REU: Undergraduate Research in Estuarine and Coastal Marine Systems
Duke University Marine Laboratory (NSF-OCE-1460180)
Director: Richard Forward, Associate Director: Tom Schultz
Affiliated University: Savannah State University

Program Summary
Nine students participate in a 10-week program during the summer at the Duke University Marine Lab on Pivers Island (Beaufort, NC). Students reside in dorms on campus and share meals in the dining hall with other students, faculty and staff. Each student is paired with a faculty mentor and conducts a research project in addition to participating in curricular and co-curricular activities.

The application includes a resume, transcripts, 2 letters of recommendation and statement of research interests. The number of applicants averages 260 each year. Minorities comprise 38% of the participants with about 50% from schools with limited research opportunities.

Curricular Activities include
• Instruction in oral and poster presentations, and scientific writing
• Marine Conservation Seminar Series with world-renowned lecturers
• Panel discussion on Graduate School
• Weekly informal lunch meetings
• Visit by REU students from Savannah State University

Co-curricular Activities
To foster a greater sense of community among the REU students and to enhance the experiential learning environment, co-curricular activities are planned each summer. Examples include:
• Field trips to intertidal areas, sea grass beds and outer bank islands
• Tour of NC Aquarium at Pine Knoll Shores
• Coastal birding field trip
• Coastal shark census (UNC)
• Sailing, surfing, kayaking
• Dinners with advisers

Research Areas
• Sensory Physiology, Ecology, and Behavior
• Molecular Biology and Genetics
• Coastal and Estuarine Processes

Academic Products
• Three oral presentations and a manuscript

Program Assessment
• Customized pre and post student surveys
• Longitudinal student tracking

Diversity
The Duke University Marine Lab is committed to creating opportunities for underrepresented students in marine science. Programs include:
• NSF REU program
• Undergraduate Fellowships in Marine Science
• Outreach Lectureship with Elizabeth City State University, Savannah State University and Hampton University.

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2016 Duke Marine Lab and Savannah State University REU Students

Duke Lab REU Participation (2009-2016)

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REU Students 2015
1. Holly Callahan – Seattle University, Adviser Dr. Andy Read
   “Characterization of tagonics calls produced by short-finned pilot whales”
2. Peggy Delcy – Cornell University, Adviser Dr. Doug Nowak
   “Spawning and temporal analysis of North Atlantic Right whales off Cape Hatteras, NC with passive acoustic monitoring”
3. Thomas Gunten – Clemson University, Adviser Dr. Brian Silliman
   “What is the numerical and functional response of predators to grazer fronts?”
4. Kevin Sanchez – Marquette University, Adviser Dr. Richard Forward
   “Rhythmic larval release in the crab Dypsoannopus spp.: entrainmen by light/dark and temperature cycles”
5. Natalia Schauberg – University of Pennsylvania, Adviser Dr. Ken Stoddard
   “The effects of hypoxia on coastal benthic community composition and function”
6. Anne Schubert – Carson College, Adviser Dr. Tom Schultz
   “Utilizing estimates of effective population size in analysis of river herring runs in the Mid-Atlantic coast”
7. Ian Stier-Gargus – Oberlin College, Adviser Dr. Matthew Godfrey
   “Investigating morphometric change as an indicator of population trends in a loggerhead turtle nesting assemblage”
8. Brian Thompson – Wake Forest University, Adviser Dr. Jim Hech
   “Moorea North shore SWAN model”
9. Emily Waddell – Gettysburg College, Advisers Drs. Kathy Reimel and Jim Welch
   “Adult size spp. (Heller crab) chemical cues: Effect on molting rate of Ulva spp. Megalops into juveniles”

REU Students 2016
   “Effects of chemical cues on molting in Ulva megalops at low temperature”
2. Cristian Janssen – Smith College, Adviser Dr. Dana Hunt
   “The bacterial community shift among coastal and offshore seawater associated with environmental variables”
3. Rachel Khan – Scranton College, Adviser Dr. Jim Hech
   “Interactions between marine sponge pumping and ambient currents”
4. Miera Kneeper – Elon College, Adviser Dr. Doug Nowak
   “A proposed explanation for foraging success during several days for short-finned pilot whales off of Cape Hatteras”
5. Carla Prochala – Texas A&M at Galveston, Adviser Dr. Andy Read
   “Group specific dominant call use in short-finned pilot whales (Globicephala macrorhynchus)”
6. Anshu Reza – Central Michigan University, Adviser Dr. Tom Schultz
   “Parataxic induced behavior modification of the mole crab Emerita talpoida = cirrulata rhythm”
7. Nicki Roberts – Embry-Riddle College, Adviser Dr. Brian Silliman
   “Salt marsh benthic ecology”
8. Layna Sterline – Florida Southern College Adviser Dr. Matthew Godfrey
   “Weight trends in a nesting assemblage of Loggerhead Turtles (Caretta caretta) at Bear Island, North Carolina as part of the Northern Recovery Unit”
9. Heidi Waite – University of Central Florida, Adviser Dr. Richard Forward
   “Rhythmic larval release of the crab Dypsoannopus spp: entrainment by temperature cycles”