OLA KA ʻĀINA, OLA KE KANAKA, OLA KA LĀHUI

Thriving Lands, Thriving People, Thriving Society

Vision: an ʻŌiwi One Health framework. I am a transdisciplinary Indigenous scholar and practitioner using experimental model systems and field observations to investigate how ecology informs microbial evolution in a changing climate. I direct the Microbial Ecology and Evolution in Hawaiʻi Laboratory (ME*E Lab) and my work is grounded in the Kanaka ʻŌiwi (Native Hawaiian) concept that human health is inextricably linked to ecosystem health. Ola, meaning health or well-being, acknowledges that balance in natural cycles is foundational for human health. While these ʻōiwi concepts align with the conventional One Health approach that calls for optimizing the health of humans, animals, and ecosystems, they offer a more comprehensive framework by more fully considering the environmental dimension and the embedded nature of humans within ʻāina. Globally, Indigenous- managed ecosystems retain the highest levels of macro-diversity. In contrast, numerous studies have revealed that shifted human-environment relations due to Western colonialism result in dysbiosis associated with lower diversity and increased metabolic disease. While many in the field of microbiome research have focused on ameliorating health in industrial populations, I chose to pursue a novel hypothesis - that Indigenous stewardship supports high environmental microbial diversity and richness, thus Indigenous management is key to maintaining microbial ecosystem functions and processes, particularly in the face of climate change. My work is distinct and unique thereby positioning the UHM Oceanography department at the forefront of microbial oceanography deploying a convergent science lens.

Faculty appointment. I hold a joint appointment of 0.75 FTE Instructional Faculty in the Oceanography Department (OCN) and 0.25 FTE in the Hawaiʻi Sea Grant College Program (HSG). HSG is one of 32 university-based programs funded by a partnership of the US National Oceanic and Atmospheric Administration and state governments to promote research, outreach, and education in support of stewardship of US coastal and marine resources. My joint position has enabled me to establish a program which foregrounds community-engaged scholarship and implementation of trans-disciplinary approaches that incorporate ʻŌiwi knowledge into our research practices through a balance of 45% research, 30% teaching and 25% community-engaged scholarship (1.1 Offer letter). The assessment of my fulfillment of the qualifications for full professor should reflect a recognition of my outstanding achievements in each of these three elements of my professorship (1.2 MOU). The body of work outlined here meets, and in several instances, exceeds criteria for promotion to Professor of Oceanography (1.3 Post-tenure review).

RESEARCH AND SCHOLARSHIP

Synergy between ME*E Lab and Ulana ʻIke Center. My scholarship centers a critical ʻŌiwi perspective on research as praxis[1]. I train scholars to draw upon multiple knowledge systems to address key problems and empower communities to understand and protect their resources. In 2018, I assumed directorship of the HSG Ulana ʻIke Center of Excellence, which serves as a collaborative hub around HSG faculty and community partners who work on projects engaging multiple knowledge systems. As

[1] praxis: reflection and action upon the world in order to transform it. From Freire, P. (1972). Pedagogy of the oppressed.

articulated during the Ulana ʻIke ʻAha ʻIke Pāpālua, our vision is to support customary practitioners in exercising decision-making powers and co-management of coastal and marine resources. My research, instructional, and engaged community scholarship activities in the OCN Department have an inherent focus on the most fundamental aspects of Hawaiʻi's environment and are of critical concern to the ʻŌiwi and general community in Hawaiʻi. Since gaining tenure, I've leveraged the interrelationship of my OCN position and leadership in HSG as a platform to elevate ʻōiwi research methodologies and ethical practices at a community scale to a national and Pacific-wide scale. Through my intersectional scholarship, I hope to transform and recalibrate an inclusive view of scientific knowledge production for the benefit of all. Research on fundamental animal-microbe interactions remains an active research area in my lab (Freckelton *et al* 2022, Mateo-Matriano *et al* 2020, Lynch and Alegado 2017, Xie *et al* 2017, Baker *et al* 2016, Xie *et al* 2016, Alegado and King 2014, Beemelsmans *et al* 2014), the most exceptional impact of my work derives from the highlights and new directions described below.

- Since my UH Mānoa appointment in 2013, I have obtained over **$14 million** in funding, with **$7.18 million for basic research and $4.49 million for community-based research** (4.1 Summary of Grants). Over **$3.65 million** in research monies was awarded directly to me with **$2.3 million** awarded since I earned tenure.
- As a member of the UHM faculty, I published **18 peer-reviewed articles**, **9 invited reviews/perspectives**, **3 book chapters**, and **15 white papers** (6 Bibliography). Of these, **25 publications have occurred since my tenure and promotion** to Associate Professor in 2019. Significantly, these have been published in high impact journals such as *Nature Microbiology, PNAS, eLife* and *Oceanography* with an increase in my H-index from 12 to 20 (6.1 Summary of peer-reviewed publications). The median impact factor of the body of my work is 6.41, higher than the median impact factor for the fields of Oceanography (1.7) and Microbiology (2.97). In my field (microbiology), we publish multi-author manuscripts, following the convention that senior corresponding authors (who conceive and design the research, secure funding, provide oversight and mentorship, derive and interpret findings, and help write and edit the manuscripts) are listed last (6.2 Clarification of authorship). This convention also provides graduate students, who perform the majority of the technical work and write the first drafts, with first authorship. I also include as co-authors community members who have contributed time, resources, and invaluable local and customary knowledge to the study.
- Since tenure, I have given **5 keynotes/plenary presentations**, been **invited to talk at 21 conferences/meetings, 17 seminars at institutions outside UH Mānoa**, participated in **15 panels** and had **29 conference abstract accepted** (4.2 Requests for Expertise), which has served as a robust platform for sharing my scholarship.
- **I have established a strong national and international reputation** as **the first Indigenous person nominated to the National Academies of Science Engineering and Medicine Ocean Studies Board** as well as **the US National Committee for the UN Decade on Sustainable Ocean Development**, my research informs my discipline on the role of Indigenous knowledge in ocean sciences. I also was invited to **"The Time is Now: Advancing Equity in Science & Technology" roundtable with the White House Office of Science Technology and Policy**. In holding space for broader perspectives, through the practice of Indigenous methodologies, my research practice highlights the key role of Indigenous

knowledges in resilience and sustainability with thought leaders I was invited as a **plenary panelist at the 2023 Association of Pacific Rim Universities APEC Leaders Forum** on the essential role of Indigenous knowledges in biodiversity, resilience and sustainability.

Microbiomes of Indigenous seascapes: models of resilience. Hawai'i is a natural biodiversity hotspot that also successfully supported a burgeoning Indigenous population for millennia sustainably. As an Indigenous scientist, my approach has been to draw upon and leverage my fluency in ancestral knowledge as a foundation to understand human capacity for adaptation and survival in Hawai'i, the Pacific and on islands, globally (Hintzen *et al* 2024, McGregor *et al,* 2020). Loko i'a are Native Hawaiian mariculture technology built at the terminus of watersheds, that capture the diversity and metabolic functional capacity of terrestrial and oceanic realms. Native Hawaiian stewards allow my laboratory to research He'eia Loko I'a as a crucial cultural site whose accessibility enables repeat sampling and robust analyses to track ecological and taxonomic dynamics in response to disturbance (McCoy *et al* 2017, Mohlenkamp *et al* 2019). Biocultural restoration has resulted in the re-establishment of phytoplankton seasonality and resilience after storm events (Beebe *et al*, in preparation). Our work suggests that Indigenous-led efforts to maintain biodiversity are key to expanding our understanding of how climate change will impact microbially-mediated nutrient cycling, emergence of tropical diseases, and stability of microbial symbioses (Lensing *et al,* in preparation). As an estuarine mesocosm within the natural coastal environment, this microbial observatory spanning over a decade serves as a model for macro-ecological dysbiosis caused by colonial transformations and resilience of microbiomes under Indigenous management regimes (Winter *et al,* 2020; Winter *et al* 2020). Reviewers of these 2 manuscripts noted (6.4 Combined post-tenure reviews): *"This well-written work provides numerous examples and well-formulated arguments demonstrating the importance of this framework not only in the local context of Hawai`i, but also globally. The work is timely because some prominent scientists have framed humans as inherently destructive, and that view is unlikely to generate the much needed and decisive actions required to redress the climate and biodiversity crises."* My research focus at He'eia Loko I'a has been a key building block in building a Pacific region-wide Indigenous Aquaculture collaborative comprised of tribes from across the Pacific Northwest, Alaska, Native Hawaiians and other Pacific Islanders focused on stewardship of marine resources.

Applying Indigenous research methodologies. Climate change is a global crisis, and the peoples of Oceania stand to bear the biggest burden. Drawing upon Indigenous knowledges is critical to solving the most pressing challenges of our time. Our island location and community empower us to investigate processes that impact our coasts, from native fishponds, coastal rescue, coral habitat, deep-sea mining, fisheries, microbial communities, connectivity of the islands, to the driving forces of all of these things: Pacific and Global Climate. While modern technology can be used to generate climate models that allow us to understand and project these changes on a global systems scale, modern technology and conventional approaches to science cannot begin to approach the accuracy and sophistication of multi- generational, multi-dimensional knowledge of Indigenous peoples using regional and local data to understand phenomena. What modern technology lacks, Indigenous knowledge can generate place-specific solutions that have been tested through time. Within the Ulana 'Ike Center, I have researched primary 'ōlelo Hawai'i archival materials (nūpepa) to

reconstruct Indigenous knowledge on how kanaka ʻōiwi adapted management practices in response to changing environments and climates with funding from the Lenfest Ocean Program and the NSF Large-scale Coastlines and People Hubs for Research and Broadening Participation called the Rising Voices Changing Coasts Hub. My scholarly work has articulated the significance of Indigenous Pacific knowledges on climate resilience. My contributions to the 4th and 5th National Climate Assessment Pacific Islands chapter as well as 12 policy guidance documents co-developed during my tenure on the Honolulu Climate Change Commission (4.6.1 reappointment) have supported landmark legal cases of native youth plaintiffs seeking climate justice by providing expert witness testimony (4.6.2 Navahine v DOT brief).

Together, my Indigenous colleagues and I are at the forefront of forging pathways leading tothe convergence of Western and Indigenous knowledges (Kahanamoku *et al* 2020, Winter *et al* 2020, Leonard *et al*, 2023). Reviewers noted in our all-Indigenous author review on Indigenous- led water rights/responsibilities that: "*There is much to commend the author/s for this article, especially the strong consideration and understanding of Indigenous people and water-related issues in the 21st Century and in regions at the heart of the discussion. A shift to 'alternative' interpretations about a vital topic is in process, but not fully evident."*

ʻŌiwi-centered research axiologies. My work in this area has increased social capital within SOEST to enable more productive community relationships. I have been effective in calling for collaborative and inclusive processes in carrying out research through prominent international platforms such as *Nature* (Alegado 2019) and NPR Science Friday. While my unique positionality as an Indigenous scientist and cultural practitioner afforded me access to ancestral knowledges more readily than my colleagues, the field-based disciplines that I engage in (e.g. microbial ecology and geosciences) have recognized the need to move toward more ethical co-production of research that is community-led and includes Indigenous voices. Within this area, **my most significant contribution has been the co-development of Kūlana Noiʻi, a process for reciprocal equitable relationships between community partners and research scientists** (Alegado *et al* 2024). Reviewers noted: "*This chapter provides an excellent template for engaging in community-based research that is respectful and inclusive of the knowledge, experience, values and perspectives of Indigenous peoples and community members. It is perhaps not insignificant that the authors are women. The examples of lessons learned from projects conducted at sites in Hawai`i have easy applicability to research conducted within other native and/or local communities and illustrate how a sensitivity to the colonial legacy of American universities and their research priorities and methods can lead to better and more compatible, sustainable outcomes for both communities and researchers. The process of involving community members in research decisions takes intentionality, time and training to be successful but is a crucial basis for just and ethical inquiry."*

I participated in round table discussions with the White House Office of Science Technology Policy on best practices for community-centered research, the Kūlana Noiʻi process document that I spearheaded was cited several times in the White House Guidance for Federal Departments and Agencies on Indigenous Knowledge. Though Kūlana Noiʻi centers Hawaiian communities, its potential for broad application and implementation led to the development of a professional t training curriculum that has to date reached over 900 individuals (4.3.2 Community Scholarship Evaluation) and has been recognized as National Sea Grant Best Practice. The future of geoscience and

microbiome science is in ethical relationship building. Realizing the massive amounts of environmental and microbiome data generated by my research, I have more recently engaged in operationalizing Indigenous data sovereignty principles to ensure authority is retained and benefits accrue collectively to the Indigenous communities I work with (4.3.4 Indigenous Data Sovereignty Workshop). Working with like-minded researchers in earth sciences and microbiome science, we published separate recommendations on how best to safe guard Indigenous data governance in these fields (Jennings *et al* in progress, Bader *et al* 2023). Reviews of our microbiome ethics piece noted: "*this manuscript constitutes a necessary contribution to microbiome research, which routinely invokes or employs data related to Indigenous communities but which as yet (as a field, and particularly in the United States) lacks community guidelines and other infrastructure for ensuring that Indigenous peoples are treated ethically. This manuscript helpfully offers actionable guidelines with examples of good practice that should help microbiome researchers think through how to practice good relations in their own contexts. While understandably focused on microbiome research, this framework and principles should also be valuable to researchers who work with other forms of data that have not conventionally been understood as "human" but which nevertheless call for consideration of human and more-than-human ethics.*

Researching the research enterprise. Working with a collective of historical minoritized geoscientists, we undertook **analysis of 20 years of available data on grantmaking at the National Science Foundation. Our analyses revealed clear funding disparities associated with the self- disclosed racial identity of the principal investigator** (Chen *et al* 2022). Notably, our findings call into question the assumption that our national funding structures operate under an ethos of meritocracy, and underscored the need to root out systemic racism in STEM. Reviewer noted: "*this study is critical and necessary. Even though this data is technically publicly available, this type of straightforward presentation of NSF funding trends simply does not exist – not from NSF and not in the peer reviewed literature. Past studies have occasionally looked at trends within single disciplines, but this massive dataset reveals systemic problems within a major source of funding for basic research in the United States. And as the authors point out in their discussion, because these trends exist in other funding agencies as well, they are indicative of systemic issues that underpin all of science and society. The findings of this study will likely have a significant impact in several areas: first, at NSF, where the vast majority of program officers want to have a fair and unbiased proposal review process and a diverse portfolio of awards; and second, among PIs who are not only affected by these discrepancies (particularly non-white PIs) but are unconsciously contributing to these discrepancies through the external review process. I see this paper as being a catalyst for change and an invaluable piece of evidence for those within science who are already fighting for it.* One outcome of our work is that *the National Science Board, which sets policy for the National Science Foundation, voted to establish a commission to study NSF's review process. One reason that Steven H. Willard, chairman of the board's committee on oversight, cited for the commission was "internal and external reports of racial disparities in merit review."* (New York Times)

JABSOM Tropical Medicine Clinical Lab. In response to the COVID-19 epidemic, I co-founded TMCL with Vivek Nerurkar to provide enhanced capacity for the diagnosis of neglected tropical disease in times of crisis, and to serve as a resource to augment the public health response effort. With support from the Federal CARES Act through the

City and County of Honolulu and the Rockefeller Foundations, TMCL is the only public diagnostic laboratory in Hawai‘i and is CLIA certified with American Proficiency Institute Accreditation and the Hawai‘i Department of Health. It was built soup to nuts with local skilled labor. Our lab was founded with the core intention of providing COVID-19 testing access to underserved populations in Hawai‘i. We were invested in relationship-building with community-rooted organizations to deliver targeted outreach testing to public housing, the houseless, the incarcerated, and those receiving care from Federal Qualified Community Health Centers. We are now poised to increase diagnostic capacity for neglected tropical diseases (e.g. murine typhus, leptospirosis, toxoplasmosis) and respond to infectious diseases exacerbated by climate change (e.g. dengue, Zika).

TEACHING & MENTORING

Training future generations of researchers. My role as a researcher extends to upcoming generations of scientists. In 2013, I started my position as the first ‘ōiwi tenure track faculty member in the 35-year history of the School of Ocean and Earth Sciences and Technology (SOEST) and quickly became aware of DEIJA issues in the school: while ‘ōiwi and other underrepresented minorities comprise 28% of the student population at UHM, in SOEST, ‘ōiwi and other ethnic minority groups are shockingly underrepresented at undergrad (6%) and graduate levels (<1%), as well as in the professoriate. The values I bring into formal educational settings has helped advance my goals of transforming and Indigenizing STEM. Providing mentorship to minoritized students is a key aspect toward achieving this goal.

For over 11 years, I have piloted approaches to teaching science that foreground Indigenous knowledge, practices, and values with the aim of transforming and Indigenizing higher education in STEM. I have also been a tireless advocate for increasing participation of historically marginalized groups in STEM, particularly Native Hawaiians and Pacific Islanders in the geosciences. Below is a summary of several important contributions I have made to the educational mission of the University and OCN in their aspirations to become a Native Hawaiian Place of Learning and a summary of the courses I taught since being gaining tenure in 2019.

- Awarded the UH Board of Regents Medal for Teaching Excellence in 2023 and the 2023 SOEST Excellence in Teaching Award
- Taught 4 courses (5.1 Combined course syllabi) and received strong instructor evaluation scores **(mean instructor rating of 4.45/5).** In total, I have taught 535 students over the course of 38 semester hours (5.0.1 Teaching Evaluations, 5.3.1 OCN201 informal evaluation).
- Since my appointment, I obtained over **$1.88 million** in grants **for educational activities**, with **$489,000 to support trainees** (4.1 Summary of Grants).
- Served as **Director** of the School of Ocean and Earth Science and Technology **Maile Mentoring Bridge Program** (2018-2024), where I supervised and administered a mentoring program that pairs prospective SOEST undergraduates with SOEST graduate students, postdocs fellows or staff.
- **co-PI** for **Hālau Ola Honua** (2017-2022), an NSF Partnership for Geoscience Education and multi-institution collaboration between Windward Community College, Honolulu Community College, Kaua‘i Community College and UHM. In this position, I helped to develop standardized core geoscience curricula and curricular pathways to establish an Environmental Science Concentration within Associate of Science

Natural Sciences program at UH Community Colleges

- **Key Personnel** for the UH Geology, Environmental/Earth, & Ocean **(GEO)-Sciences Pathway** (2018-2023), an NSF Improving Undergraduate STEM Education Grant. I helped to establish Pathways into Geosciences, a multi-institution collaboration between Kapiolani Community College, Leeward Community College and UHM, and develop a Geoscience, Earth/Environmental Science, Ocean Science **(GEO) Pathway** in the UH system Associate of Science Natural Sciences degree.
- **co-PI** for an **NSF Innovation in Graduate Education** award (2021-2025) to implement innovative and transformative pedagogies in graduate education. Co-created and serve as lead instructor for first graduate-level ethics course in SOEST to focus on Indigenous values and relationality as a basis for science research (5.2.2 Innovative teaching, MBIO600).
- Selected for American Geophysical Union Advancing Justice-Centered Community Science in the Geosciences faculty cohort (2023-2025, AGU JCCS cohort invitation) to advance opportunities for undergraduate and graduate students in geoscience disciplines to engage with the principles and practices of community science centered on justice and equity.
- Served on the **Global Environmental Science (GES) Steering Committee** (2014-2024), in overseeing curriculum development in the UHM OCN's undergraduate major, and aided in the GES' successful application for ABET accreditation in Environmental Sciences
- **Undergraduate Academic Advisor for 18 GES majors** (2014-present, 5.2 Summary of Individual Mentoring), where I typically supported 7 advisees (~15 contact/service hours) per semester.
- Serve(d) as the **chair of 10 graduate student committees**, sit on **18 graduate thesis committees**, **9 interim advisory committees**, and have personally **mentored 17 undergraduates** and **3 postdoctoral fellows** (5.2 Summary of Individual Mentoring). Since earning tenure in 2019, **five of my students successfully matriculated.**
- **Nominated for the Robert W. Clopton Award** in 2020 for distinguished community service by SOEST undergraduate and graduate students

OCN320 Aquatic Pollution (WI). Since 2014, I've been the sole instructor for the writing intensive class required by the GES major. This course brings together key natural aquatic processes and biogeochemistry to facilitate an understanding of the effects human activity has on natural systems. Mastery of concepts requires leveraging biology and chemistry to implement policy and practice for the public. I have devoted significant effort to updating course material and in particular, utilizing case studies that connect key concepts to ongoing issues in Hawai'i (e.g. producing a 145 pg risk assessment of the Red Hill Fuel Storage Facility) and created a new major assignment that requires students to work in teams (5.2.1 OCN320 writing assignments), better aligning the core major curriculum with ABET accreditation requirements for Environmental Science programs.

OCN331 Living resources of the sea/Mai ke kai mai ke ola. I am lead instructor and lecturer for 50% of OCN 331, an upper-level STEM elective focusing on broad concepts in marine resource use and fisheries management from nearshore to pelagic fisheries drawing upon examples and local practitioner expertise from Hawai'i and across the Pacific and field trips. Topics include marine food webs, conventional and Indigenous resource management, aquaculture and the anthropogenic impacts on fisheries.

OCN201 SOEST Mauka to Makai Summer Bridge. As part of the NSF-funded grant Hālau Ola Honua, I served as co-instructor for a new summer bridge course, which attracts community college students into majoring in geoscience (see 5.2.3 Innovative Teaching OCN201). This course was structured to provide experiential learning through extensive field trips and engaging students in collecting data that reinforce geological, oceanographic and atmospheric concepts laid out in each lecture. The COVID-19 pandemic presented significant challenges to this experiential course, after a 2 year hiatus, we were cautiously returned to in person instruction and then faced 2 rounds of COVID infections that forced us to alter our entire curriculum in 72 hours to maintain safety. Nevertheless, we were able to adapt and complete our field work and develop individual student projects that were presented in a culminating hōʻike. We successfully wove together Native Hawaiian oceanic knowledge and contemporary oceanography in ways that were immediately relevant to our students and inspired them to consider majoring in geoscience and (see 5.3 OCN201 informal evaluation).

MBIO600 Kūlana Noiʻi: Introduction to Place-based Methodologies in Hawaiʻi. I co-developed and piloted with other Marine Biology graduate faculty an innovative graduate course on place-based research methodologies based on the Kūlana Noiʻi ethical framework. This course is aimed at providing incoming marine biology graduate students (cohort of ~15-25/yr) with a grounding in foundational knowledge and skills necessary to conduct place-based research in Indigenous spaces with a focus on Hawaiʻi. The course has two parts: an intensive two-week course immediately prior to the incoming fall semester, and a follow-up during the semester for iterative reflection and knowledge integration. The course builds upon the Kūlana Noiʻi ethical framework to explore and advance reciprocal research approaches, using Indigenous place-based learning philosophies as the pedagogical approach and model for community-embedded science. Students are introduced to Native Hawaiian kilo (observation and inquiry) and kuleana (responsibility and interdependence) as fundamental practices that connect people and places. Through first-hand experience in building connections with local Indigenous stewardship organizations, the course emphasizes the positionality and responsibility of researchers to the places and communities in which their work occurs. The MBIO600 course is a significant milestone for SOEST as it is the first graduate course in the School with a direct focus on ethics.

SOEST Maile Mentoring Bridge Program. In addition to formal instruction, I have dedicated major efforts toward increasing enrollment of Native Hawaiian/Pacific Islander and kamaʻāina students in SOEST. From 2014-2023 I directed the one-on-one mentoring program in order to increase underrepresented minority undergraduates in SOEST by creating unique mentoring relationships that offer support, encouragement, and the sharing of knowledge through near peer mentoring. The program weaves individual student goals with their personal and cultural experiences and our students have sustained contact with their mentor from the community college, through their transition to UH Mānoa until graduation. Though Maile Mentoring went through some growing pains associated with the COVID-19 pandemic, it continues to provide key infrastructure to UHM within large NSF educational grants and helped SOEST align with the UHM strategic plan to become an Indigenous-Serving Institution. Recently, Maile Mentoring was featured in a special issue of Oceanography (Kane *et al, 2023*) in which we articulated systemic and structural barriers NHPI students face in ocean science and lessons learned from our programs. The article focused upon the significance of this problem and drew broad interest in mainstream and social media across the Pacific

(Oceanne Connectes and 6.3 Published Commentaries)

Individual Mentoring. I am committed to the success of each student I mentor and achieve this by developing a clear set of shared expectations early in our relationship. Through my support and guidance, many of my students have been awarded stipends and grants through the Ford Foundation, Hauʻoli Mau Loa Foundation, the Margaret B. and Charles H. Edmonson Research Fund and the John and Anne Flanigan Oceanography Support Fund, and Native Hawaiian Student Services fellowships.

SERVICE

In addition to molding my faculty position into one that allows me to embrace transdisciplinary and intersectional scholarship with Indigenous communities, I also have contributed substantially to my department, my university and my profession, which I highlight below:

- **Acting Graduate Chair**, OCN (Spring 2024)
- **Chair, interim OCN committee on Justice, Equity, Diversity and Inclusion committee** (2020 - present). Our committee has worked to conduct an external equity audit with milestones for improvement (2022), transitioned to a permanent OCN committee, and surveyed the OCN graduate students in order to generate a financial report that was the basis for adoption of a higher salary rate commensurate with Hawaiʻi cost of living (August 2024).
- Served on the **UH system Health and Wellbeing Committee (2020-2022)**, which made system-wide decisions for the safety of all members of the UH community during the COVID-19 pandemic. The entire committee received special recognition in 2022 for our tireless efforts and commitment to our university community.
- Served on the **Search Advisory Committee for seven executive searches** as the Kualiʻi Council Representative.
- Co-organized the renaming of the Life Sciences Building in honor of Dr. Isabella Kauakea Aiona Abbott
- Served on numerous national committees and advisory boards as well as participated as an editor for the microbiology journal mSystems and an ad hoc reviewer for numerous articles and proposals.