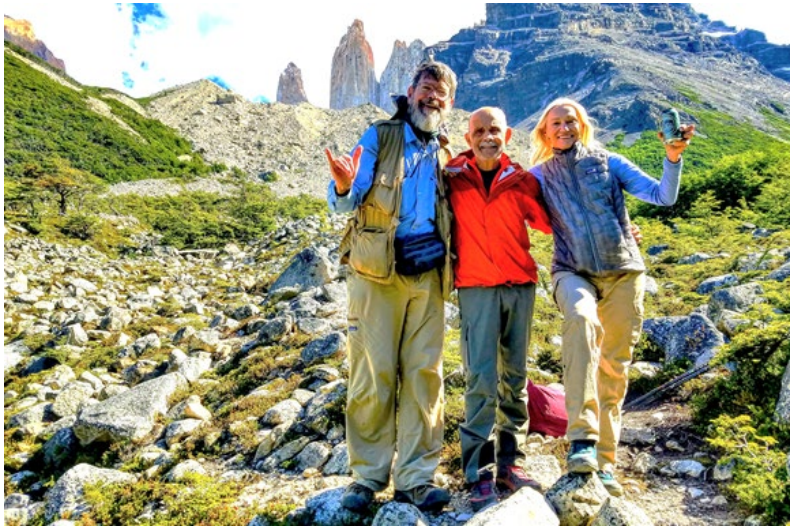

Fred (center) and Judith (right) Mackenzie on a hike in Torres del Paine National Park, Peru, with their friend, Joe.

About the Program

The Department of Oceanography launched the undergraduate Global Environmental Science program in 1998 with the generous support of the Pauley Foundation. The vision and brainchild of Oceanography Emeritus Professor Dr. Fred Mackenzie, the GES program is known for its rigorous math and science foundation, integrated study of environmental- and sustainability-related issues, and faculty-mentored research thesis requirement. This research experience results in every GES graduate having completed a faculty-mentored research project, written a thesis, and presented their research results in a public forum. As a result of the challenging curriculum and research thesis requirements, GES graduates are well-prepared to enter the workforce in environmental science-related fields and industries or continue on to graduate studies in many different subjects in the sciences, social sciences, law, medicine, and engineering.

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The University of Hawai'i at Mānoa Department of Oceanography presents

SUMMER 2021

GLOBAL ENVIRONMENTAL SCIENCE

SYMPOSIUM

Friday, August 13, 2021
11:00am - 12:45pm HST
Via Zoom

GES Symposium

GES students presenting at this symposium conducted research, analyzed their results, and compiled their findings into a thesis format. Many theses are converted into peer-reviewed journal publications; a feat usually accomplished by students once in graduate school. The GES Symposium is a celebration and culmination of undergraduate research efforts and experiences, so join us in supporting, engaging, and applauding today's presenters.

Agenda

11:00 Opening Remarks

11:05 Christopher-Bryce Corpus | Alison Nugent (Atmospheric Sciences)
An Analysis of Salt Concentrations in the Rainwaters of Kāneʻohe, Hawaiʻi

11:25 Kayla Palmer | Suwan Shen (Urban and Regional Planning)
Assessing the Impact of Tidal Flooding on Cultural and Recreational Assets on Oʻahu Using Crowdsourcing and Survey Data

11:45 Han Quach | James Potemra (Hawaii Institute of Geophysics and Planetology)
Investigating Nearshore Surface Currents and Tidal Influences on Marine Debris Deposition on Oʻahu

12:05 Sienna Santiago | Michael Cooney (Hawaii Natural Energy Institute)
Calculating the University of Hawaiʻi at Mānoa Environmental Footprint from Food Procurement at Sodexho Cafeterias; Nitrogen, Carbon and Water Withdrawal

12:25 Jordan Schmidt | Godwin Severa (Hawaii Natural Energy Institute)
The Evaluation of Potential Forward Osmosis Draw Solutes for Seawater Desalination in Hawaiʻi

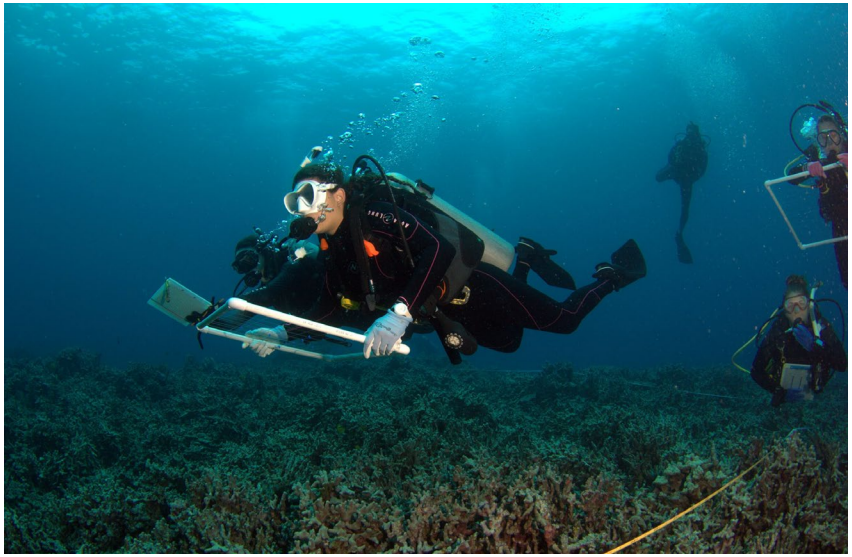


Photo courtesy of Samantha Darin. Samantha conducting Benthic composition survey at QUEST on the Big Island. Photo credit: Jeff Kuwabarra

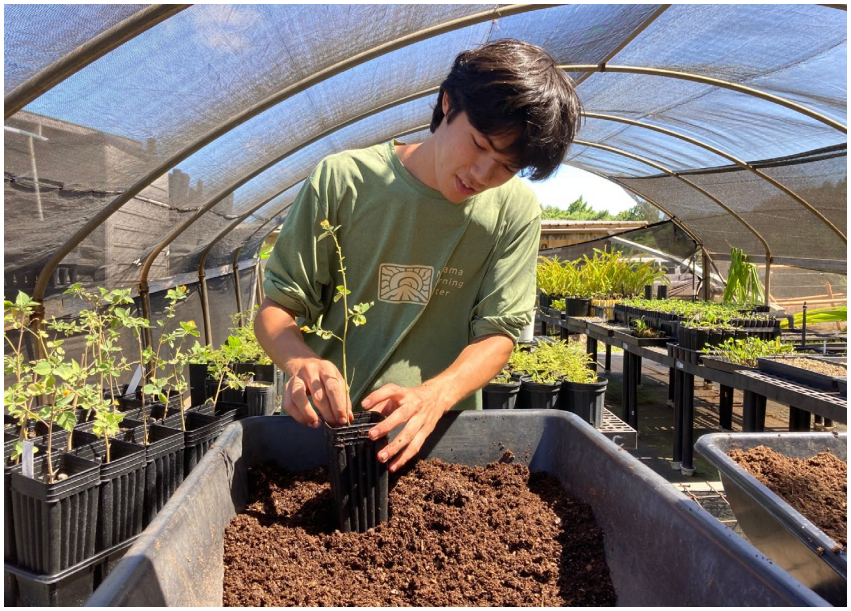
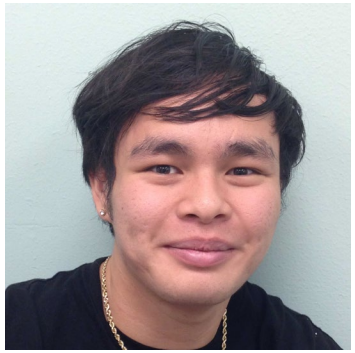


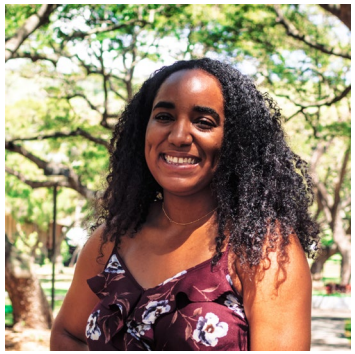
Photo courtesy of Nicholas Yos. Nicholas repotting an ʻilima seedling for reforestation efforts while interning at Mālama Learning Center's Ola Nā Kini program in summer 2021. Photo credit: Aiko Kawakami

Biographies



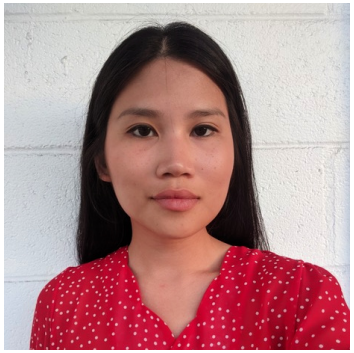
Christopher-Bryce Corpus
Mentor: Alison Nugent

Chris spent the majority of his childhood either fishing, bodyboarding, or hiking which furthered his interest in the environment. He was taught about the ocean and its mechanics at a young age by his uncle who would periodically take him out fishing as well. His desire to learn more about the environment landed him at Windward Community College (WCC) where he learned about the Global Environmental Science program through Matthew Chong (a counselor at WCC who later transferred to SOEST). To further his education in the field, he joined the GES program in Fall 2019. After taking a class with his mentor Dr. Alison Nugent, he found and was intrigued by a project that analyses the composition of rainfall in Hawai‘i and how its change over time may impact the people of Hawai‘i. He hopes to utilize the newfound knowledge as a tool in his future career. Chris was born and raised in Kāne‘ohe**,** Hawai‘i.



Kayla Palmer
Mentor: Suwan Shen

Kayla initially moved to Hawai‘i to study marine biology. While volunteering at the National Oceanic and Atmospheric Administration Hawaiian monk seal vet lab, Kayla would often see monk seals and turtles impacted by fishing hooks, boating accidents, or diseases. Through this experience, Kayla saw the impacts humans were having on marine mammals and became driven to find ways to protect the environment. Kayla was then inspired to apply to the accelerated Bachelor’s-and-Master’s pathway with Master of Urban and Regional Planning to learn more about environmental planning and create sustainable communities. Kayla chose to study how tidal flooding impacts Oahu's cultural and recreational locations. Under the mentorship of Dr. Suwan Shen, Kayla was able to map vulnerable cultural and recreational sites to help land-use planners and environmental scientists implement sea-level rise adaptations strategies and preserve community resilience. Kayla was born and raised in Fullerton, CA.



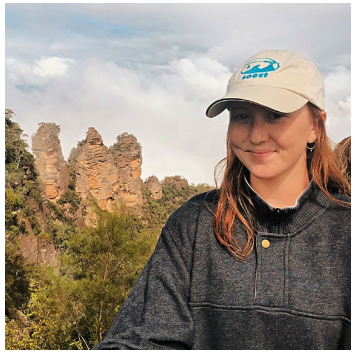
Han Quach
Mentor: James Potemra

Han started her academic journey at Kapi‘olani Community College where she explored a variety of interests ranging from microbiology to wildlife conservation. However, upon transferring to the GES program at UH Mānoa in Spring 2018, Han struggled to find a thesis project that she felt was right for her. It was not until Spring 2020 when she took a couple of programming classes that she realized that it was less about what she did for her thesis, and more about what skillsets she could gain from the experience. As a proud officer of Science Communicator ‘Ohana, Han strongly believes in effective and engaging science communication and hopes to one day aid in bridging the gap between science and the communities it hopes to serve. Han was born in Sài Gòn, Việt Nam, and raised in Honolulu, Hawai‘i.

Sienna Santiago
Mentor: Michael Cooney

Having grown up in San Diego, Sienna developed an interest and passion for the outdoors through hiking and running. Sienna decided to attend the University of Hawai’i at Mānoa after she was recruited for the University Cross Country and Track & Field team and chose to pursue a degree in Global Environmental Science after taking an environmental science class in high school. In high school, Sienna noticed that the climate change topics she was studying in class could be seen in her own backyard and wanted to learn about the solutions. After a few semesters at UHM, she chose a concentration in sustainability. Since then, Sienna has worked to expand her experience through volunteering, including on the Hawaiian Ocean Time Series research cruise, multiple internships focusing on sustainability and research, and a thesis project calculating the environmental footprint caused by food procurement at the Mānoa campus. Sienna plans to go into the workforce and utilize her degree to integrate positive change into her community. Sienna was born and raised in San Diego, CA.

Biographies (continued)



Jordan Schmidt
Mentor: Godwin Severa

Jordan grew up among the beautiful redwood coast in Eureka, California, where her interest in the natural world blossomed. Her favorite class in high school was geoscience as learning about renewable energy efforts sparked a passion for easing the stressors of climate change. She was lucky enough to land the opportunity to work in Dr. Severa's Absorbent Materials lab during her second year in the Global Environmental Science (GES) program. From this opportunity, she was provided with a great lab experience and a chance to research the relevant issue of desalination. Jordan plans on returning to California to apply the knowledge and experience she gained through GES to apply to internships and grad school. Jordan was born and raised in Eureka, CA.

Photo courtesy of Mariko Quinn. Mariko returning a coral to the reef after a spawning event. Fragments of corals were collected and brought to the lab for monitoring before spawning events and returned to the reef afterward. Photo credit: Jess Bouwmeester

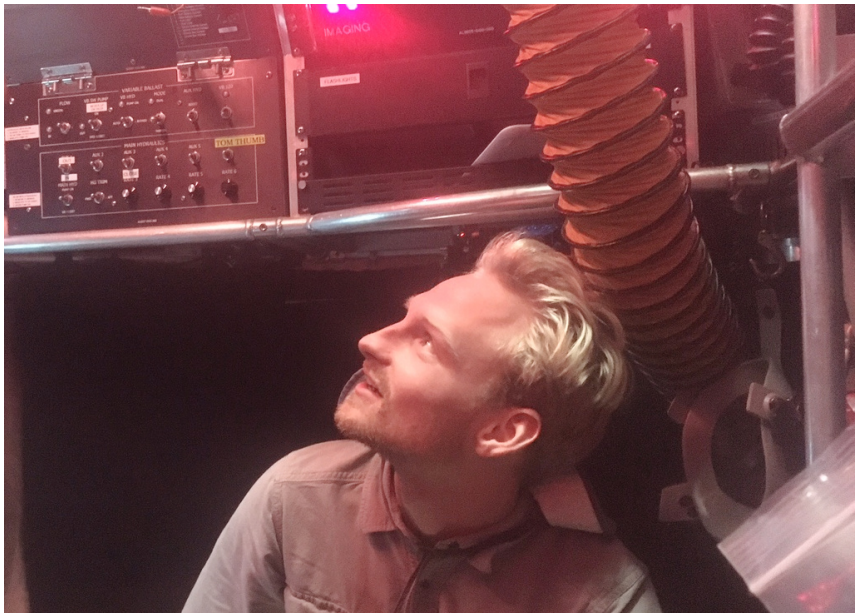


Photo courtesy of Henrik Weiberg. Henrik touring DSV Alvin while collecting footage and sample specimens from Station M for isotope analysis.