



UNIVERSITY OF SOUTH ALABAMA

Graduate Research Project in Environmental Toxicology (MS) – Potential long-term impacts of brevetoxin exposure on manatee health

University of South Alabama, Mobile, AL

We are seeking a new graduate student to conduct a research project within the 2-year **Environmental Toxicology Masters program** at the University of South Alabama ideally starting in Spring 2023. Applications will be accepted through November 15th and reviewed as they are received.

Project: Harmful algal blooms (HABs) are thought to be increasing in intensity and geographic distribution in coastal areas worldwide, due in part to anthropogenic activities and climate change. HABs such as the brevetoxin-producer *Karenia brevis* are prevalent along the Gulf of Mexico coastline and blooms have resulted in bioaccumulation in seafood, uptake by macroalgae, and associated with widescale fish-kills, and mortalities in sea birds, sea turtles, and marine mammals. As a migratory species that move large distances between the southeast and the northern Gulf of Mexico annually, the West Indian manatee (*Trichechus manatus*) can be exposed to brevetoxin multiple times in their lifetime. **This project seeks to investigate the potential long-term correlation between manatee mortality (from animals stranded in Alabama waters) and brevetoxin exposure.**

The successful graduate student will learn advanced toxicological and analytical methods for the detection and quantification of brevetoxins from manatee tissues archived by the Alabama Marine Mammal Stranding Network. Using compartment models the student will then evaluate the timing and extent of toxin exposure which will then be correlated to necropsy data and histopathology. While this project is expected to be largely lab-based, the student will also have the opportunity to assist with occasional manatee stranding responses, necropsies, and environmental sample collection during bloom events.



Desirable background and skills include: a) experience in bioanalytical chemistry, molecular biology, or other clean, meticulous work; b) ability to create quality spreadsheets, graphs, and conduct basic statistical analyses (experience with R is a plus). Prospective students should be highly motivated and independent, have strong communication skills, and be willing to conduct



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extensive lab work. This student would also be expected to conduct research and attend classes at the University of South Alabama campus and the Dauphin Island Sea Lab, located 45-minutes south of the University. A B.S. degree in the Life Sciences with prior coursework in Chemistry, Biology, Biochemistry, Physiology, and Statistics, preferred. All training will be provided to ensure success of the student. Successful applicants will be considered for a research assistantship and tuition remission through the Stokes School of Marine and Environmental Sciences and/or via grant funding for up to 2-years, renewable annually. These funded positions are limited and competitive, so preference will be given to students with experience (and/or transferrable skills), competitive grades, and references from prior positions.

Interested applicants should contact Dr. Alison Robertson (arobertson@disl.org) to express interest. Please use the email subject "Brevetoxin Graduate Student Assistantship" and include: 1) a brief description of research interests as they relate to this project; 2) an updated CV including undergraduate GPA and referee contact information; and 3) unofficial transcripts.

Learn more about the Robertson lab (<https://www.disl.edu/who-we-are/arobertson/#who-we-are>) and Carmichael Lab (<https://www.disl.edu/who-we-are/rcarmichael/#carmichael-lab>). [More information on the Environmental Toxicology program can be found here: https://www.southalabama.edu/colleges/artsandsci/marinesciences/environmental toxicology.html](https://www.southalabama.edu/colleges/artsandsci/marinesciences/environmental toxicology.html)

The University of South Alabama value diversity in every sense of the word and are equal-opportunity employers and encourage applications from a diverse pool of prospective students.