



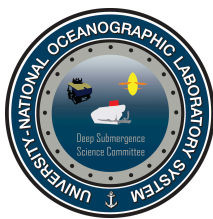
2025 DeSSC New User Program Participants  
December 13th, 2025 to December 14th, 2025  
Loyola University, New Orleans

**Michelle Beck**

- **Affiliation:** University of Rhode Island
- **Current Position:** Graduate Student
- **Field of Interest/Expertise:** Microbiology, Biological Oceanography
- **Research Interests:** I study the ecology and evolution of microbial symbioses at hydrothermal vents, focusing on the epibiont communities of the Pompeii worm (*Alvinella pompejana*). My research integrates metagenomics, host population genomics, and vent fluid geochemistry to investigate how microbial communities adapt to extreme environments and contribute to host survival. More broadly, I am interested in how deep-sea symbioses shape ecosystem function and resilience in hydrothermal systems.

**Tremaine Bowman**

- **Affiliation:** Caribbean Marine Science
- **Current Position:** Early Career Scientist
- **Field of Interest/Expertise:** Macrobiology, Physical Oceanography
- **Research Interests:** My research interests focus on the ecology and resilience of deep-sea and pelagic ecosystems, particularly in the Caribbean, and how they are affected by multiple stressors such as climate change, fisheries, energy development, and emerging ocean industries. I am especially interested in using new technologies, including deep-submergence vehicles, to explore poorly studied habitats, assess ecosystem vulnerability, and generate knowledge that can inform sustainable ocean management and science-policy dialogue.



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***Penny Demetriades***

- **Affiliation:** University of South Alabama
- **Current Position:** Graduate Student
- **Field of Interest/Expertise:** Macrobiology, Microbiology
- **Research Interests:** My research involves developing new and emerging molecular tools to assess interactions between human populations and marine systems to support better management of natural systems for community and ecosystem health. My PhD research applies amplicon and environmental DNA metagenomic sequencing to improve detection and source tracking of terrestrial microbial contamination (including potential pathogens) in marine environments.

***Jianhua Gong***

- **Affiliation:** Indiana University
- **Current Position:** Early Career Scientist
- **Field of Interest/Expertise:** Geophysics
- **Research Interests:** My research focuses on earthquake and faulting processes at plate boundaries. I use ocean bottom seismometer data to study earthquake dynamics and oceanic crust structure.

***Lydia Hayes-Guastel***

- **Affiliation:** University of South Alabama
- **Current Position:** Graduate Student
- **Field of Interest/Expertise:** Microbiology, Biogeochemistry
- **Research Interests:** I am a microbial ecologist studying microbial life in the marine deep subsurface and its role in biogeochemical cycling. I am interested in biodiversity, community structure, functional roles, and adaptations that allow survival in extreme environments. I also explore how microbial communities in the deep subsurface can serve as analogues for early Earth and inform the search for life elsewhere in the universe.



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**Katie Howe**

- **Affiliation:** Dauphin Island Sea Lab
- **Current Position:** Post-Doc
- **Field of Interest/Expertise:** Microbiology, Biogeochemistry
- **Research Interests:** I consider myself a microbial oceanographer and have studied microbes from the air/sea interface through the subsurface. My focus has included hydrocarbon-degrading bacteria in the Gulf of Mexico, and I am now expanding to microbes in polar and other environments. My specialty is bioinformatics, though I am reacquainting myself with lab work (DNA extractions, PCR, etc.).

**Julia Hubbard**

- **Affiliation:** Rensselaer Polytechnic Institute
- **Current Position:** Graduate Student
- **Field of Interest/Expertise:** Geology, Organic Geochemistry
- **Research Interests:** My research centers on the production, transformation, and transport of condensed aromatic carbon at hydrothermal vent systems. At 9°N East Pacific Rise, I investigate how hydrothermal vents contribute to the deep ocean carbon budget by measuring BPCA's in vent flows, chimney rocks, and plumes.

**Alexis Janosik**

- **Affiliation:** University of West Florida
- **Current Position:** Mid-Career Scientist
- **Field of Interest/Expertise:** Macrobiology
- **Research Interests:** I am a molecular ecologist working at the intersection of genetics, ecology, and environmental science. I use eDNA, metabarcoding, and population genomics with spatiotemporal modeling to investigate biodiversity and monitor species distributions. My research spans the Gulf of Mexico to polar regions, including phylogeography, microplastic impacts, and telomere dynamics as indicators of stress and longevity. I am increasingly applying these approaches to deep-sea organisms as potential refugia for biodiversity conservation.



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**Preston Kemeny**

- **Affiliation:** Woods Hole Oceanographic Institution
- **Current Position:** Early Career Scientist
- **Field of Interest/Expertise:** Biogeochemistry
- **Research Interests:** I am a low-temperature stable isotope geochemist interested in marine chemistry over geological timescales. My prior work studied river system chemistry and weathering fluxes, but I am now focused on seafloor hydrothermal activity and its impact on seawater ion chemistry.

**Lacie Levy**

- **Affiliation:** University of Washington
- **Current Position:** Graduate Student
- **Field of Interest/Expertise:** Microbiology, Biological Oceanography
- **Research Interests:** I study biological adaptations in light-limited environments such as polar regions and the deep sea. My current research pairs metabolomic and metagenomic datasets to understand light-limited ecology through chemical economy.

**Ethan Lopes**

- **Affiliation:** Stanford University
- **Current Position:** Graduate Student
- **Field of Interest/Expertise:** Geophysics
- **Research Interests:** I investigate how magnetic minerals form during fluid-rock interactions and what they reveal about Earth's dynamic systems. By characterizing magnetic properties, I use them as tracers of geological processes, from hydrothermal circulation to tectonic and magmatic history.



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**Alyvia Martinez**

- **Affiliation:** Duke University
- **Current Position:** Graduate Student
- **Field of Interest/Expertise:** Macrobiology
- **Research Interests:** My research focuses on the sensory biology and ecology of benthic invertebrates, emphasizing vision. I use microCT to compare pycnogonid eye morphology across habitats, integrating evolutionary analyses, optical modeling, and behavioral experiments. I am particularly interested in bioinspired sensor development for wide-field and low-light underwater imaging.

**Alanna Mnich**

- **Affiliation:** University of Massachusetts Dartmouth
- **Current Position:** Post-Doc
- **Field of Interest/Expertise:** Macrobiology, Biogeochemistry
- **Research Interests:** My expertise overlaps fisheries (ichthyoplankton) and biogeochemistry, particularly stable isotope applications. I have worked on seawater biogeochemistry, zooplankton taxonomy, and isotope records in otoliths and shells. I aim to expand my research from pelagic systems to the deep sea.

**Caitlin Plowman**

- **Affiliation:** Oregon Institute of Marine Biology
- **Current Position:** Post-Doc
- **Field of Interest/Expertise:** Macrobiology
- **Research Interests:** I study benthic ecology, focusing on how environmental conditions interact with reproductive patterns and larval biology of deep-sea organisms. My recent work examines how surface productivity influences mussel reproductive cycles at methane seeps and the release of chemosynthetic energy into the deep-pelagic system.



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***Daniel Price***

- **Affiliation:** University of Tennessee, Knoxville
- **Current Position:** Graduate Student
- **Field of Interest/Expertise:** Geology
- **Research Interests:** My research spans planetary and marine geology, focusing on Earth analogs for planetary systems. My thesis explores gypsum dunes at White Sands, NM as Martian analogs, and I am interested in hydrothermal vents as potential habitats for life on icy moons such as Europa and Enceladus.

***Dallas Sherman***

- **Affiliation:** University of Texas Institute for Geophysics
- **Current Position:** Early Career Scientist
- **Field of Interest/Expertise:** Geophysics
- **Research Interests:** I use electromagnetic methods combined with reactive transport modeling to study hydrothermal venting processes.

***Russell Shomberg***

- **Affiliation:** University of Rhode Island
- **Current Position:** Early Career Scientist
- **Field of Interest/Expertise:** Engineering & Ocean Technology
- **Research Interests:** I develop accessible technology to support marine field research, especially in deep-sea and Arctic environments. I am also interested in enabling scientific applications for emerging technologies including robotics, computer vision, and machine learning/AI.

***Elizabeth Spiers***

- **Affiliation:** WHOI / University of Texas
- **Current Position:** Early Career Scientist
- **Field of Interest/Expertise:** Geophysics, Engineering & Ocean Technology
- **Research Interests:** I study the habitability of ocean worlds (Europa & Enceladus). Using computational modeling, laboratory experiments, spacecraft data, and Earth analogs, I investigate ocean evolution, composition, and potential for life. I am part of NASA's Europa Clipper radar team and have contributed to multiple mission development projects for astrobiological investigations.



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***Jacob Tomer***

- **Affiliation:** University of Rhode Island
- **Current Position:** Graduate Student
- **Field of Interest/Expertise:** Geology
- **Research Interests:** I research the chemistry, rheology, and morphology of submarine eruptions