

Samuel Coakley

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Education.

B.S. Rutgers, The State University of New Jersey May 2018
Major: Marine Science with a Physical Option
Outstanding Marine Science Senior 2018

Interests

- The study of air-sea interaction as a tool for tropical storm prediction in the Atlantic.
- Remote observation of ocean systems through the use of autonomous underwater vehicles, buoys, and satellites.
- The dynamic nature of global ocean circulation due to the changing climate.

Publications/Presentations

- Kayla Christine Lewis, Ph.D; Samuel Coakley; Sean Miele. "An extension of the Stefan-type solution method applicable to multi-component, multi-phase 1D systems". Submitted to Transport in Porous Media. 9 September 2016
- Oral Presentation-MTS/IEEE Oceans '16: Sam Coakley; Travis Miles, Ph.D, Josh Kohut, Ph.D; Interannual variability and trends in the Middle Atlantic Bight cold pool. 20 September 2016
- S. J. Coakley, T. Miles, J. Kohut and H. Roarty, "Interannual variability and trends in the Middle Atlantic Bight cold pool," *OCEANS 2016 MTS/IEEE Monterey*, Monterey, CA, 2016, pp. 1-6. doi: 10.1109/OCEANS.2016.7761184 01 December 2016
- Oral Presentation-Summer Student Fellowship: Sam Coakley; Caroline Ummenhofer, Ph.D, Hyodae Seo, Ph.D; Southeast Asian Monsoon Variability in the CESM-Last Millennium Ensemble 26 July 2017
- Oral Presentation- University of São Paulo International Symposium of Undergraduate Research. "Interannual variability and trends in the Middle Atlantic Bight cold pool" 25 October 2017
- Oral Presentation- G.H. Cook Scholars Thesis: Sam Coakley; Travis Miles, Ph.D, Josh Kohut, Ph.D; Interannual variability and trends in the Middle Atlantic Bight cold pool. 13 April 2018

Research Experience

- Seasonal Research Assistant January 2019 - August 2019
Rutgers University, New Brunswick, NJ

Advisor: Dr. Travis Miles

- Developed skills using Acoustic Doppler Current Profilers mounted on Slocum Gliders
- Developed programs in MATLAB and Python to process Acoustic Doppler Current Profiler and Slocum Glider data
- Operated as part of the Rutgers University Center for Ocean Observing Leadership team
- Utilized oceanographic knowledge gained during education to solve data analysis problems

- Summer Student Fellow

May 2017-August 2017

Woods Hole Oceanographic Institute, Woods Hole, MA

Advisor: Dr. Caroline Ummenhofer, Dr. Hyodae Seo

- Worked closely with faculty in a research group to understand the variability in the Southeast Asian Monsoon in the Community Earth System Model Last Millennium Ensemble.
- Utilized NCAR command language to analyze atmospheric data and match signals to known phenomena
- Developed skills in presenting through scientific talks and papers

- Undergraduate Research Assistant

September 2015 - May 2018

Rutgers University, New Brunswick, NJ

Advisor: Dr. Josh Kohut, Dr. Travis Miles

- Illustrated the life cycle of the Middle Atlantic Bight cold pool by analyzing interannual trends in the region.
- Utilized decades of physical data from two sources, Slocum Webb gliders, and the National Marine Fisheries Services surveys.
- Prepared and submitted 1 conference abstract.
- Learned how to manage large data sets, how to ask scientific questions that develop the research, how to translate data into communicable observations and trends.
- Funded through Teledyne Webb Undergraduate Student Fellowship from May 2016-August 2016

- Undergraduate Research Assistant

June 2015-August 2015

Monmouth University, Long Branch, NJ

Advisor: Dr. Kayla Christine Lewis

- Numerical and analytical modeling of heat distribution in submarine geothermal heat pipes.
- Learned to employ ordinary and partial differential equations and their solutions.
- Learned computer languages such as Octave, LaTeX, and Python.

- Prepared and presented a poster at the end of the research program.
- Learned how to work on a team of scientists to accomplish a common goal.
- Undergraduate Research Assistant January 2015-May 2015
 Rutgers University, New Brunswick, NJ
 Advisor: Dr. Robert Chant
 - The goal was to determine the most efficient means of dredging in the Delaware Bay using modern and historical tidal data.

Outreach and Education Experience

- Tour guide of the Rutgers University Center for Ocean Observing Leadership Lab Spring 2019-Present
 - Guide tours of groups ranging from middle school students to New Jersey State Legislators
 - Explain the science and technology we use in the lab every day in a digestible and exciting way
- Rutgers Internships in Ocean Sciences Wrangler Summer 2019
 - Helped host 13 students across 3 research facilities during their summer internships
 - Assisted in planning events for the students including their research symposium
- Oral presentation at the Marine Academy of Science and Technology Summer 2019
 - Taught high school students about the applications of autonomous underwater gliders in remote sensing of the world's oceans
- Marine Science Camp Lead Scientist Summer 2018
 - Ran weekly camps for young K-8 scientists
 - Lesson topics included marine biology, ecology, and environmental science

Relevant Courses

- Remote Sensing of the Ocean and Atmosphere Fall 2017
- Physical Oceanography Fall 2017
- Geophysical Data Analysis Spring 2017

- Ocean Methods and Data Analysis Spring 2017
- Differential Equations Fall 2016
- Dynamics of Marine Ecosystems Fall 2016
- Introduction to Linear Algebra Spring 2016
- Multivariable Calculus Fall 2015

Awards and Activities

- President of the School of Environmental and Biological Sciences (SEBS) Governing Council (SGC)
 - September 2016-May 2018
 - Consists of ~30 members and ~3000 constituents
- Dean's List: All Semesters
- Member of SEBS General Honors Program
- Marine Science Outstanding Senior Award