#### GES SUMMER 222 Symposium Friday, August 12, 2022 Time: 11:00AM HST via Zoom

# **GES Symposium**

GES students presenting at this symposium conducted faculty-mentored 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 our presenters.

# Agenda

11:00	Opening Remarks
11:05	<b>Tanner Ritchey</b>   Parker Clayton Trauernicht (Natural Resources & Environmental Management) An Assessment of Prescribed Burns in Hawai'i to Identify Training Opportunities and Limitations to Mitigating Long-Term Damage of Wildfire to Communities and Ecosystem
11:20	<b>Erickson Shull  </b> Alison Nugent (Atmospheric Sciences) Developing A Low Cost Fixed Wing Uncrewed Aerial Vehicle For Atmospheric Sensing
11:35	<b>Sofia Suesue  </b> Craig Nelson (Oceanography), Henrietta Dulai (Earth Sciences) Microbial Community Response to Contaminants of Emerging Concern in the Kāne'ohe Watershed

# Biographies Tanner Ritchey



Upon graduating from Kapolei High School, Tanner began his undergraduate journey at the Virginia Military Institute, studying Physics. Tanner transferred to UH Mānoa in 2019 and spent one more year studying physics before being introduced to GES by his academic advisor, Heather Saito. He has always been interested in and practiced environmental sustainability and was intrigued by the courses and research available through GES. After completing his first semester in GES, Tanner became fascinated with fire ecology and wildfires. Surprisingly, he found there were not as many departments dedicated to

research on wildfires and prescribed burns in Hawai'i as he thought there would be. After connecting with his mentor, a floodgate of research opportunities opened up for him. For the past two years, Tanner has worked with UH Mānoa professors, Department of Natural Resources Faculty, the Hawai'i Army Garrison fire department, and multiple local fire department representatives to complete this project. Since joining the GES program, he made the Dean's list each semester, completed his undergraduate research, and even started a small business servicing boats and cleaning out the polluted harbors on O'ahu. Tanner plans to bring this research and experience to Washington state, where he can begin a career in wildfire operations and mitigation. Tanner was born in Ohio and raised in 'Ewa Beach on O'ahu.

#### **Erickson Shull**

From a young age, Erickson had an interest in the mechanics of machines, particularly planes. Growing up, Erickson was constantly building, modifying, and flying model aircraft in his local parks. He originally attended the University of Portland for Mechanical Engineering. However, after taking an Oceanography class in Portland, he found a new interest in combining environmental science with his engineering background. In 2019, Erickson transferred to UH Mānoa and joined GES to pursue his newfound passion. He



received an Undergraduate Research Opportunities Program grant and with help from his mentor, Dr. Alison Nugent, forged a design thesis in building a low-cost fixed-wing aircraft for atmospheric sensing. In the future, Erickson would be interested in a career in remote sensing or piloting. Erickson was born in Honolulu, Oʻahu, and raised in Kīhei, Maui, Hawaiʻi.

## **Biographies**

# Sofia Suesue



Sofia has been interested in studying environmental changes within the Pacific since high school when she was involved in a summer marine biology program at Windward Community College. While earning her associate's degree at Windward, Sofia participated in the SOEST "Mauka to Makai" program where she was introduced to GES by members of the faculty running the program. After transferring to UH Mānoa, she decided to pursue GES as her major due to its intensive and holistic curriculum in environmental science that still included classes focusing on environments

throughout the Pacific. Sofia has always had a strong interest in microbiology and became intrigued in studying coastal ecosystems after interning at a national estuary reserve at the Oregon Institute of Marine Biology. This eventually led her to studying the impacts of Contaminants of Emerging Concern (CEC) on microbial metabolism within the Kāne'ohe watershed as her thesis project under the mentorship of Dr. Nelson and Dr. Dulai. Her project was in part funded by UH Mānoa's Undergraduate Research Opportunities Program (UROP) and by the Pacific Islands Climate Adaptation Science Center (PI-CASC). Throughout her time at UH Mānoa, Sofia has been on the dean's list, received various scholarships, and has presented her research at multiple local and national conferences. Sofia hopes to utilize her research skills and knowledge in future coastal conservation efforts across the Pacific. Sofia was born and raised on the Windward side of O'ahu.

### **About the Program**

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 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 experience 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 experience requirement, 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 Information**

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