

# MAHALO



*Ryan, Stephanie, Ed, and Shannon Laws (left to right order) at the establishment of the Global Environmental Science Endowed Scholarship.*

## Acknowledgments

Dr. Edward A. and Mrs. Stephanie S.L. Laws recently established the Global Environmental Science Endowed Scholarship to support undergraduate students in the Global Environmental Science program in the Department of Oceanography. The gift will provide standout GES students with tuition and other academic financial support, allowing them to focus on their studies, be rewarded for excellent work, and be able to take advantage of research opportunities for their faculty-mentored thesis projects.

# GES SYMPOSIUM SPRING 2018

Friday, May 4, 2018  
1:00pm - 3:40pm  
Marine Sciences Building  
Room 114  
University of Hawai'i at Mānoa



*Photo courtesy of McKenna Lewis ('18). McKenna participated in a six-week long research cruise to the Western Antarctic Peninsula aboard the R/V Lawrence M. Gould in 2015. The cruise was for an NSF- funded project called FjordEco.*

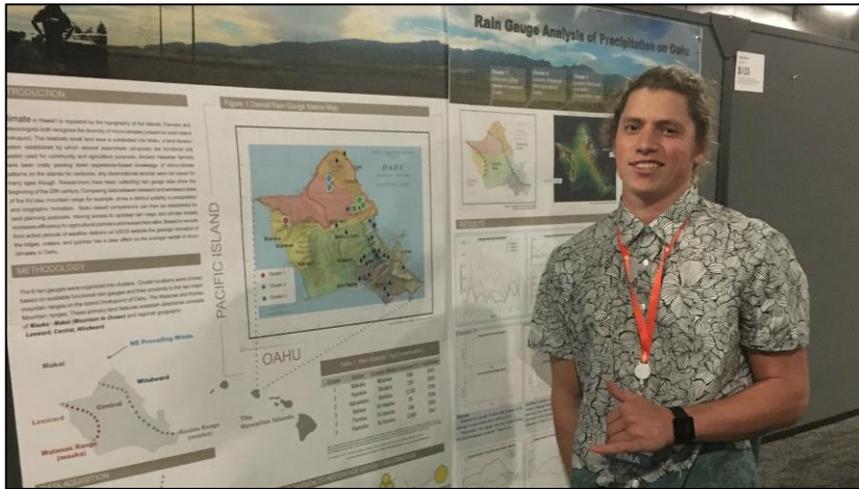


Photo courtesy of Kiefer Hermann ('18). Kiefer presented a research poster at the 17th Annual American Meteorological Society (AMS) Student Conference in Austin, Texas.

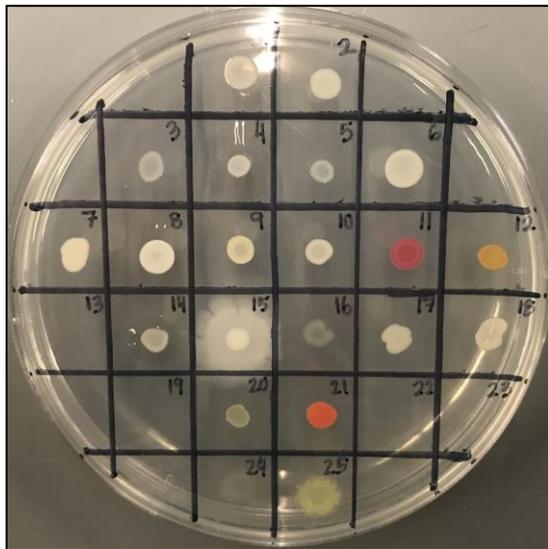


Photo courtesy of Norma-Jean Driscoll ('18). Grid plate of 25 different bacteria after isolation from Ala Wai water samples. Each colony was picked based on size, shape, color, and texture to represent diversity. All 25 were used to screen for viruses from the Ala Wai canal.

### 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 Dept. of Oceanography launched the undergraduate 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 faculty-mentored 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 the GES student's undergraduate research efforts, so join us in supporting, engaging, and applauding today's presenters.

## Agenda

- 1:00 – 1:05 Welcome & Opening Comments
- 1:05 – 3:35 Oral Presentations
- 3:35 – 4:30 Refreshments & Celebration

## Oral Presentations

- 1:05** Taylor Anderson  
*“Developing a Low-Cost Sensor for Comparative Analysis of High Frequency Wind Speed Fluctuations”*  
Mentor: Alison Nugent (Atmospheric Sciences)
- 1:20** Norma-Jean Driscoll  
*“Bacteriophage and Host Bacteria Interactions within the Ala Wai Canal”*  
Mentor: Grieg Steward (Oceanography)
- 1:35** Kiefer Hermann  
*“Rain Gauge Analysis of Precipitation on Oahu”*  
Mentor: Alison Nugent (Atmospheric Sciences)
- 1:50** Winter Jimenez  
*“Spatial and Temporal Patterns of Coral Community Structure at Baker and Howland Islands”*  
Mentor: Bernardo Vargas-Angel (National Oceanic and Atmospheric Administration)

## Oral Presentations Continued

- 2:05** Nalani Kito-Ho  
*“Using Benthic Imagery to Assess the Coral Reef Community around Wake Atoll”*  
Mentors: Karen Selph (Oceanography) and Bernardo Vargas-Angel (National Oceanic and Atmospheric Administration)
- 2:20** McKenna Lewis  
*“Assessing the Down-Fjord Mechanistic Relationships of Biodiversity and Abundance of Antarctic Benthic Macrofauna of Andvord Bay”*  
Mentor: Craig Smith (Oceanography)
- 2:35** Candice Matsuda  
*“Developing Soil Water Retention Curves to Guide Irrigation Needs for the Soils of the Pioneer Farm”*  
Mentor: Jonathan Deenik (Tropical Plant and Soil Science)
- 2:50** Katherine Papacek  
*“The Media’s Portrayal of Offshore Aquaculture in the Pacific and how it affects the Public Perception of the Aquaculture Industry”*  
Mentors: Kirsten Leong (National Oceanic and Atmospheric Administration) and Jenifer Winter (School of Communications)
- 3:05** Kammie-Dominique Tavares  
*“Sea Level Rise Triggering Widespread Coastal Hardening and Environmental Destruction on Hawaiian Shores”*  
Mentor: Charles “Chip” Fletcher (Geology and Geophysics)
- 3:20** Eric Welch  
*“Field Assessment and Groundwater Modeling of Pesticide Distribution in the Faga’alu Watershed on Tutuila, American Samoa”*  
Mentors: Henrietta Dulai (Geology and Geophysics) and Aly I El-Kadi (Geology and Geophysics)

## Biographies Continued



### **Kammie-Dominique Tavares**

*Mentor: Charles “Chip” Fletcher (Geology and Geophysics)*

Kammie was born in Ewa Beach, HI, and raised in Mākaha, HI. She came to UH Mānoa in Fall 2014 and entered the GES program in Spring 2015. Kammie has been on the Dean’s List, is a Undergraduate Research Opportunities Program (UROP) recipient, and is a NOAA Educational Partnership Program Scholarship recipient. She participated in several conferences including Geological Society of America (GSA) Hawaii, GSA Seattle, Ocean Science Meeting in Portland, and the 43<sup>rd</sup> Annual Albert L. Tester Memorial Symposium in Honolulu in April 2018. Upon graduation, Kammie plans to pursue a master’s degree in Geology and Geophysics at UH Mānoa.



### **Eric Welch**

*Mentors: Henrietta Dulai (Geology and Geophysics) and Aly El-Kadi (Geology and Geophysics)*

Eric was born and raised in Norwich, NY. He transferred from Kapi’olani Community College to UH Mānoa and entered the GES program in Fall 2015. He has consistently been on the Dean’s List and received the Undergraduate Research Opportunities Program (UROP), with which his PowerPoint presentation won first place at the Natural Sciences at Undergraduate Showcase, and the other of which funded his participation as a poster presenter at the 2017 American Geophysical Union (AGU) Fall Meeting in New Orleans. Eric presented a poster at the Geological Society of America (GSA) Cordilleran Meeting in Honolulu in May 2017 and also at the 43<sup>rd</sup> Annual Albert L. Tester Memorial Symposium in Honolulu in April 2018. He conducted two weeks of fieldwork in American Samoa for his thesis, and he had the good fortune of working in the field for two years with Dr. Dulai and her graduate students. Upon graduation, Eric plans to pursue a master’s degree in Geology and Geophysics at UH Mānoa.

## Biographies Continued



### **Candice Matsuda**

*Mentor: Jonathan Deenik (Tropical Plant and Soil Science)*

Candice was born in Honolulu, HI, and raised in Mililani, HI. She transferred from Leeward Community College to UH Mānoa and entered the GES program in Fall 2016. Candice has been on the Dean's List, and as part of her research experience, presented the findings of her study at the 43<sup>rd</sup> Annual Albert L. Tester Memorial Symposium in Honolulu in April 2018. Upon graduation, Candice plans to seek full-time employment in local agriculture.



### **Katherine Papacek**

*Mentors: Kirsten Leong (National Oceanic and Atmospheric Administration) and Jenifer Winter (School of Communications)*

Katherine was born in Madison, WI, and raised in Phoenix, AZ. She transferred from Leeward Community College to UH Mānoa and entered the GES program in Fall 2016. Katherine has been on the Dean's List, and she presented the findings of her study in the 43<sup>rd</sup> Annual Albert L. Tester Memorial Symposium in Honolulu in April 2018. Katherine collaborated with the National Oceanic and Atmospheric Administration for her thesis and participated in a year-long internship promoting science education and conservation outreach with the Malama Learning Center. At this time, Katherine has no immediate plans for the future.

## Biographies



### **Taylor Anderson**

*Mentor: Alison Nugent (Atmospheric Sciences)*

Taylor was born in San Francisco, CA, and raised in Los Angeles, CA. He transferred from Hawai'i Community College to UH Mānoa in Summer 2013 and entered the GES program in Spring 2014. Taylor presented at the 43<sup>rd</sup> Annual Albert L. Tester Memorial Symposium in Honolulu in April 2018. He would like to acknowledge and thank his mother, Mia Anderson, for making the journey from Thailand to witness his graduation event. He plans to travel around the world while deciding his future plans.



### **Norma-Jean Driscoll**

*Mentor: Grieg Steward (Oceanography)*

Norma-Jean was born in Tacoma, WA, and raised in Kapolei, HI. She transferred from Leeward Community College to UH Mānoa and entered the GES program in Fall 2016. Norma-Jean has been on the Dean's List, and presented the findings of her study at the 43<sup>rd</sup> Annual Albert L. Tester Memorial Symposium in Honolulu in April 2018. She plans to pursue a music career upon graduation after first getting a stable job.

## Biographies Continued



### **Kiefer Hermann**

*Mentor: Alison Nugent (Atmospheric Sciences)*

Kiefer was born in Virginia Beach, VA, and raised in Oak Harbor, VA. He came to UH Mānoa and entered the GES program in Fall 2013. Kiefer has been on the Dean's List and is an Undergraduate Research Opportunities

Program (UROP) recipient. He is part of the first GES class to receive a concentration in sustainability science. Kiefer presented his research at the 98th American Meteorological Society (AMS) Annual Meeting in Austin, Texas, presented a research poster at the 17th Annual AMS Student Conference and also at the 43<sup>rd</sup> Annual Albert L. Tester Memorial Symposium. Upon graduation, Kiefer plans to work full-time while furthering his passion for improving sustainability in Hawai'i with Aina Design, a non-profit organization. Kiefer would like to thank his family for visiting from the mainland: his mom, uncle, and grandparents from Texas; his dad from Wisconsin; and his brothers and sister from Washington State.



### **Winter Jimenez**

*Mentor: Bernardo Vargas-Angel (National Oceanic and Atmospheric Administration)*

Winter was born and raised in Long Beach, CA. She came to UH Mānoa and entered the GES program in Fall 2014. As part of her research experience, Winter presented the findings of her study at the 43<sup>rd</sup> Annual Albert L. Tester Memorial

Symposium in Honolulu in April 2018. After graduation, Winter plans to travel while she figures out her next chapter.

## Biographies Continued



### **Nalani Kito-Ho**

*Mentors: Karen Selph (Oceanography) and Bernardo Vargas-Angel (National Oceanic and Atmospheric Administration)*

Nalani was born in Honolulu, HI, and raised in Pearl City, HI. She transferred from Kapi'olani Community College to UH Mānoa and entered the GES program in Fall 2014. Nalani was a SOEST Scholar and a mentee in the Maile Mentorship program. She has been on the Dean's List and was a recipient of several awards including a Student Presentation Award at the National Conference of the Society for Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) in Washington, D.C., in 2015. In 2016, Nalani participated in the Native American and Pacific Islander Research Experience (NAPIRE) internship program in Costa Rica. At this time, Nalani has no immediate future plans except to perhaps take her first vacation in six years!



### **McKenna Lewis**

*Mentor: Craig Smith (Oceanography)*

McKenna was born in Lihue, HI, and raised in Hanapepe, HI. She came to UH Mānoa and entered the GES program in Fall 2014. McKenna is an Undergraduate Research Opportunities Program (UROP) recipient as well as a recipient of several scholarships including the Kilauea Point Natural History Scholarship, Zonta Club of Hanalei Scholarship, Sarp Kayan Scholarship, Alaska Airlines Environmental Scholarship, and NOAA Hollings Scholarship. McKenna participated in a six-week research cruise to Antarctica in 2015, and was a poster presenter at the XIth Scientific Committee on Antarctic Research (SCAR) Biology Symposium in Leuven, Belgium, the 24<sup>th</sup> Annual Hawai'i Conservation Conference, and the 2018 Ocean Sciences Meeting in Portland, OR. McKenna has secured employment as a fish monitoring technician with the State of Hawai'i Department of Land and Natural Resources, Division of Aquatic Resources on Kaua'i.