FIU | Arts & Sciences
FLORIDA INTERNATIONAL UNIVERSITY

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Marine Sciences Program- Department of Biological Sciences
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December 1, 2016

PhD Assistantship- Integrating active acoustics and marine mammal survey data to characterize prey fields for foraging marine mammals in the northern Gulf of Mexico

A PhD assistantship is available for an enthusiastic and determined student to work in the Marine Ecology and Acoustics Laboratory at Florida International University (faculty.fiu.edu/~kmboswel) at Florida International University. We seek a doctoral student to work on a collaborative project between FIU and the Marine Mammal Program at NOAA's SEFSC in Miami, FL. This student will work toward developing a firmer understanding of the dynamics that act to structure micronketon layers and the forage base that supports marine mammal foraging activities in the Gulf of Mexico. Sound scattering layers (SSLs) are ubiquitous features throughout the world's oceans and the organisms comprising these layers are important components of these vast ecosystems. The depths at which SSLs occur are dynamic and often dependent on the depth of the water column and time of day, which gives rise to well-recognized and remarkable diel vertical migration patterns. These layers are often composed of fish, decapods, cephalopods, and many other species (some of which we know very little about) that are a key prey resource for larger predators, and in particular marine mammals.

This project will link historical data collected in response to the the Deep Horizon Oil Spill and ongoing efforts funded in part by GOMRI(http://www.deependconsortium.org/) and NOAA's Marine Mammal Program. The successful candidate should have an interest in the use of acoustics and survey methodology to study the interactions between predators and prey within the context of a large marine ecosystem. He/She will work closely with collaborators at NOAA to integrate acoustic recordings (passive), multifrequency acoustic data (active) and visual survey data to elucidate temporal and spatial distributions of pelagic and mesopelagic nekton in association with oceanographic features and focus on linking scattering responses to predator dynamics across the northern Gulf of Mexico. Demonstration of strong quantitative and analytical skills and familiarity with signal processing and/or non-linear methods is preferred. Candidates with demonstrated skills in scientific programming in Python, R or MATLAB are particularly sought.

To apply: Submit a current CV, letter of interest, GRE scores and GPA to Drs. Kevin Boswell (kevin.boswell@fiu.edu); Lance Garrison (lance.garrison@noaa.gov>) and Melissa Soldevilla (melissa.soldevilla@noaa.gov). **Application deadline is December 20, 2016.**