

Veronica L. Gibson

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EDUCATION

Ph.D., Marine Botany; Ecology, Evolution, and Conservation Biology Specialization 2022

College of Natural Sciences, University of Hawai'i at Mānoa, Honolulu, HI

Dissertation: Ecohydrology of macroalgae and submarine groundwater discharge on Hawaiian reefs

M.S., Marine Botany; Ecology, Evolution, and Conservation Biology Specialization 2018

College of Natural Sciences, University of Hawai'i at Mānoa, Honolulu, HI

B.S., Global Environmental Science; Minor in Botany 2012

School of Ocean Earth Science Technology, University of Hawai'i at Mānoa, Honolulu, HI

Thesis: Integrated responses to simulated submarine groundwater discharge; tissue water potential, photosynthesis, and growth comparisons for two intertidal algae species.

EXPERIENCE

Science and Planning Manager

Mālama Maunalua

January 2026-Present

- Strategically guides project development and implementation to center science-based planning
- Lead planning and implementation of green infrastructure projects to reduce land-based pollution, often in coordination with contractors, consultants, and community partners
- Work with leadership to develop a strategic plan for promoting and implementing solutions within that region that aim to improve overall watershed health
- Develop a water quality and ecological monitoring program to support restoration efforts
- Maintain databases and ensure data quality and accessibility
- Prepare technical reports, summaries, and visualizations for various stakeholders as needed
- Support organizational reporting requirements and communications
- Provide scientific expertise and technical content for grant proposals
- Lead and contribute to scientific reports, publications, and presentations

Hydrology and Biogeochemistry Postdoctoral Researcher

Dulai Laboratory, School of Ocean Earth Science and Technology, University of Hawai'i at Mānoa January 2025-January 2026

- Led analyses of trace metal concentrations in submarine groundwater discharge for Pacific Islands
- Led preparation of an academic publication of research results (in preparation)

Wetland Hydrogeology Postdoctoral Researcher

He'eia National Estuarine Research Reserve, Hawai'i Institute of Marine Biology, University of Hawai'i at Mānoa January 2023-January 2026

- Led field and laboratory work for a National Science Collaborative project examining surface and groundwater flow and quality in the He'eia ahupua'a and watershed including water quality, nutrients, and geochemical tracers.
- Conducted data Quality Assurance/Quality Control (QA/QC) and metadata development on nutrient fluxes, recharge and discharge patterns.
- Compiled existing and new data into an accessible online application for stakeholder use.
- Led ongoing co-development with community partners and stakeholders, including biocultural restoration projects and state departments
- Prepared results for community-based collaborators, publications, and presentations at scientific conferences.
- Worked with He'eia Education program to write up project-related activities into education curricula.
- Provided mentorship, direction, guidance, and training to researchers and graduate students in experimental techniques.

Teaching Assistant :

Aug 2014-Dec 2018, Aug-Dec 2022

Oceanography and Botany departments, University of Hawai'i at Mānoa

- Courses taught: OCN201L (3 semesters), BOT 201L (2 semesters), BOT 480L (4 semesters), BOT 682L (1 semester), BOT 101L (1 semester)
- Led undergraduate oceanography and undergraduate and graduate botany laboratory classes.
- Lectured on oceanographic geology, chemistry, and biological oceanography.
- Lectured on botanical, mycological, and phycological diversity; taught microscope use; herbarium construction; graded lab reports, quizzes, essays, and presentations; led field trips for herbaria collections.
- In writing intensive courses: provided rigorous feedback on weekly essays and presentations to prepare students for scientific writing and speaking.
- Guided both graduate and undergraduate students through experimental design, analysis, and communication of results.
- As lead TA for one semester coordinated sample collection and laboratory lecture materials across 4 weekly laboratory sections. Addressed student and TA issues.

Maile Mentor

Summer 2015-Fall 2022

Maile Mentoring Program, School of Ocean Earth Science and Technology (SOEST), University of Hawai'i at Mānoa

- Mentored three Native Hawaiian and Pacific Islander undergraduate students in STEM fields throughout the course of their undergraduate careers.
- Facilitated these students' transition from community college to the university degree program and setting.
- Provided guidance in STEM, academic planning, academic resources, and future goals.

Graduate Research Assistant

May 2021-May 2022

Water Resource Research Center and Hawai'i Economic Research Organization (UHRO)

- Led publication on biocultural values of groundwater dependent ecosystems in Kona, Hawai'i.
- Created community and policy focused outreach materials on cultural and ecological value of groundwater dependent ecosystems in Kona.
- Member of a cross-disciplinary team investigating land management, marine ecosystems, and ecosystem services of the Hualālai and Pu'uloa aquifers and acted as co-author on three additional publications linking social values to land use and ecological changes.

Graduate Research Assistant

September 2018-May 2021

'Ike Wai EPSCOR and Hawaii Economic Research Organization (UHRO), College of Social Sciences, Social Science Research Institute in collaboration with the Water Resources Research Center, University of Hawai'i at Mānoa

- Conducted an interview series with lineal descendents of Kailua Kona and resource managers focused on the biocultural values and care of groundwater dependent ecosystems (nearshore reefs, loko i'a aquaculture systems, and anchialine pools).
- Coded interview results using a place-based ecological services framework.
- Acted as first author for an academic publication of these results, and for a book written for broader community audiences.

Research Mentor

Summer 2018 and Summer 2021

Native Hawaiian Science and Engineering Mentorship Program (NHSEMP) Freshman Bridge, University of Hawai'i at Mānoa

- Mentored two incoming freshmen students of Native Hawaiian descent in designing and implementing scientifically rigorous summer research projects, and in communicating research results.
- Mentored students in field methods for assisting with my dissertation work.

Graduate Assistant and Field Lead

Summer 2019

School of Ocean and Earth Sciences and Technology (SOEST) University of Hawai'i at Mānoa

- Field team lead on multiple projects examining groundwater pollution linkages to nearshore ecosystems.
- Hired and supervised two undergraduate research interns.
- Conducted benthic community analyses, water and algal tissue sample collection and processing for Nitrogen concentration and isotopic $\delta^{15}N$ analyses.
- Led field team in collecting algal samples for isotopic $\delta^{15}N$ analyses and algal community data for collaboration with the lab of Dr. Craig Glenn examining geochemical and stable isotope source tracking of terrestrial nutrient pollution to the coastal waters of Waialua Bay, North Shore, O'ahu.
- Led algal physiology work at Wailupe, on the South Shore of O'ahu, where interns assisted with water and algal sample collection and measurements for photosynthesis using a Junior PAM and tissue water potential using the Chardakov method.

Graduate Representative

2017-2019

Ecology, Evolution, and Conservation Biology (EECB) Graduate Program. University of Hawai'i at Mānoa

- Liaison between faculty and students within the EECB program; attended faculty meetings as a student representative; facilitated student meetings; took student votes on programming decisions; led student outings.
- Organized and facilitated the EECB weekly seminar series by inviting and introducing speakers and organizing workshops
- Managed program grant opportunity advertisements, scheduling and advertising of required course offerings.

Field and Lab Technician, Samoa

2015-Fall 2018

Water Resources Research Center, University of Hawai'i at Mānoa

Project description: "Identifying future hotspots for algal blooms: A multi-dimensional analysis evaluating impacts of potential land-based sources of pollution on the health of American Samoa's coasts."

- Field lead for one field season: organized a team of microbiologists, hydrologists, and biologists; planned and implement field surveys abroad; made contact with local governance agencies and community groups to facilitate our work.
- Field assistant, three field seasons: collected and processed algal samples for nitrogen isotope analyses and species identification; collected and processed biofilms for microbial DNA analyses; and collected and processed water samples for nutrient and salinity characterization.
- Assisted with radon surveys to identify sources of submarine groundwater discharge seeps;
- Collaborated with the Nelson Lab in UHM SOEST to collect coral samples along the same gradients of SGD influence where chronic nutrient impacts were seen, these samples were used to examine coral physiology and symbiont assemblages in regions of chronic nutrient impacts.

Field and Laboratory Technician

Summer 2014

Aquatic Research Consultants, Honolulu, HI

- Dissected tilapia and identify gut contents in order to determine food sources and percent composition of tilapia diet in a man made lagoon, as a portion of a larger ecological and environmental impact study.

Environmental Scientist, RISE internship

May 2013-Fall 2014

Advanced Compliance Solutions, Inc., Waipahu, HI

- Environmental management system development and implementation
- Groundwater and injection well monitoring sampling, and permitting
- Pesticide polluted soil remediation; hazardous waste and oil management; lead based paint maintenance and monitoring
- Bioenergy plant permitting and development

Research Assistant (Plant Evolutionary Ecology)

April 2010-May 2012

Barton Plant Physiology Lab, Botany Department, University of Hawai'i at Mānoa

- Assisted with experiments examining plant physiology: evolutionary ecology, ontogeny and herbivore interactions.
- Greenhouse, field data and plant collection; laboratory data collection and organization in Microsoft word and Excel; GPS data collection; Junior Pulse Aplitude Modulated Fluorometry measurements,
- Metadata analysis-web and library research for citations and scientific journal articles, organization of reference material databases using EndNote.

Lab/Field Assistant, Educational outreach

November 2011-December 2012

Smith Phycology Lab, Botany Department, University of Hawai'i at Mānoa

- Field work examining the ecology of marine plants, marine ecosystem restoration, and educational outreach.
- Planning and implementation of invasive algae cleanups in coordination with the Waikiki Aquarium.

Seafloor Video Analyst

May 2008-June 2010

Pacific Island Benthic Habitat Mapping Center, NOAA Coral Reef Conservation Program, School of Ocean Earth Science and Technology, University of Hawai'i at Mānoa

- Analyzed seafloor video from throughout the Main Hawaiian Islands, Papahānaumokuākea Marine National Monument, U.S. Pacific islands and remote U.S. affiliated islands, and the Indo-Pacific, identified benthic flora and mobile fauna from video.
- Produced datasets of coral cover and other benthic flora and mobile fauna for ArcGIS Mapping of coral reef ecosystems which are used for management; became fluent in identification of Hawaiian and Indo-Pacific species of coral, invertebrates, fish, and macroalgae for benthic classification.
- Used Microsoft Excel and Microsoft Access to enter data and manage databases.
- Contributed to work describing Mesophotic ecosystems in the northwest Hawaiian Islands, the Au'au Channel, Tutuila, American Samoa, and the Mariana Archipelago, and to Navy contracted analyses of coral assemblages in the Philippines for harbor planning.
- Contributed to: establishing and evaluating marine protected areas; developing robust sampling designs for monitoring, assessing damage to natural and cultural resources; planning coastal development and mitigation activities; prioritization of conservation efforts; conducting change analyses to detect ecosystem shifts; and developing technologies to more efficiently map coral habitats.
- Nominated for University of Hawai'i at Mānoa student employee of the year for JIMAR.

Note Taker

2012-2013

KOKUA Program, University of Hawai'i at Mānoa

- Attended classes and took detailed notes, which were then shared with students in the KOKUA program to ensure equal access to course materials for students with disabilities.

TEACHING

- Instructor, UHM School of Life Sciences, Marine Biology 740, "Trends and Seasonality in Time Series Analyses (Topics in Quantitative Biology)," Fall 2025. [Syllabus](#).
- Teaching Assistant, UHM Botany Dept. Courses: Botany 480, Algal Diversity and Evolution (4 semesters) [Syllabus](#); Botany 201, Plant Evolutionary Diversity (2 semesters); Botany 101, General Botany, (1 semester); Botany 682, Physiological Ecology of Marine Plants (1 semester)
- Teaching Assistant, UHM School of Ocean Earth Science and Technology: Oceanography 201, Science of the Sea (3 semesters) [Syllabus](#).
- Guest lecturer, OCN 101, Introduction to Marine Option Program, Windward Community College, 11/21/2023, 11/12/2024; MSC 160: Natural Marine Resources, American Samoa Community College, 11/9/2021; BOT 480: Algal Diversity and Evolution, UH Mānoa, 3/29/2019, 3/23/2018, 3/23/2017; ZOO 200: Marine Biology, Kapi'olani Community College, 2/15/2018, 2/22/2016; BOT 356: Phycology, Cal Poly Humboldt, 4/23/2024.

MENTORSHIP

- [Pacific Islands Coastal Health Fellowship](#) mentor, July 2026-June 2027: Mentor a post-undergraduate student in designing, implementing, and reporting a research project linking ciguatera toxin producing dinoflagellates to Mālama Maunalua water quality monitoring and restoration.
- [Mālama Maunalua Internship](#) mentor, Summer 2026: Mentored an undergraduate intern in conducting a summer research project focused on nitrogen pollution monitoring in Maunalua Bay
- [Institute for Sustainability and Resilience capstone](#) internship mentor, Mālama Maunalua-Spring 2026
- He'eia NERR Postdoctoral Scholar: Provided mentorship, direction, guidance, and training to researchers and graduate students in experimental techniques.
- [Maile Mentoring Bridge](#) for Native Hawaiian and Pacific Islander transfer students from community colleges to SOEST: acted as a mentor to three students from transfer through graduation.
- [Native Hawaiian Science and Engineering Mentorship Program](#): acted as a mentor to two incoming freshmen students, students successfully conducted scientifically rigorous project-based research study, I provided mentorship in study design, implementation, data analysis, and communication of results. One student project collaborated with a community partner to analyze community collected reef survey data.
- Acted as a mentor to 5 students who continued from Botany 480 laboratory courses to conduct thesis research with the Limu Lab. Mentored three of these students to successfully apply for and receive Undergraduate Research Opportunity Grants to fund their work, conduct marine research projects, and to satisfy thesis requirements for their degrees.
- Provided mentoring through field training, feedback on study design, implementation, and communication of research results for 24 total community college, undergraduate, and graduate students through UH Mānoa Limu Lab activities.

PEER REVIEWED PUBLICATIONS

- Gibson, VL** A Dedloff, LJ Miller, CM Smith. 2024. Integrated physiological response by four species of Rhodophyta to submarine groundwater discharge reveals complex patterns among closely-related species. *Scientific Reports*. 14, 23547. <https://doi.org/10.1038/s41598-024-74555-6>
- Gibson, VL**, A Richards-Dona, CM Smith. 2023. Measuring tissue water potential in macroalgae via an updated Chardakov method. *AoB PLANTS*, 15(5), plad055. <https://doi.org/10.1093/aobpla/plad055>
- Okuhata, BK, L L Bremer, JMS Delevaux, AR Donà, C Smith, **VL Gibson**, H. Dulai, A. I. El-Kadi, K. M. Burnett, C. A. Wada. 2023. Effects of multiple drivers of environmental change on native and invasive macroalgae in nearshore groundwater dependent ecosystems. *Water Resources Research*. 59(7):e2023WR034593. <https://doi.org/10.1029/2023WR034593>
- Gibson, VL.**, LL Bremer, K Burnett, NK Lui, CM Smith. 2022. Biocultural values of groundwater dependent ecosystems: a case study from Kona, Hawai'i. *Ecology and Society*. 27(3):18. <https://doi.org/10.5751/ES-13432-270318>
- Dulai, H, CM Smith, DW Amato, **VL Gibson**, LL Bremer. 2021. Risk to native marine macroalgae from land-use and climate change-related modifications to groundwater discharge in Hawai'i. *Limnology and Oceanography*. <https://doi.org/10.1002/lol2.10232>
- Wada CA, KM Burnett, BK Okuhata, JMS Delevaux, H Dulai, AI El-Kadi, **VL Gibson**, CM Smith, LL Bremer. 2021. Identifying wastewater management tradeoffs: Costs, nearshore water quality, and implications for marine coastal ecosystems in Kona, Hawai'i. *PLOS ONE*. 16(9): e0257125. <https://doi.org/10.1371/journal.pone.0257125>
- Shuler, CK, DW Amato, **VL Gibson**, L Baker, AN Olguin, H Dulai, CM Smith, RA Alegado. 2019. Assessment of Terrigenous Nutrient Loading to Coastal Ecosystems Along a Human Land-Use Gradient, Tutuila, American Samoa. *Hydrology*. 6(1), 18; <https://doi.org/10.3390/hydrology6010018>

CONFERENCE PRESENTATIONS

Invited Seminars

- "Phase Two of O'ahu's Green Stormwater Infrastructure Incentive." Gibson, V, L Roth Venue, D Harper. The City and County of Honolulu's Storm Water Quality Division Stormwater Best Management Practices Workshops. July 30, 2026. Sheraton Waikiki Beach Resort. Honolulu, Hawai'i.
- "Groundwater Chronicles: Wet 'N Lateral Stories from our Wetland WAI Project." Gibson, V, H Dulai, YM Rii. April 27, 2026. Webinar series for NERRS Science Collaborative.
- "Collaborative investigation of surface and groundwater systems in He'eia towards 'āina momona." Gibson, V, DI Paty-Miner, Kāko'o 'Ōiwi, Paepae o He'eia, A Miner, K Kotubetey, H Kawelo, H Dulai, K Falinski, K Bosworth, F Reppun, C Ching, J Robertson, N Machado, K Winter, YM Rii. The science behind 'āina momona, symposium. Hawai'i Conservation Conference. July 23, 2025. Hawai'i Convention Center. Honolulu, Hawai'i.
- "Biocultural values of groundwater dependent ecosystems in Kona, Hawai'i." Gibson, V. Invited speaker. 5th International Symposium on Anchialine Ecosystems. November 3, 2022. Kailua Kona, Hawai'i.
- "Integrated physiological response by four red algae species and analysis of benthic community structure across an environmental gradient of tidally-driven submarine groundwater discharge conditions." Gibson, V, A Dedloff, LJ Miller, CM Smith. Invited symposium speaker, From high islands to the ocean floor: pacific plants at the extreme. July 22, 2022. Botany 2022, annual conference of the Botanical Society of America. Dena'ina Center, Anchorage, Alaska.
- "Biocultural values of groundwater dependent ecosystems and associated plants in Kona, Hawai'i." Gibson, V, N Lui, K Burnett, CM Smith, L Bremer. Invited colloquium speaker, Paths forward: Engaging Indigenous science and knowledge. July 22, 2022. Botany 2022, annual conference of the Botanical Society of America. Dena'ina Center, Anchorage, Alaska.
- "Linked Ecological, Cultural, and Social Values of Groundwater Dependent Ecosystems in Kona, Hawai'i." Gibson, V, N Lui, K Burnett, CM Smith, L Bremer. Tropical Island Water Futures: Water for People and Ecosystems in the Face of Change Conference, Water Resource Research Center. Virtual, Honolulu. April 14, 2021.
- "Assessment of Terrigenous Nutrient Loading to Coastal Ecosystems Along a Human Land-Use Gradient, Tutuila, American Samoa." Gibson, V, C Shuler, N Olguin, D Amato, C Smith, R Alegado. Water Resource Research Center Advisory Board Meeting. Tauese P.F. Sunia Ocean Center. Pago pago, American Samoa. October 16, 2018.
- "Tidal influence on nearshore groundwater dependent ecosystems." Invited panelist. Adaptive Management Symposium on Groundwater Dependent Ecosystems at Kaloko-Honokōhau National Historical Park. State of Hawai'i Commission on Water Resource Management. November 8, 2018.
- "Assessment of land based sources of pollution on coral reefs of Tutuila, American Samoa." Amato, D, VGibson, C Shuler, L Baker, C Smith, R Alegado. Presentation given to the American Samoa Environmental Protection Agency, Pago Pago, Tutuila, American Samoa, August 22nd, 2016.

Conference Proceedings

- "Following the drop: Green stormwater infrastructure incentives, installations, and impacts on watershed health." Gibson, V, L Roth Venue, D Harper. Hawai'i Conservation Conference. July 15, 2026. Hawai'i Convention Center. Honolulu, Hawai'i.
- "Collaborative Watershed Hydrology Study Informs Biocultural Restoration Of Indigenous Aquaculture." Gibson, V, DI Paty-Miner, Kāko'o 'Ōiwi, Paepae o He'eia, A Miner, K Kotubetey, H Kawelo, H Dulai, K Falinski, K Bosworth, F Reppun, C Ching, J Robertson, N Machado, K Winter, YM Rii. American Fisheries Society Annual Meeting. September 18, 2024. Honolulu, Hawai'i.
- "Wetland Water and 'Ike (WAI): Collaborative watershed hydrology investigation informs biocultural restoration of kalo agroecosystems and loko i'a aquaculture. " Gibson, V, DI Paty-Miner, Kāko'o 'Ōiwi, Paepae o He'eia, A Miner, K Kotubetey, H Kawelo, H Dulai, K Falinski, K Bosworth, F Reppun, C Ching, J Robertson, N Machado, K Winter, YM Rii. July 31, 2024. Hawai'i Conservation Conference, Honolulu, HI. Poster presentation.
- "Collaborative research reveals complex patterns of surface and groundwater flow linked to biocultural system restoration in He'eia, Hawai'i." Gibson, V, Kāko'o 'Ōiwi, Paepae o He'eia, H Dulai, K Falinski, K Bosworth, F Reppun, C Ching, J Robertson, N Machado, K Winter, YM Rii. Natural Estuarine Research Reserve Annual Meeting. Poster. November 13, 2023. Galloway, New Jersey.

- "Water in the Reserves: Exploring Different Perspectives." Ching, C, V Gibson, YM Rii. Natural Estuarine Research Reserve Annual Meeting. Co-lead for professional sharing session. November 14, 2023. Galloway, New Jersey.
- "Macroalgal physiological-ecology across an environmental gradient of submarine groundwater discharge conditions at Wai'alae, Hawai'i." Gibson, V, A Dedloff, LJ Miller, CM Smith. International Seaweed Symposium. February 21, 2023. Hobart, Tasmania.
- "Ecophysiology of limu (macroalgae) and submarine groundwater discharge on Hawai'i Reefs." Gibson, V. Doctoral Dissertation Defense. November 2, 2022. University of Hawai'i at Mānoa Campus Center Ballroom, Honolulu, Hawai'i.
- "Integrated physiological response by four species to submarine groundwater discharge conditions at Wailupe, O'ahu." Gibson, V, A Dedloff, LJ Miller, CM Smith. Selected participant, Fourth International Council for the Exploration of the Sea and North Pacific Marine Science Organization Early Career Scientist Conference. July 18, 2022. St. John's, Newfoundland, Canada.
- "Integrated physiological response by four species to submarine groundwater discharge conditions at Wailupe, O'ahu." Gibson, V, A Dedloff, LJ Miller, CM Smith. Springs: unique habitats in steady decline, Joint Aquatic Sciences Meeting. Consortium of Aquatic Science Societies. May 17, 2022. Devos Place Convention Center, Grand Rapids, MI.
- "Biocultural values of groundwater dependent ecosystems in Kona, Hawai'i." Gibson, V, N Lui, K Burnett, CM Smith, L Bremer. Workshop on Energy and Environmental Research. University of Hawai'i Economic Research Organization. Virtual, Honolulu. March 7, 2022.
- "Biocultural values of groundwater dependent ecosystems in Kona, Hawai'i." Gibson, V, N Lui, K Burnett, CM Smith, L Bremer. Ocean Sciences Meeting. Virtual, Honolulu. February 28, 2022.
- "Integrated response in photosynthesis and tissue water potential by four macroalgal species, *Gracilaria salicornia*, *Hydropuntia perplexa*, *Acanthophora spicifera*, and *Laurencia majuscula* to conditions of submarine groundwater discharge at Wailupe, O'ahu." Gibson, V, A Dedloff, LJ Miller, CM Smith. Ecology, evolution and conservation biology seminar. Virtual, Honolulu. November 12, 2021.
- "Ecological, cultural, and social values of groundwater dependent ecosystems in Kona, Hawai'i." Gibson, V, N Lui, K Burnett, CM Smith, L Bremer. Hawaii Conservation Conference. September 1, 2020. Virtual, Honolulu. March 12, 2021.
- "Kona: where groundwater links biology, culture, and practice." Gibson, V. Hanauma Talks. Hanauma Bay Education Program. November 19, 2020. Virtual, Honolulu.
- "Tissue water potential regulation and photosynthesis by *Gracilaria salicornia* in a submarine groundwater discharge influenced system." Gibson, V, CM Smith. Phycological Society of America Annual Meeting. Fort Lauderdale, FL. June 24, 2019.
- "Nearshore groundwater dependent ecosystems and their ecological, cultural, and socio-economic values in Kona, Hawai'i." Phycological Society of America Annual Meeting. Fort Lauderdale, FL. June 23, 2019.
- "Macroalgal physiological and ecological response to submarine groundwater discharge in tropical island ecosystems." Poster presentation. Phycological Society of America Annual Meeting. Lewin Award Contestant. Embassy Suites by Hilton Monterey Bay Seaside, 1441 Canyon Del Rey Boulevard Seaside, CA. 5:00pm. June 5, 2017.
- "Does groundwater influence algal communities?" Poster presentation. 42nd annual Albert L. Tester Memorial Symposium, Keoni Auditorium, East-West Center, University of Hawai'i at Mānoa. April 26, 2017.
- "Assessment of land based sources of pollution to reefs of Tutuila, American Samoa." Evoluncheon, Ecology Evolution and Conservation Biology Seminar. Gilmore 306, University of Hawai'i at Mānoa, Honolulu, Hawai'i. 11:30 a.m. October 21, 2016.

GRANT WRITING

- Ho‘ōla ‘āina: Implementation of community-based restoration of Hawai‘i’s forests, watersheds and wetlands, Hawai‘i Green Fee, 2026
- Alaska Airlines Foundation Grant, 2026 (Awarded)
- National Estuarine Research Reserve Science Collaborative Grant 2025 (funding cancelled), grant development lead
- Sea Grant National Aquaculture Initiative 2024, grant development lead
- Pacific Islands Climate Adaptation Science Center 2025 Project Solicitation, grant development lead
- Phycological Society of America Grants in aid of research 2025 and 2022 (awarded), grant development lead
- University of Hawai‘i at Mānoa graduate student organization research grants 2017, 2019, and 2021 (all awarded), grant development lead
- Watson T. Yoshimoto Fellowship, 2017 (awarded), grant development lead
- NSF graduate research fellowship program 2014 and 2015, grant development lead
- Nancy Foster Fellowship 2015 and 2016, grant development lead
- Mentored 3 awarded student Undergraduate Research Opportunities Grants
- Undergraduate Research Opportunities Program Grant for Thesis Research-Spring 2012

RESEARCH FACILITATION/WORKSHOPS

March 24, 2026. Mālama Maunalua Maunua Bay Ridge-to-Reef Hui Meeting. Co-organizer.

April 17, 2026. Mālama Muliwai. Mālama Maunalua Water Quality Demonstration Facilitator.

September 22 and 30, 2025. Wai stewardship in He‘eia strategy meeting. Shareout for WAI project results and internal strategy meeting for next steps with establishing Interim Instream Flow Standards with CWRM. Co-organizer and Co-facilitator.

March 3, 2025. NERRS Science Collaborative grant community advisory meeting: Hui WAI Meeting 8. Co-Organizer and Co-Facilitator. [Summary Report](#).

December 11, 2024. NERRS Science Collaborative grant community advisory meeting: Hui WAI Meeting 7. Co-Organizer and Co-Facilitator. [Summary Report](#).

November 21, 2024. WAI Pau Hana I Waipao: Workshop for ‘āina educators and like-minded teachers. Co-Organizer and Co-Facilitator.

September 25, 2024. NERRS Science Collaborative grant community advisory meeting: Hui WAI Meeting 6. Presentation by USGS partner Sarah Rosa on recent data release. Co-Organizer and Co-Facilitator. [Summary Report](#).

April 17, 2024. NERRS Science Collaborative grant community advisory meeting: Hui WAI Meeting 5. Co-Organizer and Co-Facilitator. [Summary Report](#)

February 6, 2024. NERRS Science Collaborative grant community advisory meeting: Hui WAI Meeting 4. Co-Organizer and Co-Facilitator. [Summary Report](#)

November 14, 2023. Water in the Reserves: Exploring different perspectives. Professional Sharing Session, NERRA Annual Meeting, Galloway, NJ. Co-Organizer.

November 6, 2023. NERRS Science Collaborative grant community advisory meeting: Hui WAI Meeting 3. Co-Organizer and Co-Facilitator. [Summary Report](#)

September 21, 2023. Workshop to share and learn about different perspectives of wai (water). Papahana Kuaola, He‘eia, HI. Co-Organizer and Co-Facilitator. [Flyer](#)

May 31, 2023. NERRS Science Collaborative grant community advisory meeting: Hui WAI Meeting 2. Co-Organizer and Co-Facilitator. [Summary Report](#)

March 7, 2023. NERRS Science Collaborative grant community advisory meeting: Hui WAI Meeting 1. Co-Organizer and Co-Facilitator. [Summary Report](#)

RESEARCH COLLABORATIONS

2026-	Maunalua Bay water quality monitoring program development and initial characterization , in collaboration with Douglas Harper (MM), Henrietta Dulai (UHM), and Division of Aquatic Resources
2026-	O'ahu Green Stormwater Infrastructure Island Wide and Wailupe Watershed Incentive Programs , in collaboration with Douglas Harper (MM), Roth Ecological, City and County of Honolulu Department of Facilities and Maintenance, Hawai'i Green Growth
2026-	Characterization of ciguatoxin producing dinoflagellates, <i>Gambierdiscus</i> in Maunalua Bay, in collaboration with Lorayne Aguinaldo (Pacific Islands Coastal Health Fellowship Fellow), Eileen Nalley (UHM, Sea Grant), Douglas Harper (MM), Alexandra Chene (Pacific Islands Ocean Observing System), Dan Arencibia (MM)
2026-	Ridge to reef restoration of Wailupe Watershed, in collaboration with Douglas Harper (MM), Dan Arencibia (MM), Protect and Preserve Hawai'i, Kuleana Coral Restoration, Aloha Tree Alliance, Roth Ecological, Kira Hughes (UHM, HIMB)
2025-	Utilizing settlement tiles to assess ecohydrology of Hawaiian macroalgae (limu) in He'eia, in collaboration with Yoshimi Rii (UHM), Paepae o He'eia, and Ali'i Miner
2024-	SWMP SURGE: SWMP Synthesis for University Research Graduate Education, in collaboration with Kait Reini (Lake Superior NERR), Yoshimi Rii (UHM), Sylvia Yang (Padilla NERR), Paul Hanson (UW Madison), Lauren Sutton (Kachemak Bay NERR), Fred Reppun (UHM), and Casey Ching (UHM)
2023-	Development of a He'eia Data Consortium, a data stream portal collating different data streams relevant to He'eia water quality data for use by He'eia community, in collaboration with Mahdi Belcaid (HIMB and UHM), Yoshimi Rii (UHM), Kim Falinski (TNC)
2023-	Examining surface and groundwater flow in He'eia, in collaboration with Yoshimi Rii (UHM), Henrietta Dulai (UHM), Kim Falinski (TNC), Ali'i Miner, Kāko'o 'Ōiwi, Paepae o He'eia
2018-2021	Characterizing Biocultural Values of Groundwater Dependent Ecosystems in Kona, Hawai'i, in collaboration with Leah Bremer (UHM, WRRRC, UHERO), Nicole Lui, Celia Smith (UHM), Kimberly Burnett (UHM, UHERO)
2018-2021	Assessing impacts of land use and climate change on submarine groundwater discharge and coastal marine ecosystems in Kona, Hawai'i, in collaboration with Leah Bremer (UHM, WRRRC, UHERO), Celia Smith (UHM), Kimberly Burnett (UHM, UHERO), Christopher Wada (UHM), Jade Delevaux, Angela Richards Dona (UHM), Aly El-Kadi (UHM), Henrietta Dulai (UHM)
2019	Measuring nutrient loading to coastal ecosystems via submarine groundwater discharge and impacts on marine macroalgae in Waialua, Hawai'i, in collaboration with Craig Glenn (UHM), Lucas Ellison (UHM), Jordan Mason (UHM), and Celia Smith (UHM)
2015-2018	Assessing terrigenous nutrient loading of coastal ecosystems along human land-use gradients, and impacts on nearshore microbial diversity, coral health, and macroalgal diversity in Tutuila, American Samoa, in collaboration with Rosie Alegado (UHM), Celia Smith (UHM), Daniel Amato (UHM), Christopher Shuler (UHM), Henrietta Dulai (UHM), Nalani Olguin (UHM), Eric Welch (UHM), Craig Nelson (UHM)

PROFESSIONAL SERVICE

June 9-10, 2026	Invited Participant, DAR Statewide Water Quality Coordination Workshop Participant
2026-current	Invited Advisory Member, DAR Mauka to Makai Water Quality Hui for the Water Quality Action Plan
2025-current	Invited Advisory Member, Commission on Water Resources Management Keauhou Aquifer System Area Groundwater Adaptive Management Plan (AMP) Indicator Species Advisory Group
November 8-9, 2018	Invited Panelist, Commission on Water Resources Management Keauhou Adaptive Management Symposium on Groundwater Dependent Ecosystems

PROFESSIONAL SERVICE (continued)

Reviewer for journals: Ecology and Society, Journal of Environmental Management

Reviewer for conferences: Hawai'i Conservation Conference.

Reviewer for competitions: Prescott Award for phycological texts, Phycological Society of America

Invited Guest Lecturer: University of Hawai'i at Mānoa: Botany 480 (2018, 2019, 2021), Kapi'olani

Community College: Marine Biology (ZOOL 200; 2018) Windward Community College: Marine Option

Program (OCN 101; 2023, 2024, 2025) American Samoa Community College: Natural Marine Resources

(MSC 160; 2021) Cal Poly Humboldt: Phycology (BOT 356; 2024, 2025)

GRANTS & HONORS

- Alaska Airlines Foundation grant, 2026.
- Co-instructor, SWMP SURGE: SWMP Synthesis for University Research Graduate Education, National Estuarine Research Reserve Science Collaborative Research Grant, 2025.
- Postdoctoral research Fellow: He'eia National Estuarine Research Reserve, Hawai'i Institute for Marine Biology, 2022-2026
- Selected participant: ICES Early Career Scientist Conference. Newfoundland, CA. 2022. International Council for the Exploration of the Sea and North Pacific Marine Science Organization Early Career Scientist Conference. Newfoundland, CA. 2022.
- Symposium Invited speaker: "From High Islands to the Ocean Floor: Pacific Island Plants at the Extreme." Botany 2022. Botany Society of America. Anchorage, 2022.
- Selected alternate delegate: 2020 Young Pacific Leadership Conference, Papua New Guinea.
- Phycological Society of America, Grants in aid of research award, 2022
- Graduate Student Organization Research Grant awards-Spring 2021, Spring 2019, Spring 2017
- Ecology, Evolution, and Conservation Biology Watson T. Yoshimoto Fellowship- Spring 2017
- Rewarding Internships for Sustainable Employment Intern, KUPU Hawaii-May 2013
- Undergraduate Research Opportunities Program Grant for Thesis Research-Spring 2012
- Student Ambassador, School of Ocean Earth Science and Technology- Spring 2011
- Alan Church Award for Environmental Stewardship- Fall 2010
- Francis K.C. Foo Sr. and Evelyn S. Foo Endowed scholarship Global Environmental Science- 2010
- Nominated Student Employee of the Year- Joint Institute for Marine and Atmospheric Research Nominee, University of Hawai'i at Mānoa, NOAA-2009

PUBLIC SERVICE

- **Biocultural restoration:** loko i'a, kalo agriculture, wetland restoration, including removal of sediment and invasive plant and algal biomass, outplanting of native macroalgae, and rebuilding of fish pond walls. I have participated in multiple restoration projects including He'eia Loko i'a, Kealohi wetland, Kāko'o 'Ōiwi Lo'i Kalo and Agroforestry, Papahana Kuaola, Kanehekili Heiau, Hui Kaloko Honōkohau, Hui Aloha Kīholo loko i'a fishpond restoration, Waimanalo Limu Hui Pāhonu loko i'a fishpond restoration, and Huilua fishpond restoration at Hulihe'e palace- ongoing
- **Limu hui:** volunteer for limu monitoring on Kaho'olawe in collaboration with the Kua'āina 'Ulu Auamo Limu Hui and Protect Kaho'olawe 'Ohana, conducted limu surveys, species ID, photography and advised on methodology and photo guidebooks. Volunteer at Hana Limu Festival to implement educational limu activities including species ID and pressing, conduct limu surveys. May 2023-ongoing.
- **Surfrider Spirit Session Mentor:** provide holistic and ocean based experiential education for at-risk and adjudicated youth through mentorship and teaching of ocean awareness, environmental science, and Hawaiian culture-August 2019-Summer 2022
- **Waikīkī Aquarium invasive algae cleanups and Jefferson Elementary School algae education:** Aided in the organization of algae cleanup materials, volunteers, and composting of invasive algal biomass in coordination with the Mānoa Limu Lab and community stakeholders. Provide community and volunteer education and invasive algal removal training. 2010-2020.
- **Daughters of Hawai'i:** assist to perpetuate the memory and spirit of old Hawai'i, Hawaiian history and historic sites, and to preserve nomenclature and correct pronunciation of the Hawaiian language.

I have participated as a volunteer in Hulihe'e palace events, the King Kamehameha III birthday celebration at Keauhou bay, and Pu'uhonua o Hōnaunau National Historical Park Makahiki traditions and annual Hukilau. Youth hula 1994-1996, volunteer 2012-2014, Calabash Cousin 2019-present.

- **Honolulu Elks Club**: participate in lodge meetings and charity events. 2017-present.
- **Buddhi Yoga Mānoa**, student Registered Independent Organization for yoga: founder and president. 2017-2020.
- **Hukilau Hui**, student Registered Independent Organization for invasive algae cleanups: founder and president. Organized founding documents and board members, outreach, maintained social media, organized and coordinated with Waikīkī aquarium algae clean up events. 2011-2012.