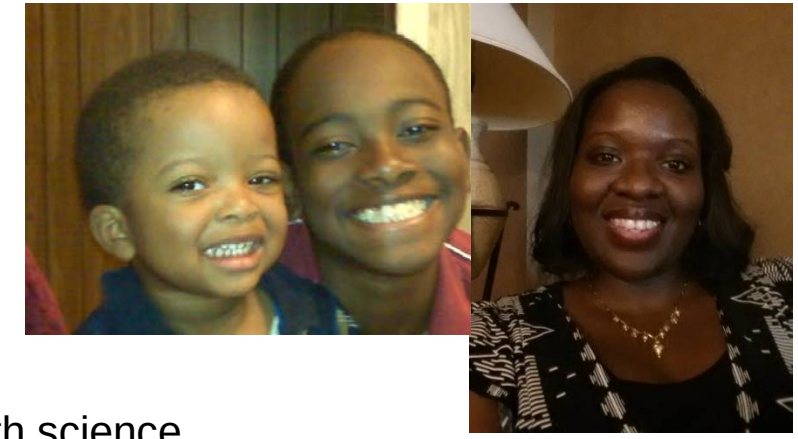
Looking for both National and International collaborations!

Dieter Bevans

- Graduate student at Scripps Institution of Oceanography
- BS in Physics from the University of Utah
- Research interests in deep sea instrumentation and acoustics

Industrial Engineer, BS
Computer Science, MS
Educational Research and Policy Analysis, PhD 2009

Postdoc, University of Oklahoma
Postdoc Fellow, Purdue University



Goals-To get a Faculty position where interdisciplinary earth science, librarianship and education is valued where next generation education and librarianship can be stimulated in terms of earth science and STEM pipelines by generation grant funds and teaching.

Gain technical GIS, spatial and temporal data science expertise and open source skills.

Benjamin Dewayne Branch

CLIR/DLF Data Curation Post-doctoral Fellow

Council on Library and Information Resources

MS PHD'S Earth System Science

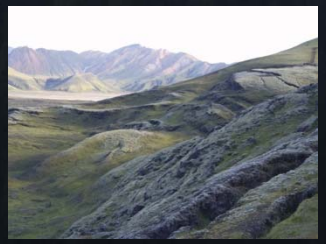
PURDUE UNIVERSITY

Alysia Cox, PhD MIT/WHOI

Experimentalist, Environmentalist, Problem-Solver

Interests: Deep Time; Origin and Co-Evolution of Life and Chemistry, Limits of Life; Interaction of Geology, Chemistry and Microorganisms

Environments Studied Thus Far: Terrestrial hot springs (Yellowstone and Iceland), Swiss alpine lakes and cold springs, Surface ocean (upwelling to oligotrophic)



Poster: The (Biological Role and) Geological Legacy of Vitamin E

B13A-0477, Monday, 1:40, Hall A-C , Moscone South

Rosana Di Mauro

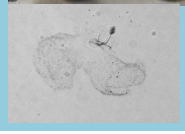
PhD in Marine Biology
Louisiana State University
School of the Coast & Environment
Oceanography & Coastal Sciences

Research experience:

- ✓ Fisheries
- ✓ Zooplankton ecology

} More than 15 research cruises in the South Atlantic

- ✓ Image Analysis → **Fixed samples**: ZooImage, ZooScan (Zooprocess and Plankton Identifier)
  → **In situ**: ZOOVIS-Deep imaging system



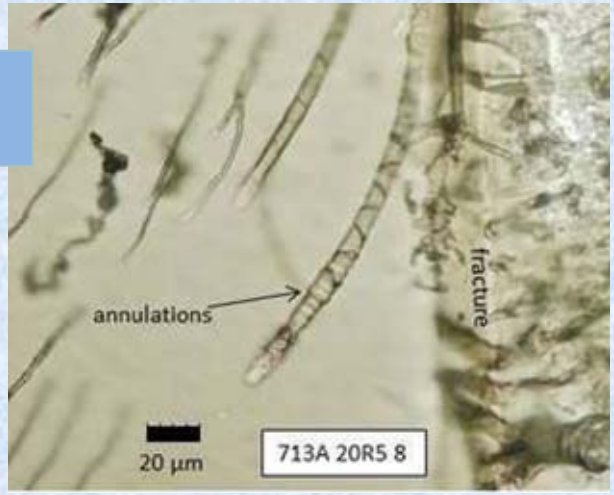
Future Research interests:

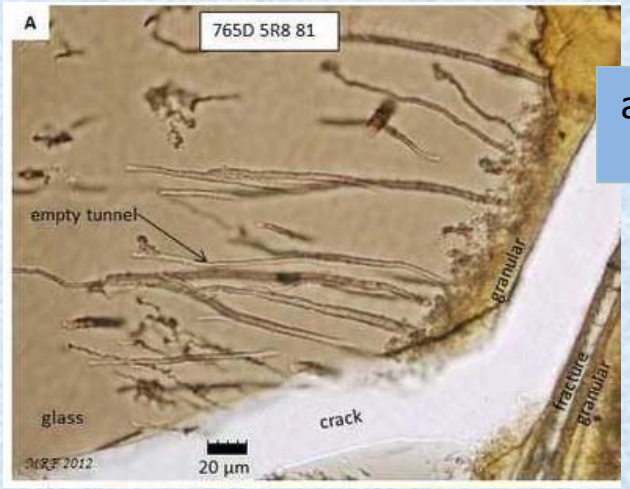
- ✓ Artificial intelligence and machine vision
- ✓ Deep sea research

MEGAN DRINNAN

College of Earth, Ocean, and Atmospheric Sciences | Oregon State University | Graduate Student

volcanic glass





alteration front

- **RESEARCH OBJECTIVE (Thesis in-progress)**
  To understand the environment under which pillow basalt glass is altered to produce "microbial" tunnels.

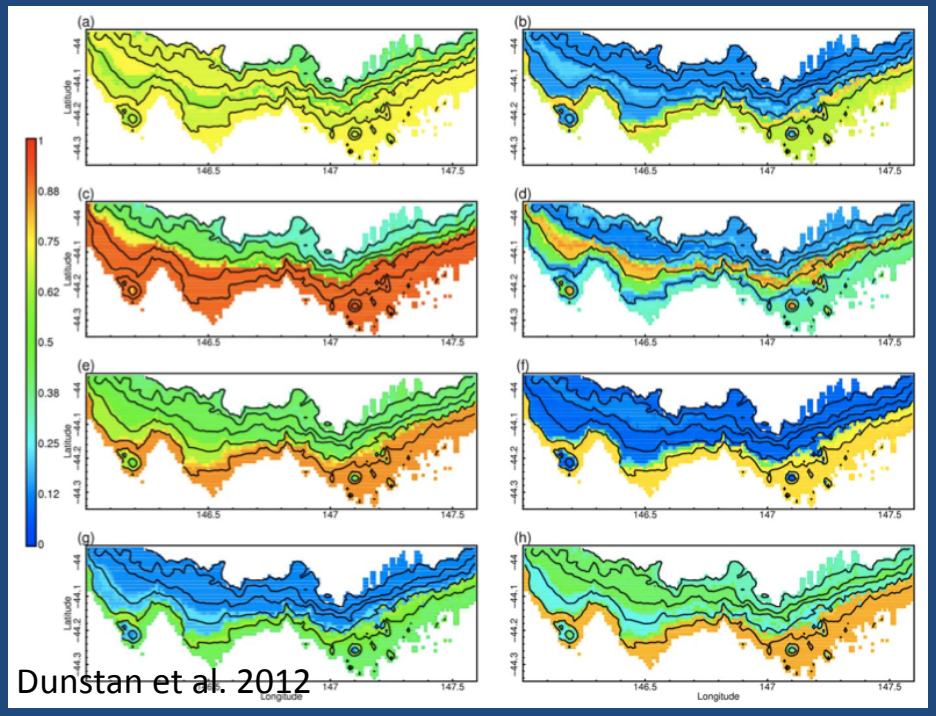
- **AGU FALL 2012 POSTER***
  "Photographic atlas of alteration of igneous glass from the ocean basins"
  [illegible]

- **INTERESTS**
- Knowledge, awareness of deep sea research
- Submersible capabilities
- How to participate in a dive expedition

Chris Free

Dauphin Island Sea Lab

Interested in **population dynamics**, ecosystem-based **fisheries** management, and marine **spatial planning**



Dunstan et al. 2012

Interested in studying the **biogeography** of deep sea ecosystems and in modeling the **distribution of biodiversity**

... grad school next

Kaiem L. Frink

Information you want to include and convey.

Mathematics Professor at Virginia Union University that enjoys instructing in the STEM discipline.

My research experience

Remote Sensing/ GIS	Computer Science Programming	Cartography/ Mapping
Math Education	Mathematical Applications	Mathematical Modeling

My future research interests.

Deep Sea Ocean Science Cables in regards to Internet II Applications.

You can talk a bit about your AGU presentation.

This year I am not presenting in the poster session however I have presented in three out of the four past AGU conference as a member of MSPHD's

You can tell people you're looking for a postdoc position, or

I am looking to conduct collaborative research across disciplines and schools.

Haiying Gao

Graduate School of Oceanography
University of Rhode Island

- Construct an accurate model of the Cascades with full-wave tomography (including both land stations and OBS);
- Address scientific questions as segmentation, melting generation and migration, …;
- And I am hunting for a research position …

Amy Gartman

University of Delaware PhD Candidate
Advisor: Dr. George Luther

Dissertation Research

- Pyrite nanoparticles emitted from hydrothermal black smokers as a source of Fe to the ocean
- Distribution, speciation and fate of sulfur, iron and other metals in hydrothermal diffuse flow zones
- Synthesis and oxidation of nanoparticulate pyrite

Research Interests

- Natural nanoparticles in the marine environment: formation, reactivity and transport
- Influence of chemical gradients in creating biological niches

Looking for a Postdoc Opportunity starting mid 2013

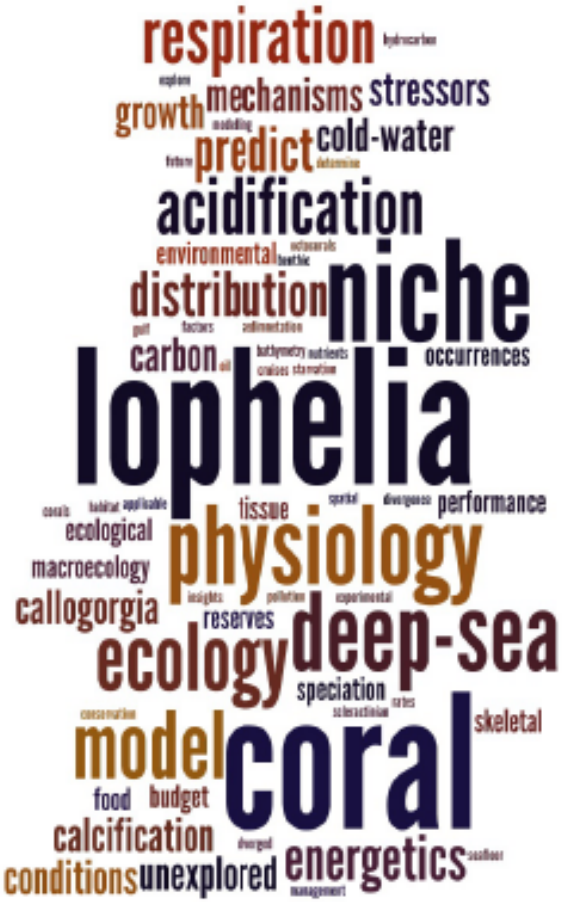
Poster OS31D-1767. “Hydrothermal vents as a source of pyrite and trace metal- containing mineral nanoparticles to the ocean”

Samuel E. Georgian

PhD Candidate
Department of Biology
Temple University • Cordes Lab
samuelgeorgian.weebly.com

Ongoing Research:

1. Environmental niche modelling of *Lophelia pertusa* in the Gulf of Mexico.
2. Energetics of *L. pertusa*.
3. Niche divergence in *Callogorgia* species.



Katie Inderbitzen

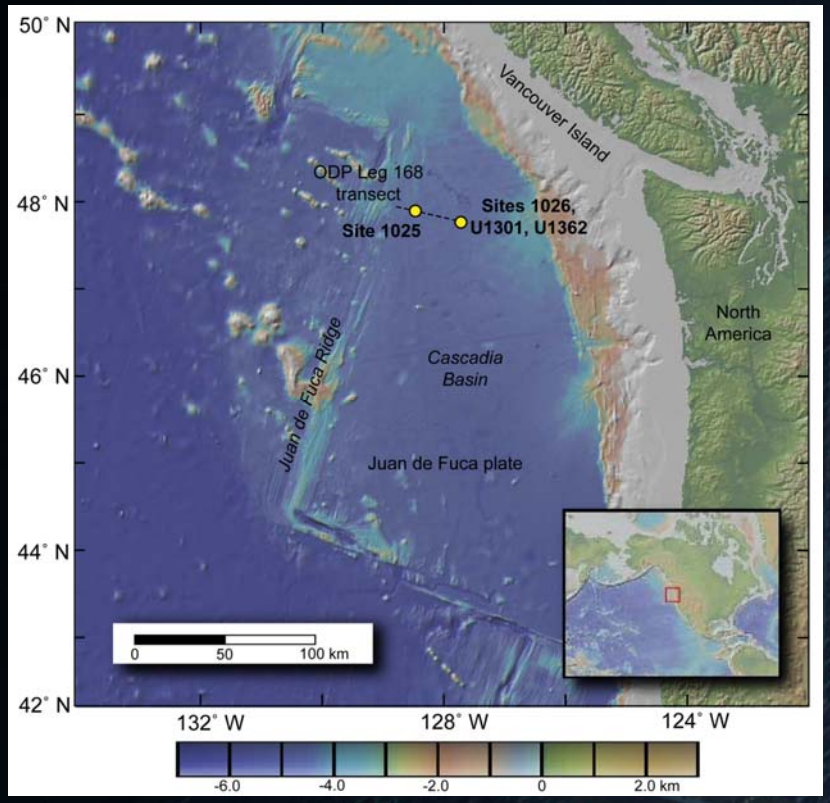
C-DEBI Postdoctoral Fellow, Univ. of AK, Fairbanks (C. Geoff Wheat)

- "Evaluating fluid circulation and geochemical constraints in a sedimented rift: Integrated data analysis" (Middle Valley, JdF)
- Long-term borehole monitoring in Middle Valley and on Juan de Fuca ridge flank
  - Effect of tectonics/dynamics on borehole pressure trends

Other expertise:
- Scientific ocean drilling/HOV/ROV ops
- Borehole observatories (CORKs)
- Low-temp alteration in sediments
- Aqueous geochemistry
- Geophysical data analysis

Thursday AM: OS41C-1739. 4.5 Years of Seafloor Uplift in Middle Valley, Juan de Fuca Ridge: Modeling a Source Mechanism

Sean Jungbluth – PhD Student, University of Hawaii



Microbial biosphere of deep subseafloor crustal fluids

- Microscopy
- Phylogenetics
- Single cell and community genomics
- Community gene expression

AGU Presentation: Thursday, December 6 (11:05 – 11:20am; Moscone West)

Session: B42C-04. The Deep Biosphere - Recent Progress in Understanding Life in the Deep Subsurface I

Brandi Cron-Kamermans

- **Master's from University of New Mexico in Earth Sciences (2011)**
- **Currently a second year PhD student at University of Minnesota**
- **Pursuing my PhD in Earth Sciences with advisor Dr. Brandy Toner**
- **Field area is the Mid-Cayman Rise, in western Caribbean Ocean**
- **Aspires to be an expert spectroscopic and environmental geomicrobiologist**

- **Currently thinking about post-doc positions and opportunities**

Joshua Kelly

University of Rhode Island – Graduate School of Oceanography
M.S. Candidate (May 2013) – Oceanography
Major Professor – Dr. Steven N. Carey

AGU Poster – 1891 submarine eruption of Foerstner volcano (Pantelleria, Sicily): insights into the vent structure of basaltic balloon eruptions (Dec 4 8-12:20, V21A)

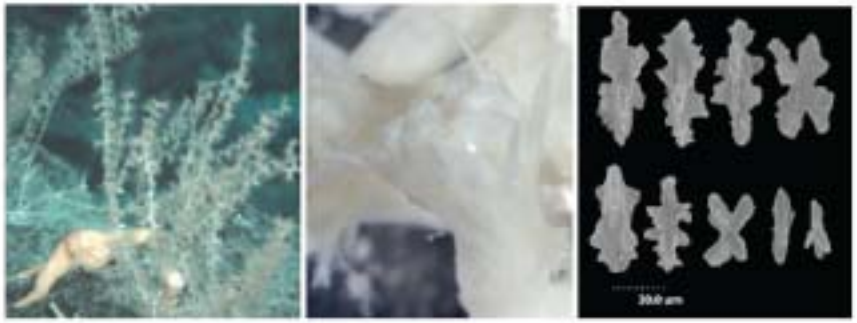
Research Interests: Eruptive processes and products of shallow submarine basaltic volcanism, ROV exploration and sampling

Research Experience: Geochemistry (ICP-MS), Igneous Petrography, Geologic field mapping (terrestrial and deep sea marine), Textural studies of rock vesicles, GIS

Future Goals: Pursue a career. My interests are broad, ranging from working for the USGS Volcanic Hazards Program, commercial offshore resource exploration companies, or private ocean exploration programs (e.g. *Nautilus* exploration program or Schmidt Ocean Institute)

Abby Lapointe

Master's Student, phD Student beginning Fall 2013
Advisor: Professor Les Watling
Department of Zoology
University of Hawaii at Manoa
abbylap@hawaii.edu



Systematics and biogeography of deep-sea corals
Deep-sea benthic community ecology
Fisheries policies and management on the high seas

Jay J. Lunden

Ph.D. Candidate
Biology Department
Temple University
jlunden@temple.edu
http://jaylunden.weebly.com

Current Research Interests

ocean exploration and acidification in the deep sea

physiological ecology of *Lophelia pertusa*

carbonate chemistry of cold-water coral reefs

currently seeking post-doctoral opportunities