

## RESEARCH EXPERIENCES FOR UNDERGRADUATES (REU) OPPORTUNITY: FIDDLER CRAB BEHAVIOR AND THERMAL ECOLOGY



**Overview:** We seek highly a motivated and enthusiastic undergraduate student for a Research Experiences for Undergraduates (REU) summer internship in [Dr. Zachary Darnell's laboratory](#) at The University of Southern Mississippi's [Gulf Coast Research Lab \(GCRL\)](#) in Ocean Springs, MS. This is a 10-week, full-time, paid internship. Dates are flexible but will run from approximately the beginning of June through mid-August 2020. The selected student will receive a \$5000 stipend, housing, and meals during the 10-week program. Additionally, up to \$600 will be provided to defray travel costs to Ocean Springs, MS.

The selected student will conduct independent research, mentored by Dr. Darnell, in conjunction with an ongoing NSF-funded research project "[An integrative field and biophysical model of thermal stress, physiological performance, and reproductive fitness.](#)" This project focuses on the fitness consequences of missed mating opportunities associated with thermoregulatory behaviors in fiddler crabs. The project takes an integrative approach, combining laboratory measurements, manipulative field experiments across the range of the species (with field sites in Panacea, FL; Beaufort, NC; and Stony Brook, NY), and biophysical modeling to examine the fitness consequences of behavioral thermoregulation and to predict the consequences of climate change on fitness.

The selected student will work with Dr. Darnell to develop and conduct an independent research project that contributes to the goals of the larger research project. In addition to being mentored by Dr. Darnell, the student will also work closely with USM graduate students and collaborators at Stony Brook University. The first ~3 weeks of the internship will be spent at GCRL in Ocean Springs, MS, developing the research project and testing methods. The next ~5 weeks will be spent conducting field research with Dr. Darnell and his graduate students in Panacea, FL; Beaufort, NC; and Stony Brook, NY. The final ~2 weeks of the internship will be spent back at GCRL, completing data analyses and preparing a final report and presentation on the research project.

**Eligibility:** Applicants must be rising sophomore, junior, or senior undergraduate students currently enrolled in a degree program. Due to NSF funding restrictions, only U.S. citizens, nationals, or permanent residents are eligible. Applicants should be willing and able to work under hot and strenuous field conditions and flexible to adapt to the ever-changing constraints and opportunities associated with field research.

**To Apply:** Applications should be submitted to Dr. Darnell by email ([zachary.darnell@usm.edu](mailto:zachary.darnell@usm.edu)) no later than **February 14, 2020**, and should include the following documents: (1) letter of interest that describes your educational background, career goals, and how this internship will contribute towards those goals, (2) current curriculum vitae/resume, and (3) unofficial transcripts. Additionally, please arrange to have two letters of recommendation emailed directly to Dr. Darnell by the application deadline.