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Meet the 2014 PEP Students

Marienel Basiga

Gaining research experience led Marienel Basiga, a junior geology major at San Jose State University, to the Woods Hole PEP. Her research project with mentor Veronique Le Roux at Woods Hole Oceanographic Institution, in a field of geology known as experimental petrology, involved measuring grain-scale permeabilities of calcite and quartz through high-pressure, high-temperature experiments to study seawater recycling in the deep earth. "I expected to work hard and be extremely dedicated to the internship, but it surprised me how much fun I am having as well. I rode a bike the whole summer, something I haven't done since I was 12." Born in the Philippines, Basiga moved to the U.S. when she was nine and plans to attend graduate school on her way to a position as an academic researcher in some field of geology.

Her hometown is San Jose, California.

Robert Botta

A senior marine science major at the University of South Florida, Robert Botta likes working on 'big picture' topics. This summer he studied the interactions between red tide and cold stress and their effects on manatees in Florida with research mentor Porter Hoagland at the Woods Hole Oceanographic Institution's Marine Policy Center. "I had no idea about the possibilities in marine science until this summer. I learned about the things I like as well as those I don't, and that will be helpful as I look ahead to a possible career. The experience has opened my eyes to so much." Among his favorite aspects of the program was "being in a community full of marine scientists and people interested in the same things I am." Botta plans to pursue a graduate degree in fisheries and management.

His hometown is Pembroke Pines, Florida.

Mariah Dennis

A summer research project analyzing hydrothermal vent larvae and ecological succession after a seafloor eruption on the East Pacific Rise has been a totally new experience for Mariah Dennis. A junior biology major at the University of Maryland Eastern Shore, Dennis worked with mentor Lauren Mullineaux in the Woods Hole Oceanographic Institution's Biology Department. PEP is her first internship "but it definitely will not be the last. The program has helped me solidify my plans for the future, which include graduate school in marine science." Among her favorite parts of the program were the other PEP students. "We've become good friends after just a short amount of time." Sailing, cooking for a lot of people, the bike path, and

going to the beach were among her favorite activities. “There is a lot of science going on here, and it is marvelous.”

Her hometown is Pittsgrove, New Jersey.

Calvin Fok

One of many students who had not been to Woods Hole or on the East Coast before their PEP internship, Calvin Fok is a senior at Humboldt State University majoring in marine biology with a minor in scientific dive. His research project with mentor Hauke Kite-Powell at the Woods Hole Oceanographic Institution’s Marine Policy Center involved analyzing sport fishery survey data from Obhur Bay, Saudi Arabia. “PEP has given me an opportunity to network with scientists with different backgrounds. The research opportunity has motivated me to think about my future and set goals in my life.” Fok enjoyed sunsets at the beach, scuba diving with friends, and going in long bike rides. Some of his new adventures: whale watching and sailing. He is looking into a post-baccalaureate program to further his experience in marine sciences before applying to graduate school.

His hometown is San Francisco, California.

Ulrich Kakou

Measuring the amount of biogenic silica and mapping its distribution in the Pacific Ocean from off the coast of Peru to Tahiti with research mentor Phoebe Lam of Woods Hole Oceanographic Institution’s Marine Chemistry and Geochemistry Department was one of many new experiences this summer for Ulrich Kakou. A sophomore chemistry major at the University of Massachusetts, Amherst, he grew up in the Ivory Coast and moved to the U.S. when he was 13. PEP has exposed him to many aspects of marine science and to new life experiences like sailing. His advice to anyone thinking of applying to PEP: “Be friendly and open-minded, but also be passionate – it fuels your motivation to work. I’ve acquired many more connections and the chance to participate in other projects.” Future plans include learning Japanese, participating in other internship opportunities, and eventually attending graduate or medical school.

His hometown is Everett, Massachusetts.

Dion Kucera

A May 2014 graduate of Humboldt State University with a B.S. degree in environmental science and a minor in environmental ethics, Dion Kucera experienced a number of “firsts” during his summer in Woods Hole, including whale watching and visiting Martha’s Vineyard. His summer research project with mentors Robert Thieler and Emily Himmelstoss of the U.S Geological Survey’s Coastal and Marine Science Center in Woods Hole involved developing a web portal the USGS is using to relay coastal hazards science to the public. “It is essentially environmental communication, an important aspect of scientific professional development that many scientists lack,” he says of the research, which he plans to present in October at the national conference of the Society for Advancement of Hispanics/Chicanos and Native Americans in Science (SACNAS) in Los Angeles. Next is graduate school at Indiana University in Bloomington, where he will pursue a double master’s degree program: a M.S. in environmental science and an M.A. in geography.

His hometown is Thousand Oaks, California

Nkosi Muse

Working as a broadcast meteorologist is the immediate career goal of Nkosi Muse, who attended the State University of New York (SUNY) at Albany as an atmospheric science major but is transferring this fall to the University of North Carolina at Charlotte for a greater focus on meteorology. Muse has been interested in the weather since he was very young. "I am more of an 'up in the sky' type atmospheric student, so working with the oceans is very new to me. Prior to coming to Woods Hole, I did not know the ocean and the atmosphere behaved in very similar ways." Muse worked with oceanographer Jim Manning at the Woods Hole Laboratory of NOAA's Northeast Fisheries Science Center, designing computer programs to forecast particle drift in New England coastal waters. "This has been an opportunity like no other. PEP brought me to meet people that I thought I'd never find in the scientific world."

His hometown is Somerset, New Jersey.

Olamide Olawoyin

Originally from Nigeria, Olamide Olawoyin moved to the Bahamas in 2009. Now a junior with a double major in biology and chemistry at Philander Smith College in Little Rock, Arkansas, Olawoyin wants to be a physician but is also interested in research, particularly how changes in environmental conditions are affecting human health. Her summer research project with mentor James Tang at the Marine Biological Laboratory focused on the effects of nitrogen addition to salt marshes, and how soil properties of salt marches change over time. "I've never worked in the field before, so this research experience at the Sage Lot Pond salt marsh in Mashpee was completely new." Future plans include volunteer work overseas before she applies to medical school. Olawoyin says PEP has given her a new perspective on life and her future. "I'm more open to trying different things now. PEP to me means a lifetime of friendships, memorable relationships, and a pathway to a successful scientific career. It's been a journey to self discovery."

Luis Anthony Ortiz

Anthony Ortiz spent last summer in Alaska with the U.S. Fish and Wildlife Service. This summer he is in Woods Hole, studying black sea bass spawning behavior with mentor Gary Shepherd at NOAA's Northeast Fisheries Science Center. Although his focus has been on terrestrial wildlife as a senior wildlife conservation major at the University of Massachusetts, Amherst, Ortiz says working with fish has been a new and rewarding experience. Ortiz hopes to be a wildlife biologist and work on protected species, learning what is causing their populations to decline. "My favorite part of the internship has been working side by side with professionals in my field and getting to know the different opportunities this place has to offer." A member of the NOAA softball team, Ortiz has enjoyed playing sports, fishing, going to the beach to relax, and getting to know the other PEP students. Graduate school is in his future. "My experience this summer has allowed me to explore my career options as a scientist."

His hometown is Amherst, Massachusetts.

Alexandra Padilla

Coming to the PEP program as a mechanical engineering major enabled Padilla to learn about the different areas of marine sciences through course work, her research project, and meeting scientists in the community. "I never fully understood how interdisciplinary ocean science is until this experience. Almost all of the course components were unfamiliar to me, so it has been a great learning experience." Padilla was born in Bethesda, Maryland, but moved to Puerto Rico when she was ten. A senior at the University of Puerto Rico, Mayaguez, she plans to attend graduate school in ocean engineering with a focus on acoustics, earn a Ph.D., and work as a researcher. Her research project with mentor Anna Michel in the Woods Hole Oceanographic Institution's Applied Ocean Physics and Engineering Department used Laser-Induced Breakdown Spectroscopy (LIBS) to verify possible heavy metal contaminants in ocean sediments in New Bedford Harbor. "I love the diversity of Woods Hole, from culture to research. It has been a once in a lifetime experience."

Her hometown is Mayaguez, Puerto Rico.

Angelique Taylor

A senior majoring in environmental science at Florida A&M University, Angelique Taylor had many new experiences this summer, among them attending the Wampanoag Pow Wow. Her research project, with mentor Kenneth Foreman of the Marine Biological Laboratory, involved determining the concentrations of ammonium, nitrate, and phosphorus in groundwater from wells along West Falmouth Harbor. Compared with findings from previous years, the data will be used to help determine whether a 2005 upgrade to the Falmouth Wastewater Treatment Facility about four miles away decreased the amount of the contaminants in the harbor. Taylor isn't sure what specific area she will pursue for a master's degree. "I have a better understanding of what it means to be a research scientist. PEP has exposed me to many people who have shared their life experiences. I realized I don't have to be on a straight and narrow path. This was my first internship, and my first time working in a laboratory, and I believe I made a good choice."

Her hometown is Los Angeles, California.

Samih Taylor

Describing herself as an army brat who moved constantly around the United States, Samih Taylor is a junior at Cheney University of Pennsylvania with a double major in ecology and marine biology. She has participated in three previous science-related internships. Her PEP research project with mentor Erik Zettler of the Sea Education Association involved a study of microbial community colonization of plastic marine debris. "The project was completely new to me, really refreshing, and I learned a lot." When she wasn't in class or working in the lab, Taylor enjoyed taking pictures of nature, reading, playing with her friends' pets, eating cookies and croissants from Pie in the Sky Bakery and Café in Woods Hole, and jamming out to music. "I love the high concentration of this scientific community." With most of the course work new to her, the program has inspired her to do more research in the future. She described her PEP experience as "inquisitive, awe-inspiring, rigorous, refreshing, elating, and irreplaceable." Taylor plans to attend veterinary school one day "to save animals and make the world a better place."

Daniel Utter

A senior marine science major at the University of South Carolina, Columbia, Daniel Utter spent the first 18 years of his life in the Republic of the Marshall Islands. Although he has had several summer internships and independent study projects, he says the PEP program has been “the experience of a lifetime.” His research project with mentor Jessica Mark Welch at the Marine Biological Laboratory on human microbial communities, analyzing microbial community dynamics on the human tongue, has led to submission of a research journal manuscript and his inclusion as a co-author. “Looking into a fluorescence microscope for the first time is unforgettable,” he says, adding that his favorite thing about PEP has been the opportunities to attend seminars and “interact with experts on the cutting edge of science.” He has also enjoyed playing soccer, cooking for eight housemates, and seeing swans for the first time. He plans to attend graduate school to study coral microbiome and coral disease.

His hometown is Laura, Majuro, Republic of the Marshall Islands.

Shanna Williamson

Since graduating in May 2014 as a geosciences major from Skidmore College, Shanna Williamson has taken full advantage of the opportunities to explore career paths in marine science during her PEP experience. Assessing water quality in Buzzards Bay, Massachusetts for her summer research project meant using software new to her to assess a 20-year data set with mentors Scott Doney, Maria Kavanaugh and Jennie Rheuban of the Woods Hole Oceanographic Institution’s Marine Chemistry and Geochemistry Department. Her favorite aspects of the internship and being in Woods Hole have been the research project experience, going to Martha’s Vineyard for the first time, and “the proximity to all the beautiful beaches.” Williamson plans to attend graduate school in oceanography in the future, but through the internship has found a research assistant position working at WHOI’s Marine Chemistry and Geochemistry Department. “My experience this summer in the PEP program has been life-changing.”

Her hometown is the Bronx, New York.

Alisa Young

An introduction to acoustic tracking, sparked by watching the film “Free Willy” years ago, and interest in marine mammals were a good match for Alisa Young’s PEP summer research project. With mentors Genevieve Davis and Dana Gerlach from NEFSC’s Protected Species Branch at the Woods Hole Laboratory, Young analyzed two previously unknown call patterns recorded in 2009 in the Stellwagen Bank National Marine Sanctuary to try to determine the species and the direction the sounds came from. Young, a sophomore marine biology major at the University of North Carolina, Wilmington, enjoyed PEP activities like the visit to New Bedford’s Whaling Museum, where she gained a different perspective on whaling, and meeting new people with similar interests and varied backgrounds. “My experience with the PEP this summer was awesome!” She would like to work at the North Carolina Aquarium at Fort Fisher and travel before attending graduate school. As for career goals, working in acoustics at NOAA or running a marine mammal rehabilitation center are at the top of her list.

Her hometown is Lumberton, North Carolina.