

**WHOI 2014 Summer Student Fellows
Research Projects**

Maya Becker, Columbia University

Defining and Measuring Coastal Vulnerability and Resilience to Natural Hazards

Advisor: Porter Hoagland, MPC

Caterina Brighi, Imperial College London

Temperature and Light Effects on Extracellular Superoxide Production by Algal and Bacterial Symbionts in Corals: Implications for Coral Bleaching

Advisor: Amy Apprill, MC&G

Filip Buksa, University of Split

Population Genetic Structure and the Timing of Embryo Development in a Range-Expanding Coastal Barnacle

Advisor: Jesus Pineda, BIO

Emily Chua, Dalhousie University

Improving an Inlet for Underwater Volatile Analysis

Advisors: Anna Michel, AOPE and Scott Wankel, MC&G

Gabriela De La Cruz Tello, San Jose State University

The Effect of Changes in the Hadley Circulation on Oxygen Minimum Zones in the Ocean

Advisors: Caroline Ummenhofer, PO and Kris Karnauskas, G&G

Amber Emerson, Howard University

Exploring the Effects of Turbulent Spin Up on Larval Swimming Behavior in the Eastern Oyster (Crassostrea virginica)

Advisor: Lauren Mullineaux, BIO

Samantha Emmert, Duke University

Characterizing Bottlenose Dolphin Breath Sounds Recorded on a DTAG

Advisor: Michael Moore, BIO

Robert Forney, Rutgers University

Quantifying Alongshore Variations in Wave Characteristics Due to Modifications by Inner Shelf Sand Ridges at Fire Island, New York

Advisors: John Warner and Jeffrey List, USGS

Jacob Forsyth, Bowdoin College

Interannual to Decadal Temperature Variability in the Northwest Atlantic: Observations from the M/V Oleander XBT Line

Advisors: Glen Gawarkiewicz and Magdalena Andres, PO

Jennifer Frame, Florida Atlantic University

Time of Arrival Sound Speed Measurements of Crude Oil

Advisor: Andone Lavery, AOPE

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Mara Freilich, Brown University

Lagrangian Modeling of Aquarius Surface Salinity in the Bay of Bengal

Advisor: Amala Mahadevan, PO

Karter Harmon, Indiana University

Oil Infrastructure and the Sustainability of Ecosystem Services in the Western Arabian Gulf

Advisor: Hauke Kite-Powell, MPC

Joleen Heiderich, Jacobs University Bremen

Storms and Stratification on the Middle Atlantic Bight Shelf

Advisor: Robert Todd, PO

Lily Helfrich, Northwestern University

*Characterization of MicroRNAs in Atlantic Killifish (*Fundulus heteroclitus*)*

Advisor: Neel Aluru, BIO

Manuel Hernandez, Texas A&M University

Mega-Droughts in Southeast Asia: A Case Study of the Strange Parallels Drought

Advisors: Caroline Ummenhofer, PO and Kevin Anchukaitis, G&G

Ian Jones, University of Maine

*Characterizing Circadian Rhythms in the Starlet Sea Anemone (*Nematostella vectensis*) through Molecular and Respiratory Cycles*

Advisor: Ann Tarrant, BIO

Jennifer Karolewski, California Institute of Technology

Benthic Primary Production in a Saltmarsh Pond: Insights from Fluxes of Dissolved Inorganic Carbon and Oxygen

Advisor: Rachel Stanley, MC&G

Samuel Kastner, Skidmore College

Inner Shelf Current Structure under Different Forcing Mechanisms- Combining ADCP and HF Radar Measurements

Advisor: Steve Lentz and Anthony Kirincich, PO

Mary Munro, Massachusetts Institute of Technology

SPH Modeling of the Vertical Flow Structure and Turbulence in the Swash

Advisor: Britt Raubenheimer, AOPE

William Oestreich, Northwestern University

Colored Dissolved Organic Matter in Shallow Estuaries: The Effect of Source on Quantification

Advisor: Neil Ganju, USGS

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Maria Ordovas-Montanes, Tufts University

Phytoplankton Community Composition along the Western Antarctic Peninsula: A Comparison of Genetic and Chemotaxonomic Methods

Advisor: Scott Doney, MC&G

Elena Perry, Yale University

*Identification and Analysis of Marine Vibrionaceae Strains with Antibiotic-Potentiating Activity against Multi-Drug Resistant *E. coli**

Advisor: Tracy Mincer, MC&G

Andre Price, Elizabeth City State University

Towards an Understanding of the Early Life History of River Herring

Advisor: Joel Llopiz, BIO

Helena Pryer, University College London

A Preliminary Investigation into the Seasonal Dynamics of Particulate Organic Carbon Cycling in the Congo River Basin

Advisor: Valier Galy, MC&G

Ernest Quintana, Howard University

*Transport Potential of the Juvenile Sea Scallop (*Placopecten magellanicus*) along the Northeast Continental Shelf*

Advisor: Scott Gallager, BIO

Jessica Sandoval, Massachusetts Institute of Technology

*Investigating Microscale Interactions in the Centric Diatom, *Ditylum brightwelli*, with the Imaging FlowCytobot*

Advisor: Heidi Sosik, BIO

William Shinevar, Brown University

Crustal Viscosity Structure Estimated from Multi-phase Mixing Theory

Advisor: Mark Behn, G&G

James Stylinski, Rensselaer Polytechnic Institute

Probability of Passive Acoustic Detection in Stellwagen Bank

Advisor: Ying-Tsong Lin, AOPE

Cailan Sugano, University of California, Santa Barbara

*The Interactive Effects of Food Supply and Elevated $p\text{CO}_2$ on the Early Development of the Bay Scallop (*Argopecten irradians*)*

Advisors: Daniel McCorkle and Anne Cohen, G&G

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Wenzhong Wang, University of Science and Technology of China
Equilibrium Partition of Mg between Calcite and Seawater: Constraints from First-Principle Calculation and Implications for Foraminiferal Mg/Ca Thermometer
Advisor: Weifu Guo, G&G

Doriane Weiler, University of California, Berkeley
*The Effects of Ocean Acidification on Paralarval Longfin Inshore Squid (*Doryteuthis pealeii*) Swimming Behavior*
Advisor: Aran Mooney, BIO

Alexis Wood, Stanford University
Elucidating the Springtime North Atlantic Phytoplankton Bloom and the Biological Pump from a Ship of Opportunity and Satellite Data
Advisor: David Nicholson, MC&G