



NAME: Tristan Lam

DEGREE: Marine Science: Biology Concentration (BS) & Environmental Studies (BS) - Eckerd College (2022)

DEGREE SEEKING: Master's in Environmental Science with a concentration in Coastal and Marine Ecology

THESIS/DISSERTATION TITLE: Enhancing the Application of Benthic Foraminifera as Bioindicators of Heavy Metal Pollution on Deep Water Coral Reefs using Machine Learning.

RESEARCH INTEREST: In the present day, anthropogenic impacts such as pollution are impacting our ecosystems drastically, especially our oceans. By examining the lifestyles and natural behaviors of certain indicator organisms, we can also discern the effects of anthropogenic activities on the organism, ultimately allowing us to better understand the impact we have on the ecosystem as a whole. My bioindicator organisms of choice thus far have been benthic foraminifera, marine protists with calcareous shells. As microorganisms that live on the seafloor, they are deeply integrated into the marine ecosystem, and are very reactive to environmental stressors. My current research involves examining the reaction of benthic foraminiferal assemblages on deep-water reefs to heavy metal pollution and using this relationship to create an adaptive management ecosystem model to generate recommendations on how to best manage pollution on the reef.

PUBLICATIONS:

N/A

ABSTRACTS:

- **Lam T.,** Martínez-Colón M. (2024) *Benthic Foraminifera as Bioindicators of Heavy Metal Pollution in the Flower Garden Banks National Marine Sanctuary*. Florida A&M University, Tallahassee, Florida. **(POSTER)**
- O'Malley B., Schwing P., **Lam T.,** Larson R., Brooks G., Schell J., Gooday A. (2024) *Benthic Foraminifera are Useful Bioindicators to Monitor the Effects of a Full-Scale Deep-Sea Mining Test in the Southeastern Clarion-Clipperton Zone, NORI-D*. Eckerd College, St. Petersburg Florida. **(POSTER)**
- **Lam T.,** Elkin A., O'Malley B., Schwing P. (2023) *Methods for Classification of Epilithic Benthic Foraminifera of the Southeast Clarion-Clipperton Zone*. Eckerd College, St. Petersburg Florida. **(POSTER)**
- O'Malley B., Schwing P., **Lam T.,** Larson R., Brooks G., Gooday A. (2023) *Patterns of Foraminiferal Diversity and Species Composition from a Three-Year Time Series in the Southeastern Clarion-Clipperton Zone, an Area Designated for Deep Sea Mining*. Eckerd College, St. Petersburg Florida. **(ORAL)**

- Schwing P., Garrett M., Hubbard K., Mopps G., **Lam T.**, Dauzvardis G., Rivera D., Cory A., Schnackenberg K., Hunt A., O'Malley B., Larson R., Brooks G. (2023) *Harmful Algal Bloom (Red Tide) Monitoring Utilizing Benthic Foraminifera on the West Florida Shelf (USA)*. Eckerd College, St. Petersburg Florida. (**ORAL**)

HONORS AND AWARDS:

- NOAA Center for Coastal and Marine Ecosystem (CCME) Scholarship, August 2023-present