

MELANIE “KU‘I” S.K. KELIIPULEOLE

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EDUCATION

Master of Science, Marine Biology Graduate Program University of Hawai‘i at Mānoa, Honolulu, HI	2022
Bachelor of Science, Global Environmental Science University of Hawai‘i at Mānoa, Honolulu, HI	2019
Associate of Science, Natural Science-Life Science Kapi‘olani Community College, Honolulu, HI	2014

AWARDS, HONORS, AND FELLOWSHIPS

FORD Foundation Fellowship	2022
Edmondson Fellowship, UHM College of Natural Sciences	2020
Hau‘oli Mau Loa Graduate Fellowship	2020-2022
‘Ōiwi Distinguished Scholars Award, UHM Native Hawaiian Student Services	2019
Kamehameha Schools Nā Ho‘okama a Pauahi Scholarship	2014-2016
NSF Louis Stokes Alliances for Minority Participation Program	2014-2016
1st Place in Genetics, Emerging Researchers National Conference in STEM.	2015
Center for Microbial Oceanography: Research and Education (C-MORE) Scholar	2014-2015
Best Undergraduate Student Poster in Genetics, SACNAS	2014
Outstanding Undergraduate Presentation, SACNAS Ilima Chapter Science Symposium	2014
Honorable Mention, Best Poster, NSF EPSCoR Hawai‘i Conference	2013
Kapi‘olani Community College Dean’s List	2013

RESEARCH EXPERIENCE

Summary of Masters Thesis work: Analysis of the natural resources within the Makalawena anchialine pool complex and other loko wai‘ōpae habitats.

Advisor: Rosie Alegado, University of Hawai‘i at Mānoa

To understand how the environment, abiotic, and biotic conditions affect the natural resources within Hawaiian anchialine habitats. Use specific survey methods, water quality, and genetics to identify an anchialine pool system that would be optimal for high abundances of *Halocaridina rubra*, ‘ōpae‘ula.

Prior Research Experiences

Undergraduate Research Fellow, ‘Ike Wai-Hawai‘i EPSCoR 2018- 2019

Advisor: Kiana Frank, Kewalo Marine Labs, Honolulu, HI

Research microbiology molecular techniques used to study anchialine pond microbes to

include water filtrations, DNA extractions, PCRs, electrophoresis gel imaging, library preparations, and DNA sequence analysis.

Research Technician/Laboratory Manager ‘Ike Wai-Hawai‘i EPSCoR 2017- 2018

Supervisor: Kiana Frank, Kewalo Marine Labs, Honolulu, HI

Manage lab to include conducting inventories, purchasing supplies and equipment, and laboratory set up. Conduct microbiology molecular work to include water filtrations, DNA extractions, PCRs, electrophoresis gel imaging, and library preparations.

Laboratory Technician, NOAA 2015-2017

Supervisor: Molly Timmers, University of Hawai‘i at Mānoa

Conduct lab duties for the Autonomous Reef Monitoring System (ARMS) project, including, but not limited to, DNA extractions, PCRs, electrophoresis gel imaging, and other molecular lab processes.

Laboratory Assistant, Hawaii Institute of Marine Biology 2015

Advisor: Dr. Rob Toonen, Annick Cros, University of Hawai‘i at Mānoa

Perform lab duties for graduate project on the coral species, *Acropora hyacinthus*, including DNA extractions, PCRs, electrophoresis gel imaging, and other molecular lab processes.

Undergraduate Intern, C-MORE 2014-2015

Advisor: Mackenzie Manning, Kapi‘olani Community College

Research methods of DNA extraction of a sea urchin species, *Colobocentrotus atratus*, extract DNA, and run PCRs, electrophoresis gels, and other molecular lab processes.

Student Researcher, Summer NSF Native American and Pacific Islander Research Experience Summer 2013

Advisor: Dr. Justin Montemarano, Armstrong Atlantic State University

Attend skill building workshops, and conduct literary research, field research, and laboratory research on stream ecology.

PUBLICATIONS

- Keliipuleole, M. Studying the genetic connectivity of the culturally significant sea urchin, *Colobocentrotus atratus*, in Hawai‘i. *Pueo O Kū/Journal of Science, Technology, Engineering, and Mathematics*, 1: 33-36. (2016)
- Keliipuleole, M. Uncovering the science behind the legend of Ka‘au Crater’s red spring. *‘Upena O Kū/Journal of Science, Technology, Engineering, and Mathematics*, 1: 13-16. (2014)
- Akiu, M., **Keliipuleole, M.**, Madrona, K., Watanabe, L. Ulupō Heiau: it’s all in the water! An exploratory study of water quality. *‘Upena O Kū/Journal of Science, Technology, Engineering, and Mathematics*, 1: 9-11. (2014)

PRESENTATIONS

Talks

- Keliipuleole, M. “Loko Wai‘ōpae: Hawaiian Anchialine Pools.” Hawai‘i Conservation Association Conference. Honolulu, HI. (2022).
- Keliipuleole, M. “Ka Pilina o nā Hā‘uke‘uke.” Hawai‘i Conservation Association Conference. Honolulu, HI. (2020).
- Bruno, B and **Keliipuleole, K. (Co-Presenter)**. “Master Your Future with Aloha”. Series of Professional Development Workshops offered in partnership

with UHM's SOEST and the KCC Native Hawaiian Academic Advancement Team. KCC, Honolulu, HI. (Fall 2017-Fall 2019).

- Bruno, B and **Keliipuleole, M. (Co-Presenter)**. "Master Your Future with Aloha". Series of Professional Development Workshops offered in partnership with UHM's SOEST and the KCC Māla Maunuunu Learning Support Center. KCC, Honolulu, HI. (Fall 2016-Spring 2017).
- Keliipuleole, M. "Ka pilina o hā'uke'uke: The genetic connectivity of shingle urchins in Hawaii." 52nd Annual Meeting of The Association for Tropical Biology and Conservation (ATBC), Honolulu, HI. (2015).
- Keliipuleole, M. "Ka pilina o hā'uke'uke." The Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) regional meeting, Honolulu, HI. (2015)
- Keliipuleole, M. "The genetic connectivity of Hā'uke'uke." Kapi'olani Community College's STEM Pa'ina, Honolulu, HI. (2014).
- Keliipuleole, M. "Identifying morphological differences among Hawaii's shingle urchin, *Colobocentrotus atratus*, populations." The Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) – Ilima Chapter Symposium, Honolulu, HI. (2014).
- Keliipuleole, M. "Macroinvertebrate community composition vs. leaf litter type in a premontane tropical wet forest stream, Costa Rica." Kapi'olani Community College STEM Pa'ina, Honolulu, HI. (2013).
- Keliipuleole, M. "Macroinvertebrate community composition vs. leaf litter type in a premontane tropical wet forest stream." Native American and Pacific Islander Research Experience (NAPIRE) Intern Presentations, Costa Rica. (2013).

Posters

- Keliipuleole, M. "Studying the genetic connectivity of the culturally significant sea urchin, *Colobocentrotus atratus*." Center for Microbial Oceanography: Research and Education (CMORE) Scholars' Research Symposium, Honolulu, HI. (2015)
- Keliipuleole, M. "Studying the genetic connectivity of the culturally significant sea urchin, *Colobocentrotus atratus*, in Hawaii." Posters on the Hill, Washington, DC. (2015)
- Keliipuleole, M. "Studying the genetic connectivity of the culturally significant sea urchin, *Colobocentrotus atratus*, in Hawaii." Emerging Researchers National (ERN) Conference in STEM, Washington, DC. (2015)
- Keliipuleole, M. "Studying the genetic connectivity of the culturally significant sea urchin, *Colobocentrotus atratus*, in Hawaii." The Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) National Conference, Las Angeles, CA. (2014).
- Fowler, R. and **Keliipuleole, M. (Presenter)**. "Ka pilina o nā hā'uke'uke: Identifying the differences in morphology of the shingle urchin, *Colobocentrotus atratus*, in Hawaii. STEM Undergraduate Research Fair (SURF), Honolulu, HI. (2014).
- Keliipuleole, M. "Uncovering the science behind the legend of Ka'au

Crater's red spring. Experimental Program to Stimulate Competitive Research (EPSCoR) Conference, Honolulu, HI. (2013).

- Keliipuleole, M. "Simulated ocean acidification effects on the *Calcinus laevimanus* hermit crabs shell selection in Hawaii." STEM Undergraduate Research Fair (SURF), Honolulu, HI. (2013).
- Keliipuleole, M. "Macroinvertebrate community composition vs. leaf litter type in a premontane tropical wet forest stream." The Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) National Conference, San Antonio, TX. (2013).
- Akiu, M., **Keliipuleole, M. (Presenter)**, Madrona, K., Watanabe, L. "Ulupo Heiau: It's all in the water! An exploratory study of water quality." Experimental Program to Stimulate Competitive Research (EPSCoR) Conference, Hilo, HI (2013).

RESEARCH SUPPORT

Kamehameha Schools, "Opae and 'Opelu Research" 2022-2023. PI: Alegado

Kekaulike Grant, Native Hawaiian Student Services, UHM, "Opae and 'Opelu: Comparative Analysis of the Makalawena Anchialine Pool Complex with Other Hawaiian Epigeal Systems", 2021. PI: Alegado

Kamehameha Schools, "Opae and 'Opelu: Comparative Analysis of the Makalawena Anchialine Pool Complex with Other Hawaiian Epigeal Systems and a Historical Review of 'Opelu Fisheries from Hawaiian Language Sources", 2020-2022. PI: Alegado

TEACHING AND MENTORING

Co-Instructor, Hālau Ola Honua summer bridge Summer 2022

Teach and train students in oceanography laboratory and field skills, organize and maintain laboratory and field supplies, lead discussions on the intersection of Hawaiian ocean science and culture and Western ocean science, co-lead field trips, and mentor student research projects.

Graduate Research Assistant, Center for Oral History, UHM 2021 - 2022

Assist with interviewing individuals familiar with 'opelu fishing boats and practices, conduct archival research, transcripts of various interviews, oral histories and produce a report.

Program Manager, SOEST Maile Mentoring Bridge 2019 - 2021

Collaborate with faculty, staff, and students to monitor and track program progress. Conduct and coordinate outreach and workshop events. Work closely with SOEST and UH community colleges to recruit and retain minority students.

Co-Instructor, KCC-SOEST summer bridge Summer 2017, 2018, 2019, 2021

Design and lead experiments to train KCC students in laboratory and field skills, purchase laboratory and field supplies, lead discussions on the intersection of Hawaiian culture and Western science, co-lead field trips, and train peer *mentors*.

Program Director, KCC Project Olonā Summer Bridge Summer 2019

Plan, coordinate, and assess the Summer Bridge Program and its students. Create lesson

plans for and teach biology college track. Work with student peer mentors and other instructors to ensure students' comprehension of STEM information.

Program Manager, KCC, Project Olonā Spring, Summer 2019

Design and implement effective recruiting of Native Hawaiian students from high schools and KCC in collaboration with Hawaiian Studies and 'āina-based STEM interest. Manage student researchers. Work alongside land manager of off-campus study site to organize and run fieldwork expeditions.

Project Land Manager, KCC Project 'Olonā 2017- 2018

Collaborate with project 'olonā's program coordinator. Plan, organize, and perform on-site events to include community workdays, preparing the plot for plants, planting and harvesting efforts, and scientific workshops.

Student Assistant, KCC STEM Center 2012-2015

Mentor fellow students, research literary documents about KCC and areas near KCC, create timeline of historical events that happened in KCC's vicinity, and other clerical duties.

CERTIFICATIONS

UHM Environmental Health and Safety, Radiation Safety Training

UHM Environmental Health and Safety, Transportation of Biological Substances

UHM Environmental Health and Safety, Hazardous Waste Generator Training

UHM Environmental Health and Safety, Bloodborne Pathogens and Safe Sharps Use

UHM Environmental Health and Safety, General Laboratory Safety Training

UHM Environmental Health and Safety, General Biosafety Principles and Practices

SERVICE AND OUTREACH

KCC Ecology Club

Member 2013-present

Liason, Strategies for Ecology Education, Diversity and 2015-2019

Sustainability: Diverse People for a Diverse Science

'Ilima Society for the Advancement of Chicanos and Native Americans in Science (SACNAS) Chapter

Member 2014-present

Vice President 2015-2015

UHM Diversity and Inclusion in Marine Science for Underrepresented Minorities (DIMSUM)

Founding Member 2020-present

Academic Labor United (ALU) at UHM

Member 2021-present