



2019 DESSC New User Program Participants

December 7-8, 2019
San Francisco, CA

1. Andrea Balbas

Affiliation: Oregon State University

Current Position: Post-Doc

Field of Interest/Expertise: Geology, Geochemistry, Geochronology

Research Interests: I am interested in using geochronological methods to define the age of marine rocks and deposits to answer questions about volcanic growth, volcanic processes, terrestrial mega-flood inputs, and subduction zone processes. I have developed some of my ideas and I would like to learn how to submit proposals regarding these studies.

2. Kelsey Barnhill

Affiliation: Palomar Community College

Current Position: Graduate Student

Field of Interest/Expertise: Geology, Geochemistry, Geochronology

Research Interests: I am interested in coral ecology. My Masters thesis focused on shallow water tropical coral ecology and I am interested in studying cold water deep sea coral ecology for my PhD. Specifically, I am interested in examining the effects of acidification and triple stressors on cold water coral skeletal strength.

3. Jacob Bonney

Affiliation: University of Rhode Island

Current Position: Graduate Student

Field of Interest/Expertise: Engineering and Ocean Technology

Research Interests: The design of novel deep sea equipment for underwater vehicles. The passive acoustic monitoring and real time detection of marine mammals. The seasonal variability in acoustic detection range due to environmental and anthropogenic factors.

4. Haley Cabaniss

Affiliation: University of Illinois, Urbana-Champaign

Current Position: Graduate Student

Field of Interest/Expertise: Geology, Geophysics

Research Interests: I am a marine geophysicist/physical volcanologist who uses numerical modeling as a tool to understand the mechanics of triggering volcanic eruptions. I work primarily at the Axial Seamount, where I am currently using a combination of OOI and autonomous bottom pressure instruments and seismometers to constrain models of volcano unrest. I am also interested in understanding seafloor stability as it relates to hydrothermal systems and climate-driven changes in the ocean.

5. Sijia Dong

Affiliation: Caltech

Current Position: Post-Doc

Field of Interest/Expertise: Biogeochemistry, Chemical Oceanography

Research Interests: I am interested in the inorganic carbon cycle in the ocean, with a focus of calcium carbonate dissolution in the water column and in deep sea sediments. Our group has investigated the kinetics and mechanisms of CaCO₃ dissolution both in the lab and in the field. We aim to construct a better-constraint carbonate cycle in the ocean.

6. Valerie Finlayson

Affiliation: University of Maryland

Current Position: Post-Doc

Field of Interest/Expertise: Geology, High temperature isotope geochemistry/deep earth chemistry & dynamics

Research Interests: My interests lie in the isotope geochemistry and temporal behavior of mantle plumes and how they relate to various mantle reservoirs and geodynamic processes within the mantle. Deep Earth research is often highly informed by isotopic observations from oceanic intraplate volcanism, including (and often especially) from the submarine flanks of volcanoes comprising hotspot tracks, and I have a strong interest in increasing the amount and dimensionality of isotopic data available in order to improve our understanding of Earth's geochemical evolution and reservoir development.

7. Carina Fish

Affiliation: University of California Davis

Current Position: Graduate Student

Field of Interest/Expertise: Biogeochemistry

Research Interests: I am investigating the ways in which deep sea coral ecosystems are affected by ocean acidification, deoxygenation, and temperature variability higher in the water column. I am studying coral growth, specifically how they respond to environmental parameters like oxygenation via depth in the water column, and food availability and quality via geography/latitude. I am also analyzing bamboo corals for their paleoarchive.

8. Ryan Fochs

Affiliation: University of Miami – Rosenstiel School of Marine and Atmospheric Science

Current Position: Graduate Student

Field of Interest/Expertise: Underwater / Marine Archaeology

Research Interests: Trained initially in evolutionary biology and ecology, I have transitioned my research interests into underwater archaeology as a way to investigate submerged cultural resources in deep sea environments. In a new paradigm of archaeology, I utilize my background in the natural sciences to serve as a lens to view human-environment interactions through the submerged archaeological record, in addition to viewing the site formation process of maritime cultural heritage as being part of the ecosystem as they rest on the sea floor. My research includes a number of remote sensing techniques deployed in marine survey, however the depth of open-circuit diving limits our investigations of sea floor anomalies to 50 meters. It is my greatest ambition to bridge my interests into deep sea settings through the emerging use of ROV/AUV technologies.

9. Jeremy Fox

Affiliation: Oregon State University – Ship Operations

Current Position: Research Vessel Master

Field of Interest/Expertise: Research Vessel Operations

Research Interests: As the Master of RV Oceanus, it is my professional goal to support all oceanographic research. Specifically, we are in the planning stages of a multi voyage, multi vessel operation next year along the US West Coast and Canada. In conjunction with NOAA and NSF, we'll be supporting an extensive project involving the deployment/recovery of seabed instrumentation via ROV. In addition, I have a personal interest in subsea robotics and operate a Blue Robotics BROV2 for STEM outreach and recreational use.

10. Michelle Hauer

Affiliation: University of Rhode Island – Graduate School of Oceanography

Current Position: Graduate Student

Field of Interest/Expertise: Macrobiology, Microbiology

Research Interests: Using molecular and physiological tools, my research focuses on microbial ecology and host-microbe symbiosis at chemosynthetic environments, namely hydrothermal vents.

11. Benjamin Jordan

Affiliation: Brigham Young University - Hawaii

Current Position: Mid-Career Scientist

Field of Interest/Expertise: Geological Oceanography, Volcanology

Research Interests: I am mainly interested in using remote sensing tools (currently I use sUAV platforms) to collect data in volcanic and coastal environments. I have always wanted to be involved in deepwater research, but my dissertation research was not in that area.

12. Gabriella Kalbach

Affiliation: San Diego State University

Current Position: Graduate Student

Field of Interest/Expertise: Marine Ecology

Research Interests: I am primarily interested in exploration of the deep sea environment, as well as biotic and abiotic interactions in understudied deep sea communities.

13. Sheila Moaleman

Affiliation: University of Louisiana - Lafayette

Current Position: Graduate Student

Email Address: Sheila.moaleman@gmail.com

Field of Interest/Expertise: Macrobiology

Research Interests: My research interests include: deep-sea biology; evolution and diversity of marine animals, with particular interest in cnidarians and cetaceans; molecular systematics and evolutionary history of cnidarians; effects of dispersal and gene flow on the genetic structure of shallow and deep-water populations; and evolution of cetacean nervous systems.

14. Camille Pagniello

Affiliation: Scripps Institution of Oceanography

Current Position: Graduate Student

Field of Interest/Expertise: Geophysics, Macrobiology, Data/Information Management, Engineering & Ocean Technology, Sensor Development, Acoustics

Research Interests: My research interests lie at the intersection of acoustics, geophysics, robotics, marine animals, and sustainable management of natural resources. Specifically, I am interested in combining multiple sensing modalities (e.g., passive and active acoustics, optical imaging etc.) to study the spatial and temporal patterns of species diversity, abundance and biomass and how these patterns are related to biological, chemical, geological and physical oceanographic properties through the development and use of new, innovative and non-lethal instrumentation as well as employing physics- and statistical-based models.

15. Klara Perkins

Affiliation: California Polytechnic State University – San Luis Obispo

Current Position: Undergraduate Student

Field of Interest/Expertise: Geology, Geophysics

Research Interests: I am interested in deep-sea marine geology and geophysics, including quantifying submarine lava flows and the geometry of mid-ocean ridges. Multibeam bathymetric and sidescan sonar data collected by Sentry are what I have primarily worked with in order to do this. Comprehensively, I am focused on the interdisciplinary connections this

research has, its relation to the gross morphology of the ocean floor around spreading centers, and how the quantity and quality of data collected affects our understanding.

16. Jessica Pruitt

Affiliation: Scripps Institution of Oceanography

Current Position: Graduate Student

Field of Interest/Expertise: Macrobiology

Research Interests: Deep sea biology with emphasis on phylogeny and biogeography.

17. Betsy Pugel

Affiliation: NASA

Current Position: Mid-Career Scientist

Field of Interest/Expertise: Sensor Development, Instrument/Technology Development

Research Interests: Development of novel imaging instrumentation for ocean applications.

18. Andrea Rodriguez-Marin Freudmann

Affiliation: Harvard University

Current Position: Undergraduate

Field of Interest/Expertise: Engineering & Ocean Technology

Research Interests: I have worked with the Girguis Lab on their in-situ mass spectrometer, mainly in developing the inlet system and improving the overall vacuum. I have also done some work involving pressure vessels, mainly regarding the ability to use tube stock in order to allow for a generic housing design by only requiring end cap manufacturing.

19. Esprit Saucier

Affiliation: Brigham Young University

Current Position: Early Career Scientist

Field of Interest/Expertise: Macrobiology

Research Interests: I study the genetic versus morphological variation of deep sea corals. I am particularly interested in deep-sea bamboo corals and xeniids.

20. Tony Wang

Affiliation: Boston College

Current Position: Early Career Scientist

Field of Interest/Expertise: Biogeochemistry

Research Interests: My research focuses on using stable isotopes to understand the biogeochemical cycles (with a focus on N, but also including C, O, and S) in the modern and past oceans, their interactions with climate, and their implications for Earth's habitability and the evolution of life.

21. Elizabeth Whitson

Affiliation: University of Miami – Rosenstiel School of Marine and Atmospheric Science

Current Position: Graduate Student

Field of Interest/Expertise: Marine Ecosystems and Society

Research Interests: I am interested in studying mesophotic reef systems around the world, ideally looking at their ecological connections to euphotic reef systems. Currently I am working on creating for the first time ever the microbiome of *Aplysia californica*, and eventually will translate these skills into a PhD and post-doctoral studies on both the macro and microorganisms that make up these unique, deep ocean ecosystems.