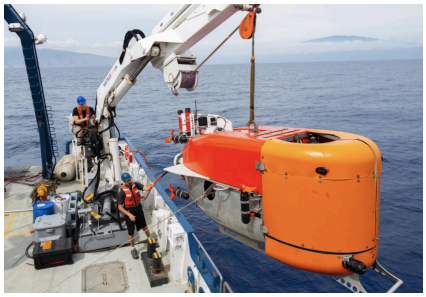
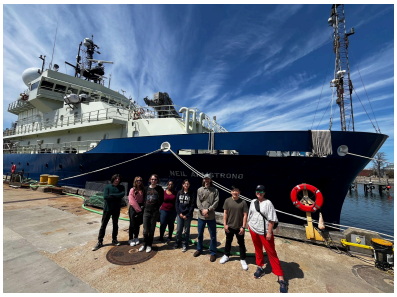
OCEAN EXPLORATION COOPERATIVE INSTITUTE | EXPLORING THE NATION'S BLUE FRONTIER

OCEAN EXPLORATION TRUST | UNIVERSITY OF NEW HAMPSHIRE | UNIVERSITY OF RHODE ISLAND
UNIVERSITY OF SOUTHERN MISSISSIPPI | WOODS HOLE OCEANOGRAPHIC INSTITUTION

Dive into the **Bridge to Ocean Exploration (B2OE) Program** with the Ocean Exploration Cooperative Institute (OECI) at the **University of Rhode Island's (URI) Graduate School of Oceanography (GSO)**! Dip your toes into the multidisciplinary world that is ocean science with opportunities in video/data engineering, media asset management, technology asset management, applied coral science, and multimedia production.





The OECI (https://web.uri.edu/oeci/) is a unique consortium of top oceanographic institutions: URI, Woods Hole Oceanographic Institution (WHOI), University of New Hampshire, the University of Southern Mississippi, and the non-profit organization, Ocean Exploration Trust. They work together to push the boundaries of ocean exploration with research and innovation in remotely-operated and autonomous vehicle operations, virtual engineering connectivity, and ocean science communication and engagement.

A core mission of the OECI is to inspire future generations of ocean scientists and engineers, and foster Blue Economy workforce development. The B2OE Program is an experiential learning program key to advancing this mission. Currently, the OECI is recruiting **up to 10 students** to create a 5th B2OE Cohort and participate in this **PAID**, **part-time program**. Potential, student project pathways may include:

Computer science/programming
Ocean exploration data science
Ocean engineering and robotics
Deep sea biology
Virtual environments and 3D models
Science communication and video production

Project Pathway Breakdown- Mesophotic Coral Reef Biology/Genetics (lab-based)

In 2010, the explosion of the Deepwater Horizon (DWH) drilling platform released more than 3.19 million barrels of oil, 218 billion liters of natural gas, and seven million liters of chemical dispersants into the Gulf of Mexico. The spill impacted ecosystems from Texas to Florida, severely damaging deep-sea, offshore, and nearshore habitats, including mesophotic coral communities. Our research group is working to understand and support the recovery of mesophotic octocoral populations affected by the spill. Restoration in these deep reef systems involves three potential pathways: natural recruitment, assisted recruitment, and colony propagation. The B2OE student will focus on natural recruitment, a key process that determines whether coral populations can recover and persist without continued human intervention.

The selected student will join an ongoing multi-institutional project that quantifies octocoral recruitment using settlement tiles deployed in 2023 and 2024 across mesophotic sites in the Gulf of Mexico. The project will advance understanding of larval supply, colonization potential, and species recovery dynamics in deep coral ecosystems, critical information for long-term restoration planning in the Gulf of Mexico.

- This project will be supporting research in Dr. Carlos Prada's lab, investigating symbiosis in Rhode Island corals via stable isotope analysis; connections to deep sea coral research will be explored.
- The student will work along URI graduate students to investigate energy allocation in the Rhode Island temperate coral, *Astrangia poculata*.The project, using compound-specific isotope analysis (CSIA), is focused on the following questions: 1) How does light availability impact symbiosis and morphological light modulation in temperate corals? 2) How is energy from heterotrophy (cannot produce its own food- a consumer) versus photosynthesis

The student will work on the following tasks:

- Extract DNA from organisms coming from mesophotic tiles
- Prepare samples for Sanger Sequencing
- Use NCBI databases to ID species
- DNA extract samples from environmental DNA
- Prepare genomic libraries from those samples
- Sequence eDNA/metabarcoding samples for Illumina sequencing
- Use bioinformatic pipelines to produce species matrices of presence/abscense of species in environmental DNA samples

The student can expect to:

- Acquire basic data management & lab cleanliness skills
- Learn common coral molecular biology protocols
- Prepare coral samples for analysis using commercial DNA kits
- Quantify DNA and prepare genomic libraries to sequence environmental DNA
- Analyze genomic data using common pipelines
- Gain (optional) basic R and github skills

- allocated differently within the coral? 3) How do changes in heterotrophy vs. photosynthesis affect coral physiological health?
- *Useful coursework/experience requested for this project pathway:*
    - Strong interest in STEM
        - *Preferred majors (but not required) for this pathway: Science, Biotechnology, Chemical Technology, Environmental Sustainability*
    - Completion of at least 2 community college science courses (e.g. biology, chemistry, geology, physics, oceanography)
    - Proven attention to detail and organization skills
    - Ability to work independently and as part of team (communication is key)

Benefits to B2OE Program participation:

- Up to $17/hour equivalent (paid via two stipends, one in early March 2026, and the other in late May 2026)
- Exposure to cutting-edge ocean science, engineering, and media production technologies and best practices within the OECI
- Collaboration with OECI personnel; field trips to tour URI, WHOI, and other facilities, as well as local industry (if/when possible)
- Opportunity to remotely participate in NOAA *Okeanos Explorer* and EV *Nautilus* expeditions
- Peer-to-peer interaction to build communication skills
- Information exchange and networking opportunities with industry professionals during a virtual Blue Economy Career Awareness Fair

In addition to the above mentioned part-time experience, **additional program requirements and expectations include**:

- Time commitment of up to 10h/week (December 2025- May 2026)
- Potential for onsite and/or tele-work
- Weekly tag-ups with mentors to gauge project progress and answer questions (mentors are also available via email for questions, etc. at any time)
- Participation in OECI student events, including Lunch and Learn networking events and a virtual Blue Economy Career Awareness Fair
- Final project summary report and presentation
- Participation in pre- and post-experience 360˚ evaluation

Eligibility:

- U.S. Citizenship (or F-1, J-1 visa status if applicable)
- Currently enrolled CCRI students (undergraduate/associate's degree, and/or workforce certificate)
- Degree, major, or intent to major in a field relevant to the OECI's mission; these can include, but are not limited to: STEM (science, technology, engineering and math), computer science, media production and graphic design, communications, education, and/or business operations/administration

B2OE Program Timeline/Key Dates:

- **Interested CCRI students must complete the OECI B2OE online application by on or before 11:59 pm ET, October 26, 2025.**
    - In addition to this application, interested individuals will also be required to submit their **current resume or curriculum vitae (CV),** with **3 professional references listed** (who can speak to the applicant's character and professional and/or academic background- this can be a professor, advisor, teacher, community member, work supervisor, mentor, etc.).
- Potential participants will be **notified by November 7, 2025, for a virtual interview.** Applications will be reviewed and analyzed based on merit and relevant experience.
- **Final selections** on or before **November 21, 2025**; candidates will be notified of their status.
- **An anticipated program start date, with an on-site orientation at URI's Graduate School of Oceanography campus in Narragansett, RI, will be on or before December 10, 2025.**

Questions? Please contact Holly Morin (holly_morin@uri.edu)