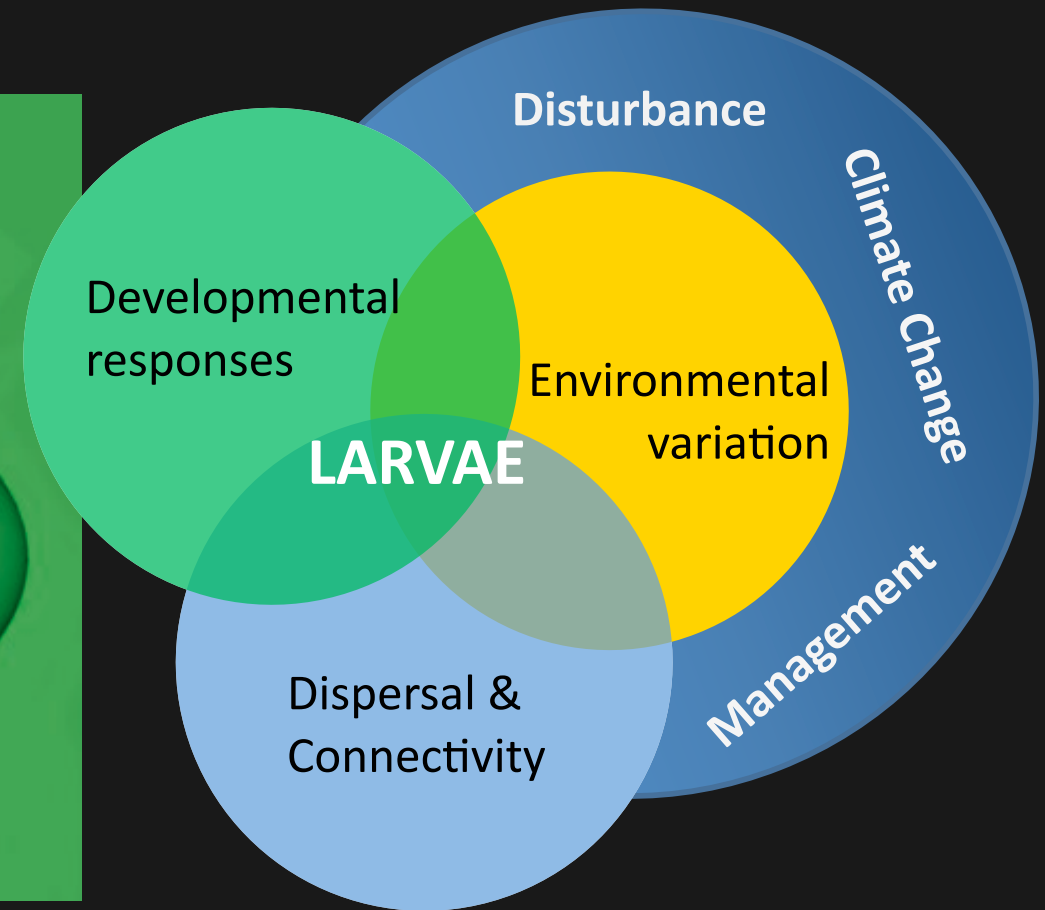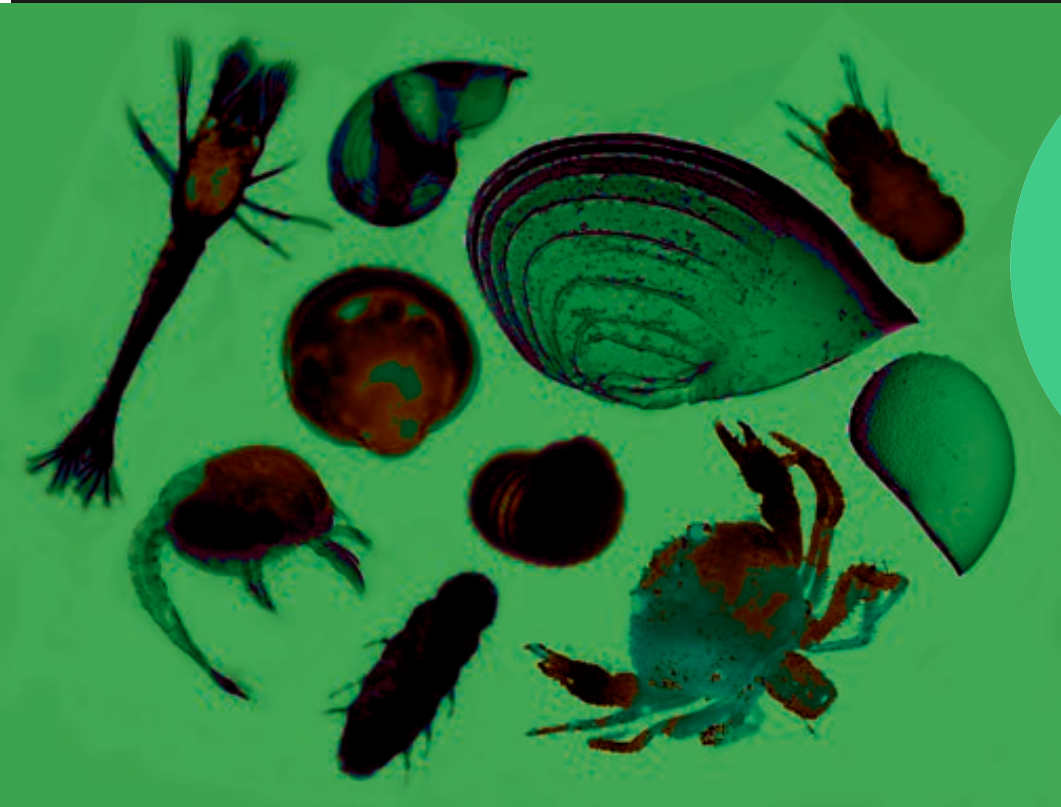# DESSC Early Career Scientist Program

Participant Introductions

Part I
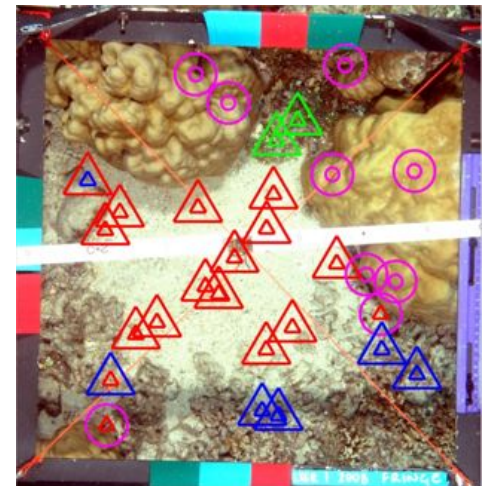
December 8, 2013

Diane K Adams, Rutgers University

Oscar Beijbom UCSD/SIO
PhD candidate in Computer Science

PhD thesis: Annotating the worlds ocean floors

1. Computer vision algorithms.
2. Cost-sensitive multiclass learning methods.
3. Fluorescence imaging methods.
4. Statistical methods for the deployment of automated annotation.

Always happily looking for:

1. Interesting datasets to work on.
2. Fun Postdoc or permanent positions (start summer 2015).

obeijbom@ucsd.edu; vision.ucsd.edu/~beijbom/website/

Brian Dreyer

experience

- Petrology, geochemistry & volcanology
- ROV-equipped cruises to Juan de Fuca & East Pacific

training

- UCSC researcher 2010-
- MBARI postdoc 2008-10
- PhD Washington University 2007
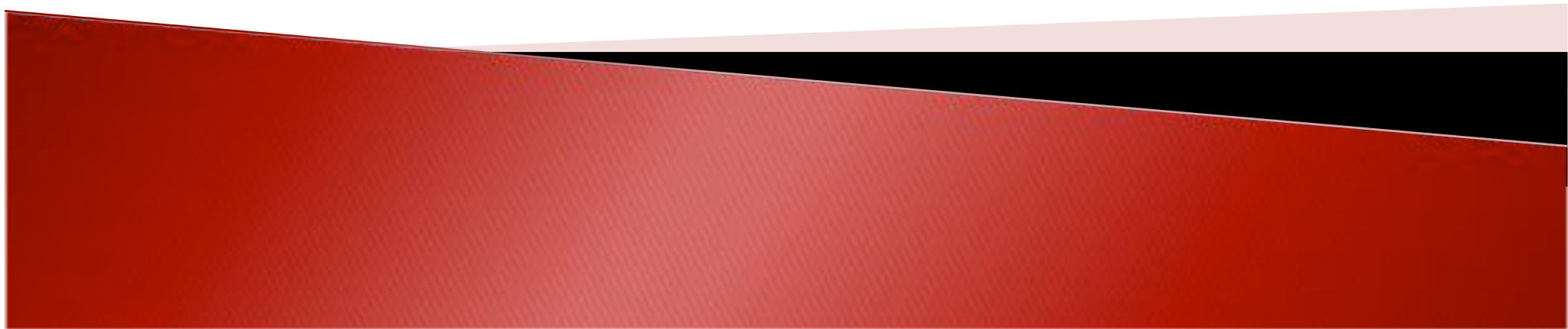
motivation

- Refining understanding of mid-ocean ridge geology & magmatism
- Utilizing technological advancements in support of the above

- Wednesday PM poster: V23C-2850 on Endeavour pyroclasts

Alanna Durkin

PhD Student

Temple University

Research: Community ecology of chemosynthetic cold seeps in the deep Gulf of Mexico

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

Move to Folder...

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.

Natalya Gallo (but I go by Natasha)

Scripps Institution of Oceanography – UCSD
Center for Marine Biodiversity and Conservation (CMBC)

DEEPSEA CHALLENGE Expedition
Deep-sea Trench Megafaunal Ecology

2nd Year Biological Oceanography PhD Student
Adviser: Lisa Levin
Interests: How the expansion of oxygen minimum zones (100-1000m) will impact fish communities along the continental margins

- range shifts
- physiological tolerances
- food web implications

EVAN M. GRAY

Mechanical Engineer NAVSEA - Deep Submergence Program Office; Portsmouth Naval Shipyard

Part-time Graduate Student UNH Ocean Engineering

Research/Work Experience

- Engineering design and analysis of in-service equipment supporting submarine rescue diving and recompression systems
- Maintenance and deployment/retrieval of several different buoys and moored instruments in Gulf of Maine
- Performed field validation tests of autonomous pCO_2 measuring instrumentation
- Assisted with *in situ* sensor and instrumentation studies providing information on equipment survivability, sensor biofouling, and low power data systems

Photo: navy.mil

Submarine Rescue Diving and Recompression System's (SRDRS) Rescue Capable System (RSC)

Future Research Interests

Developing instrumentation and monitoring systems for improved ocean observations, which will ultimately support numerical modeling and enhance the deep submergence community's understanding of complex ocean systems. Still working on developing the specifics, open to ideas and collaborations.

Shellie Habel

University of Hawaii at Manoa
Coastal Geology Group

- **Shoreline behavior:**
  - Engineering
  - Coastal and marine processes
  - Sea level rise
- **Past and future sea level variations:**
  - 2 Pisces V dives: Collection of carbonate samples for use as sea level indicators
  - Assist in a NSF funded project (PCEP) aimed to educate residents of the Pacific Islands about ongoing climate change

Meghan Jones

- Undergraduate student at the University of Miami
  - Anticipated graduation: May 2014; B.S. Geological Sciences, B.S. Marine Science
- Planning to enter graduate school for Marine Geology and Geophysics
- Interested in the characterization of seafloor morphology and processes through geophysical data
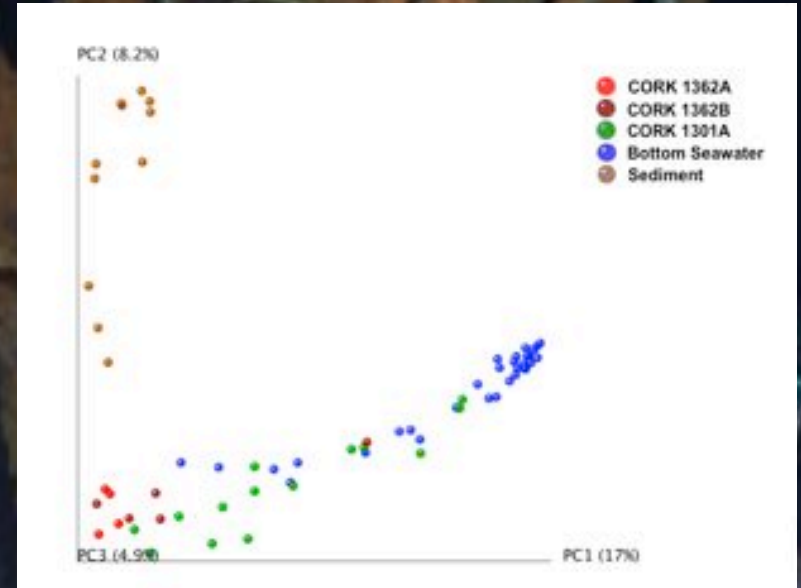- Presenting a poster on the seafloor geology of the U.S. Line Islands region
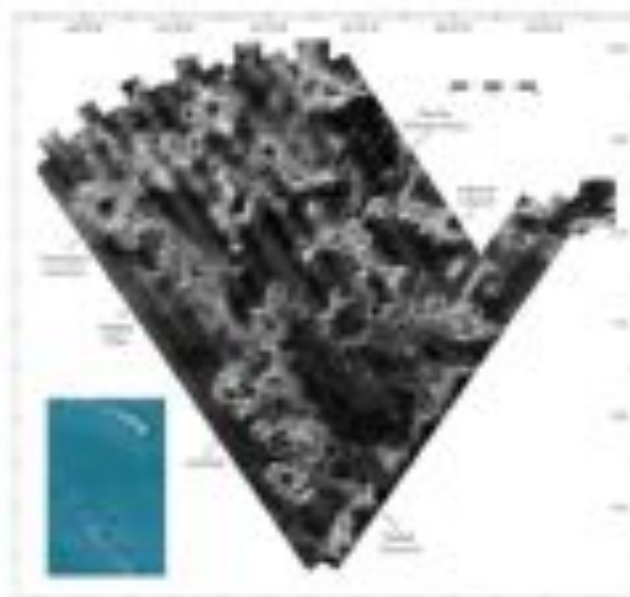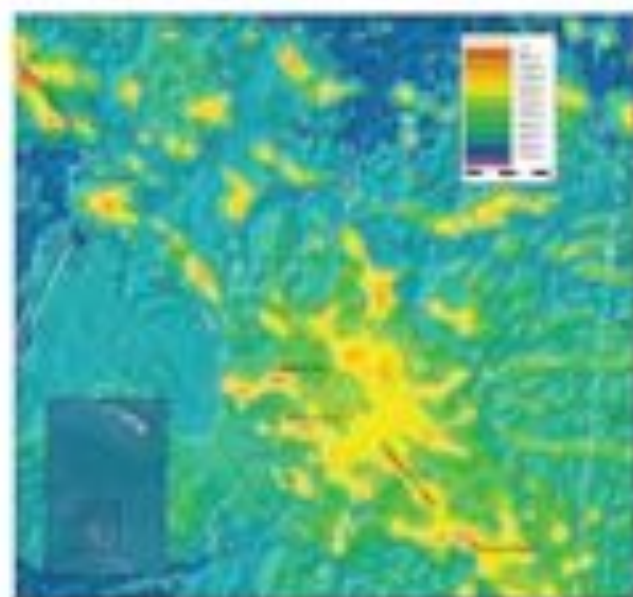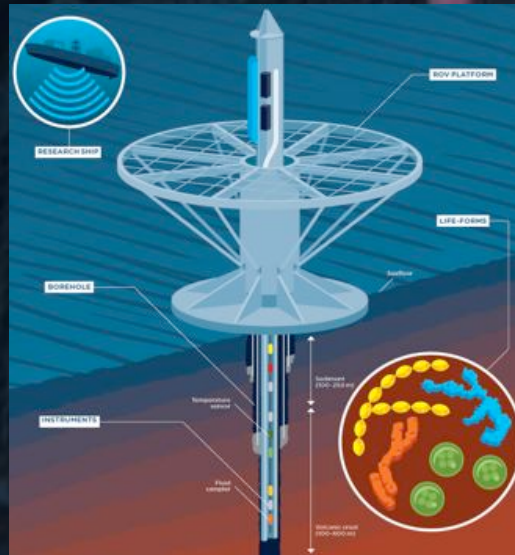
Sean Jungbluth – PhD Student, University of Hawaii
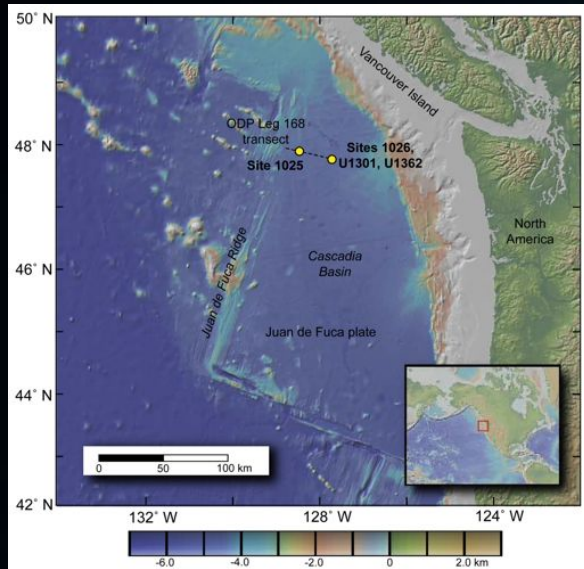
Juan de Fuca Ridge flank

CORK = Circulation Obviation Retrofit Kit

Principal coordinates analysis - *Bacteria*

AGU Poster: Monday, December 9 (13:40 – 18:00; Moscone South)

Session: B13C-0488. Deep Biosphere Research: Presence, Diversity, and Activity of Microbes I

Caleb King

PhD Student
University of North Carolina at Chapel Hill

Gulf of Mexico cold-water coral reef carbon and nitrogen cycling

- Water column and sponge mediated nitrification and denitrification rates.

- Coral released particulate and dissolved organic matter (i.e. coral mucus) transformations by sponges.

Photo Courtesy of Ocean Exploration Trust

Tom Kwasnitschka

GEOMAR Kiel, Germany

- A combination of computer graphics and photogrammetry allows **virtual geologic field work** on the seafloor.

- The project provides a **balancing back-end** to our front-end investment in deep sea research (AUV / ROV).
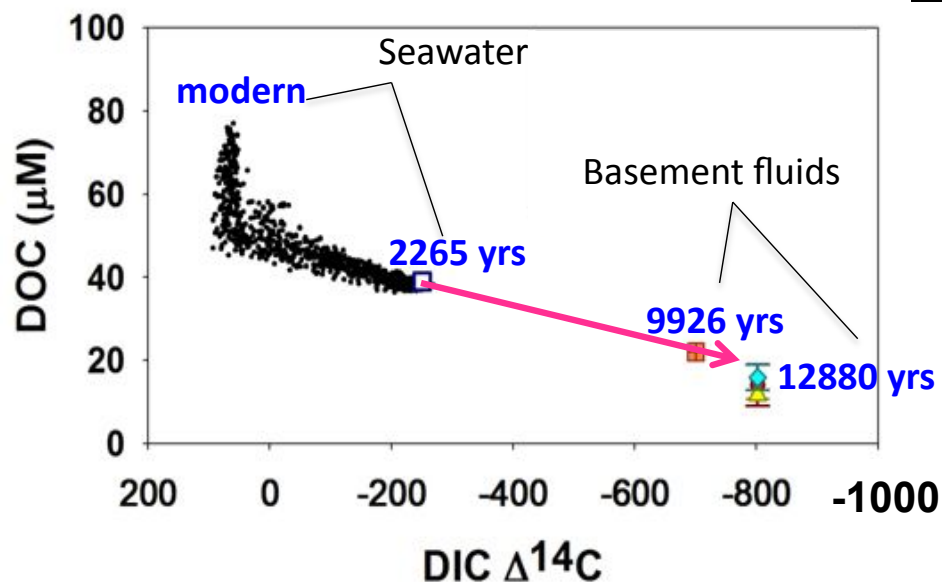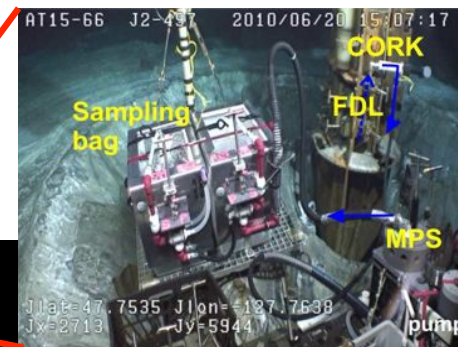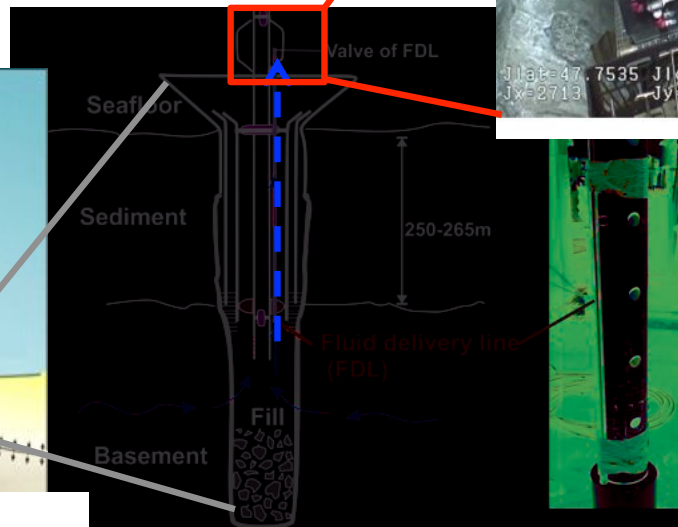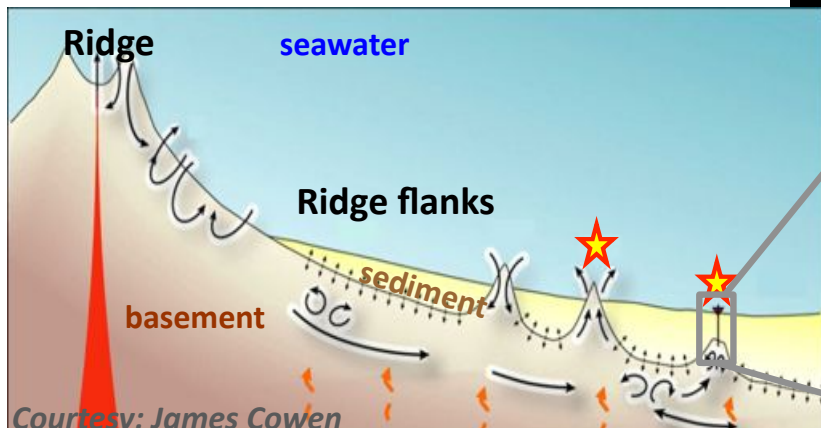
Outlook:
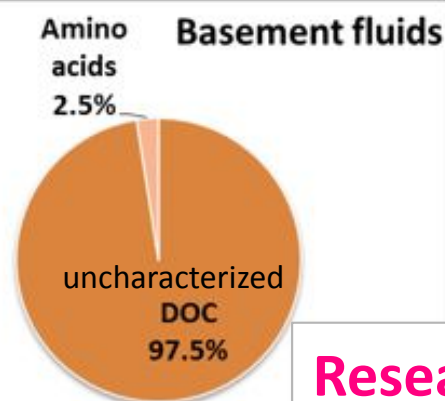**Provide unified visualization services for all branches of ocean science.**

Huei-Ting (Tina) Lin

Biogeochemist, Postdoc
University of Hawaii at Manoa

Ridge   seawater

Ridge flanks

sediment

basement

Courtesy: James Cowen

Seawater

modern

2265 yrs

Basement fluids

9926 yrs

12880 yrs

DOC (μM)

DIC Δ14C

DOC: dissolved organic carbon
DIC: dissolved inorganic carbon (HCO3-)

Amino acids 2.5%   **Basement fluids**

uncharacterized DOC 97.5%

Research project
Characterize DOC in basement fluids

Thomas Morrow

- University of Idaho | Geodynamics

- Ph.D - Evolution of oceanic transform faults
  - Numerical models
  - Statistical analysis of geochemical/geophysical data

- M.S. - Geochemistry of the Galápagos Transform
  - AGU Poster S51C-2383 – Friday morning

Stephanie M. Sharuga

Education:

B.Sc. Biology and Earth & Ocean Sciences (Environmental Emphasis), University of Victoria

M.S. Environmental Management & Sustainability, Illinois Institute of Technology

Ph.D. (Candidate) Oceanography & Coastal Sciences, Louisiana State University

Interests:

Benthic ecology, habitat mapping, deep-sea communities, environmental monitoring & management, deep submersible technologies.

Background:

- Worked with AUV and/or ROV data from Folger Rocks & Barkley Canyon (NEPTUNE/ ROPOS surveys), Northern Gulf of Mexico (Macondo well/Mississippi Canyon area), Blake Ridge & Cape Fear Diapirs (2012 Sentry AUV Telepresence Cruise).
- AUV/ROV imagery & data analysis, habitat classification, anthropogenic vs. natural environmental influences on megafaunal community characteristics.

Future:

Looking for a postdoc or other full-time position.

Contact – ssharuga@att.net   (224) 688-0519