



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

Acknowledgment

The GES Program and students acknowledge the continued generous gifts and support of Fred and Judith Mackenzie. As curious, lifelong explorers and adventurers, the Mackenzies are inspirational. It is fitting that their support facilitates GES students as they explore and investigate a wide range of environmentally-related topics via the GES-required, faculty-mentored undergraduate research experience.

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

SUMMER 2019



GLOBAL ENVIRONMENTAL SCIENCE

Friday, August 9, 2019

Marine Sciences Building Room 114

1:30pm - 2:30pm

Reception to follow



Photo courtesy of Korey Wong. Korey (third from right) interned at the City and County Office of Climate Change, Sustainability and Resiliency during the summer of 2019. He researched policies on coastline-management, focusing on schemes that can be used to protect lives and property as well as to preserve open spaces and public beaches. (Photo taken by Uyen Vong.)



Photo courtesy of Andrew Tokuda. As a NOAA Hollings intern for the Kachemak Bay National Estuarine Research Reserve, Andrew collected salmon measurements for fish population assessments in Tutka Bay, Kenai Peninsula, Alaska. (Photo taken by Jacob Argueta.)



Photo courtesy of Kealohi Sabate. Kealohi participated in an REU through the Organization of Tropical Studies (OTS) during the summer of 2019 in Costa Rica. Her research focused on looking at the temperature sensitivities of canopy soils and how they may influence carbon cycling across different climates. (Photo taken by Mai Vang.)

Supporting Undergraduate Research

If you would like to support the Global Environmental Science Program, please consider making a donation online:
<https://giving.uhfoundation.org/funds/12721704>



About GES

The Department of Oceanography launched the undergraduate Global Environmental Science (GES) program in 1998 with the generous support of the Pauley Foundation. The vision and brainchild of Emeritus Oceanography 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.

Contact GES

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GES Symposium

GES students presenting at this symposium conducted basic 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

1:30 Welcome

1:35 Ulises Diaz

*Tracking Shoreline Morphology Using Drone Based
Photogrammetry on Rockpiles Beach In Hawai'i*
Mentor: Martin Guiles (Oceanography)

1:50 Noah Howins

*Impact of Physical Reef Characteristics on Calcification Rates of
the Kāne'ōhe Bay Barrier Reef*
Mentors: Eric De Carlo and Christopher Sabine (Oceanography)

2:05 Amanda Wong

*The Seedling Skirmish: The Effect of 'Ōhi'a and Strawberry Guava
Plant Neighbors in Hawai'i*
Mentor: Kasey Barton (Botany)

Biographies



Ulises Diaz

Mentor: Martin Guiles

Ulises has always had an interest in nature because he always felt at peace and energized in it. When his UHM-alumnus counselor at Santa Monica College told him about the GES program, he decided to transfer to UH Mānoa in the fall of 2015 to pursue the bachelor's degree. Ulises was drawn to his thesis project

when he heard about Dr. Martin Guiles' research, which involves drones, and jumped at the chance to work with one. Ulises is currently employed as an Engineering Technician and believes he has finally found his dream job; he plans to pursue a master's degree in Civil Engineering, regardless how long the journey will take him. Ulises was born and raised in South Los Angeles, CA.



Noah Howins

Mentors: Eric De Carlo and Christopher Sabine

Noah knew he wanted a career in the natural sciences but could not decide right out of high school. He chose GES because of the broad range of topics students can pursue, which allowed him the freedom to explore careers in different fields while still graduating on time. Noah

was already heading into Kāneʻohe Bay every two weeks to maintain ocean acidification monitoring buoys, so he pursued a project that would complement his day job and not require independent field outings. Since entering UH Mānoa and the GES program in the fall of 2015, Noah has been a constant dean's lister and has received various scholarships and awards, including Hau'oli Mau Loa Graduate Fellowship and UH Mānoa Service Award. Further, Noah's thesis project was funded by UH Mānoa's Undergraduate Research Opportunities Program (UROP). He has presented research in several national and international conferences and recently submitted his third co-authored paper. Out of all his accomplishments, Noah is most proud of serving as a peer mentor to GES underclassmen. Upon graduation, Noah will be pursuing a Master of Science in Oceanography at UH Mānoa. He plans to contribute to oceanographic research in Hawai'i while simultaneously empowering local students through STEM outreach and education. Noah was born in Tacoma, WA, and raised in Lāhāina, HI.



Amanda Wong

Mentor: Kasey Barton

GES has given Amanda a diverse and robust foundation in STEM and allowed her to explore her curiosity and passion for sustainability and plant sciences through the coursework and thesis project. Her curiosity for the interactions between plants and their environment was what motivated her to focus her thesis project on the interaction

between native and invasive plants in Hawai'i. Amanda is a constant dean's lister and recipient of multiple scholarships, including the UHM Chancellor's Scholarship and SOEST Achievement Scholarship. She is an active member of the Phi Beta Kappa Society and Mortar Board Honor Society and has presented her research at several national and international conferences. Amanda is most proud of being one of eight recipients across the country to receive the Ecological Society of America's (ESA) Strategies for Ecology Education, Diversity, and Sustainability (SEEDS) Fellowship. The SEEDS Partnerships for Undergraduate Research (SPUR) Fellowship is the "highest honor in the SEEDS program, and fellows are encouraged to be the outstanding leaders in the future of ESA." Additionally, Amanda's thesis project was funded by UH Mānoa's UROP. Along with her GES degree, Amanda will be graduating with a concentration in Sustainability Science and a minor in Botany. She hopes that her knowledge, experiences, values, and continuous growth through learning will translate to the future generations so they will have the same opportunity to experience the native ecosystems and culture of Hawai'i. Amanda was born and raised in Honolulu, HI.