

Orou G. Gaoue

University of Tennessee Knoxville
 Department of Ecology and Evolutionary Biology
 569 Dabney Hall, Knoxville, TN 37996, USA

Tel (865) 974-3046
 Fax (865) 974-3067
 e-mail ogaoue@utk.edu
<https://volweb.utk.edu/~ogaoue>

Professional Appointments

Associate Professor , University of Tennessee Knoxville Department of Ecology and Evolutionary Biology	2020 —
Assistant Professor , University of Tennessee Knoxville Department of Ecology and Evolutionary Biology	2017 — 2020
Assistant Professor , University of Hawaii at Manoa, Department of Botany	2013 — 2017
Affiliate Faculty , University Johannesburg, Department of Geography	2017 —
Postdoctoral Fellow , University of Tennessee Knoxville National Institute for Mathematical and Biological Synthesis	2011 — 2013
Postdoctoral Associate , University of Miami, Department of Biology Institute for Theoretical and Mathematical Ecology	2008 — 2011

Education

Ph.D., Ecology, Evolution and Conservation Biology Department of Botany, University of Hawaii at Manoa	2008
B.S., Forest Engineering , <i>summa cum laude</i> Faculty of Agronomy, University of Abomey-Calavi	2000

Publications (*undergraduate, **graduate students or ***postdoc co-authors)*Published Journal Articles*

- [1] McElderry R*** and **Gaoue OG** (2022) Pitfalls to avoid in nonlinear perturbation analysis of stage-structured population models. *Population Ecology*, in press.
- [2] Moutouama JK** and **Gaoue OG** (2022) Altitude-mediated soil properties, not geography or climatic distance, explain the distribution of a tropical endemic herb. *Ecology and Evolution*, 12: e8572. doi:10.1002/ece3.8572.
- [3] Moutouama JK** and **Gaoue OG** (2022) Soil nitrogen mediates the effect of climatic distance on herbivory rates in an endemic perennial herb. *Biotropica*, doi:10.1111/btp.13082.
- [4] N'Woueni KD** and **Gaoue OG** (2022) Plant diversity increased arthropod diversity and crop yield in traditional agroforestry systems but has no effect on herbivory. *Sustainability*, 14, 2942. doi:10.3390/su14052942.
- [5] Bialic-Murphy L**, Kawelo K, Knight T, **Gaoue OG** (2022) The disconnect between short-and long-term population projection for plant reintroductions. *Frontiers in Conservation Science*, 2: 814863. doi:10.3389/fcosc.2021.814863.
- [6] **Gaoue OG**, Moutouama JK**, Coe MA**, Bond MO**, Green E**, Sero BN**, Bezeng SB,

Yessoufou K (2021) Methodological advances for hypothesis-driven ethnobiology. *Biological Review*, 96(5), 2281-2303.

[7] **Gaoue OG**, Yessoufou K, Mangka L., Vodouhe F (2021) Phylogeny reveals non-random medicinal plant organ selection by local people in Benin. *Plants, People, Planet*, 3(6): 710-720.

[8] Coe MA** and **Gaoue OG** (2021) Phylogeny explains why therapeutically redundant plant species are not necessarily facing greater use pressure. *People and Nature*, 3(3): 770-781.

[9] Hyman AA**, **Gaoue OG**, Tamou C, and Armsworth PR (2021) How pastoralists weight future environmental benefits when managing natural resources. *Conservation Letters*, 14(2): e12770.

[10] N'Woueni KD** and **Gaoue OG** (2021) Species ethnobotanical values rather than regional species pool determine plant diversity in agroforestry systems. *Scientific Reports*, 11: 23972. doi:10.1038/s41598-021-03408-3.

[11] Yessoufou K, Ambani AE, Elansary HO, and **Gaoue OG** (2021) Alien woody plants are more versatile than native, but both share similar therapeutic redundancy in South Africa. *PloS ONE*, 16(11), e0260390.

[12] Leite MCA, Sauchuk R, Agosto FB, **Gaoue OG**, and Chen-Charpentier C (2021) Modeling the persistence of plant populations in fragmented ecosystems. *Ecological Modeling*, 457: 109681.

[13] Djogbenou A**, Azihou F, Dassou A, Assogbadjo AE, Kassa B and **Gaoue OG** (2021) Limited ant co-occurrence and defensive mutualism in Acacia plants in a west African savanna. *AoB Plants*, 13(4): p1ab036.

[14] Bond MO** and **Gaoue OG** (2020) Prestige and homophily predict network structure for social learning of medicinal plant knowledge. *PloS ONE*, 15(10): e0239345.

[15] Coe MA**, and **Gaoue OG** (2020) Most cultural importance indices do not predict species cultural keystone status. *Human Ecology*, 48(6): 721-732.

[16] Coe MA** and **Gaoue OG** (2020). Cultural keystone species revisited: Are we asking the right questions? *Journal of Ethnobiology and Ethnomedicines*, 16(70): DOI: 10.1186/s13002-020-00422-z

[17] Mackenzie CM, Barak RS, Bayer S, Bletz M, Brunson MW, Dudley J, **Gaoue OG**, Gill JL, Harris A, Kuebbing S, McGill BM, Nocco M, Tonietto RK, Vahsen ML, Waring EF (2020). Plant Love Stories: Share your story and grow a movement. *Bulletin of the Ecological Society of America*, 101(2): e01663.

[18] Robles D**, Cevallos D, **Gaoue OG**, Fadiman M, Hindle T. (2020) Non-random selection of medicinal plants in the Kichwa Community of the Ecuadorian Amazon. *Journal of Ethnopharmacology*, 246: 112220.

[19] Seyler B**, **Gaoue OG**, Tang Y, Duffy DC, Aba E. (2020) Collapse of orchid populations altered traditional knowledge and cultural valuation in Sichuan, China. *Anthropocene*, 29: 100236.

[20] Chen-Charpentier B, Leite MCA, **Gaoue OG**, Agosto FB (2020) Mathematical modeling for studying the sustainability of plants subject to the stress of two distinct herbivores. *Applications and Applied Mathematics*, 15(1): 598-635.

- [21] **Gaoue OG**, Horvitz CC, Steiner UK, Tuljapurkar S (2019) Climate, rather than anthropogenic disturbance, is the main driver of age-specific mortality of a tropical tree. *Ecological Modelling*, 400: 34-40. *Recommended by Faculty 1000*.
- [22] **Gaoue OG** and Yessoufou K (2019) Strong seedling recruitment does not limit mangrove vulnerability to harvest. *Environmental Research Letters*, 14(6): 064019–064019 doi : 10.1088/1748-9326/ab1def.
- [23] Barnes ML^{***}, Bodin O, McClanahan TR, Kittinger JN, Grahama NAJ, **Gaoue OG**, Hoey A (2019) Social-ecological alignment and ecological conditions in Coral reefs. *Nature Communications*, 10(1): 2039 doi : 10.1038/s41467-019-09994-1.
- [24] M'Woueni D^{**}, **Gaoue OG**, Balagueman RO, Biauou HSS, Natta AK. (2019) Road mediated tree decline in traditional agroforests in an African Biosphere Reserve. *Global Ecology and Conservation*, 20: e00796 doi : 10.1016/j.gecco.2019.e00796.
- [25] Campos JLA^{**}, de Lima Araujo E, **Gaoue OG**, Albuquerque UP (2019) Socioeconomic factors and ethnicity explained the use patterns of Ouricuri palm, *Syagrus coronata*, by the Fulni-o indigenous people in northeastern Brazil. *Economic Botany*, 73(2): 187-199.
- [26] Seyler B^{**}, **Gaoue OG**, Tang Y, Duffy DC (2019) Moderate urbanization promotes Orchid knowledge despite declining wild Orchid populations in Sichuan, China. *Environmental Conservation*, 46: 318-325.
- [27] Yessoufou K, Bezeng SB, **Gaoue OG**, Maurin O, Bengu T, van der Bank M (2019) Phylogenetically diverse native systems are more resilient to invasive plant species on Robben Island, South Africa. *Genome*, 62(3): 217-228.
- [28] **Gaoue OG**, Gado C^{**}, Natta AK, and Kouagou M^{**} (2018) Recurrent fruits harvest reduces seedling density but increases clonal reproduction in a tropical tree. *Biotropica*, 50(1), 69-73. – *This paper won the 2019 Julie Denslow prize for Outstanding paper in Biotropica*.
- [29] Amahowe IO^{**}, **Gaoue OG**, Natta A, Zobi I, Pioniot C, Herault B (2018) Functional traits partially mediate the effects of chronic anthropogenic disturbance on the growth of a tropical tree. *AoB Plants*, 10: p1y036.
- [30] Bialic-Murphy L^{**}, **Gaoue OG**, Knight T (2018) Using Transfer Function Analysis to develop biologically and economically efficient reintroduction strategies for endangered plants. *Scientific Reports*, 8:2094 doi : 10.1038/s41598-018-20178-7.
- [31] Bialic-Murphy L^{**} and **Gaoue OG** (2018) Low inter-annual precipitation has a greater negative effect than seedling herbivory on the population dynamics of a short-lived herb, *Schiedea obovata*. *Ecology and Evolution*, 8, 176-184.
- [32] Campos JLA^{**}, de Lima Araujo E, **Gaoue OG**, Albuquerque UP (2018) How can local representations of changes in natural resource availability assist in targeting conservation? *Science of Total Environment*, 628-629, 642-649.
- [33] Horvitz CC, Denslow J, Johnson T, **Gaoue OG** (2018) Unexplained variability among spatial replicates in transient elasticity: implications for evolutionary ecology and management of invasive

species. *Population Ecology*, 60, 61-75.

[34] **Gaoue OG**, Coe M**, Bond M**, Hart G**, Seyler B** and McMillen H (2017) Theories and major hypotheses in ethnobotany. *Economic Botany*, 71(3), 269-287.

[35] **Gaoue OG**, Kouagou M**, Natta AK and Gado C** (2017) Response of a tropical tree to non-timber forest products harvest and reduction in habitat size. *PLoS One*, 12(8): e0183964.

[36] Bialic-Murphy L**, **Gaoue OG** and Kawelo K (2017) Microhabitat heterogeneity and a non-native avian frugivore drive the population dynamics of an island endemic shrub, *Cyrtandra dentata*. *Journal of Applied Ecology*, 54(5), 1469-1477.

[37] Ford J* and **Gaoue OG** (2017) Alkaloid-poor plant families, Poaceae and Cyperaceae, are over-utilized in Hawaiian pharmacopoeia. *Economic Botany*, 71(2),123-132.– *Cover of June issue*.

[38] Hart G**, **Gaoue OG**, de la Torre L, Navarrete H, Muriel P, Macia M, Balslev H, Yanez LS, Jorgensen P and Duffy D (2017) Availability, diversification and versatility explain human selection of introduced plants in Ecuadorian traditional medicine. *PLoS One*, 12(9): e0184369.

[39] Levy B, Edholm C, **Gaoue OG**, Kaondera-Shava R, Kgosimore M, Lenhart S, Lephodisa B, Lungu E, Marijani T and Nyabadza F (2017) Modeling the role of education in Ebola virus disease outbreaks in Sudan. *Infectious Disease Modeling*, 2, 23-340.

[40] **Gaoue OG**, Jiang J, Ding W, Agosto FB and Lenhart S (2016) Optimal harvesting strategies for timber and non-timber forest products in tropical ecosystems. *Theoretical Ecology*, 9(3), 287-297.

[41] **Gaoue OG** (2016) Transient dynamics reveal the importance of early life survival to the response of a tropical plant to harvest. *Journal of Applied Ecology*, 53, 112-119.– *Cover of April issue*.

[42] **Gaoue OG**, Ngonghala CN, Jiang J and Maud L (2016) Towards a mechanistic understanding of the synergistic effects of harvesting timber and non-timber forest products. *Methods in Ecology and Evolution*, 7, 398-406.

[43] Ticktin T, Mondragon D and **Gaoue OG** (2016) Host genus and rainfall drive the population dynamics of a vascular epiphyte. *Ecosphere*, 7(11): e01580.

[44] Bufford LJ*** and **Gaoue OG** (2015) Defoliation by pastoralists affects savanna tree seedling dynamics by limiting the facilitative role of canopy cover. *Ecological Applications* 25, 1319-1329.

[45] Segnon AC**, Achigan-Dako EG, **Gaoue OG** and Ahanchede A (2015) Farmers' knowledge and perception of diversified farming systems in sub-humid and semi-arid areas in Benin. *Sustainability* 7(6), 6573-6592.

[46] **Gaoue OG**, Lemes MR, Ticktin T, Sinsin B, and Eyog-Matig O (2014) Non-timber forest products harvesting does not affect the genetic diversity of a tropical tree despite negative impact on population fitness. *Biotropica* 46(6), 756-762.

[47] **Gaoue OG**, Horvitz C, Ticktin T, Steiner U, and Tuljapurkar S (2013) Defoliation and bark harvesting affect life history traits of a tropical tree. *Journal of Ecology* 101, 1563-1571.

- [48] Hountondji YC, **Gaoue OG**, Sokpon N, Ozer P (2013) Ecogeographical analysis of vegetation cover fragmentation in northern Benin. *Geo-Eco-Trop* 37(1):53-70.
- [49] **Gaoue OG**, Horvitz C and Ticktin T (2011) Non-timber forest products harvest in variable environments: modeling the effects of harvesting as a stochastic sequence. *Ecological Applications* 21, 1604-1616.
- [50] **Gaoue OG**, Sack L and Ticktin T (2011) Human impacts on leaf economics in heterogeneous landscapes: the effect of harvesting non-timber forest products from African mahogany across habitats and climates. *Journal of Applied Ecology* 48, 844-852.
- [51] Schmidt BI, Mandle L, Ticktin T and **Gaoue OG** (2011) What do matrix models reveal about the sustainability of non-timber forest products harvest? *Journal of Applied Ecology* 48, 815-826. – *Cover of the August issue*.
- [52] Lemes MR, Esashika TB and **Gaoue OG** (2011) Microsatellite markers for mahoganies: Twelve new loci for *Swietenia macrophylla* and its high transferability to *Khaya senegalensis*. *American Journal of Botany* 98(8), e207-e209.
- [53] Glele Kakai R., Akpona TJD, Assogbadjo AE, **Gaoue OG**, Chakeredza S, Gnangle PC, Mensah GA and Sinsin B (2011) Ecological adaptation of the Shea butter tree (*Vitellaria paradoxa*) along climatic gradient in Benin. *African Journal of Ecology* 49, 440-449.
- [54] Houehounha R, Avohou HT, **Gaoue OG**, Assogbadjo AE, and Sinsin B (2010) Weed removal improves coppice growth of *Daniellia oliveri* and its use as fuelwood in traditional fallows in Benin. *Agroforestry Systems* 78, 115-125.
- [55] **Gaoue OG** and Ticktin T (2010) Effects of harvest of nontimber forest products and ecological differences on the demography of African mahogany. *Conservation Biology* 24, 605-614.
- [56] **Gaoue OG** and Ticktin T (2009) Fulani knowledge of the ecological impacts of *Khaya senegalensis* (Meliaceae) foliage harvest in Benin and its implications for sustainable harvest. *Economic Botany* 63, 256-270. – *Cover of the August issue*.
- [57] **Gaoue OG** and Ticktin T (2008) Impacts of bark and foliage harvest on *Khaya senegalensis* reproductive performance in Benin. *Journal of Applied Ecology* 45, 34-40. – *Selected in 2011 as one of the most influential papers on applied forest management and global change in the last 5 years*.
- [58] **Gaoue OG** and Ticktin T (2007) Patterns of harvesting non-timber forest product from the multipurpose tree *Khaya senegalensis* in Benin: variation across climatic regions and its impacts on population structure. *Biological Conservation* 137, 424-436.
- [59] Menges E, Quintana-Ascencio P, Weekley C and **Gaoue OG** (2006) Population viability analysis and fire return intervals for an endemic Florida scrub mint. *Biological Conservation* 127, 115-127.
- [60] Sinsin B, Eyog-Matig O, Assogbadjo AE, **Gaoue OG** and Sinadouwirou T (2004) Dendrometric characteristics as indicators of pressure on *Azelia africana*. *Biodiversity & Conservation* 13, 1555-70.

Manuscripts in Review

- [61] Gerren A*, Coe MA**, Yessoufou K and **Gaoue OG**. The doctrine of signatures: Does plant

form recapitulate its therapeutic function? *Plants*.

[62] McElderry R*** and **Gaoue OG**. Life history and phylogeny explain the bias in sensitivity analysis for structured population models *Ecology Letters*.

[63] Yarou AB**, Moutouama JK** and **Gaoue OG**. Non-monodominant understory in monodominant stands of a tropical tree in West Africa. *Environmental Conservation*.

[64] Moutouama JK** and **Gaoue OG**. Non-random selection of medicinal plant used around the biosphere reserve of Pendjari in West-Africa. *People and Nature*.

[65] Moutouama JK** and **Gaoue OG**. Soil heterogeneity, rather than climate or geography, drives the population dynamics of a tropical range-limited plant. *Ecology*.

[66] N'Woueni KD** and **Gaoue OG**. Species richness has no effect on nutritional quality and human population increase can further limit food security. *Anthropocene*.

[67] N'Woueni KD** and **Gaoue OG**. Proximity to forest failed to rescue a key agroforestry tree species from decline. *Biological Conservation*.

Dataset and R Script contributed to open access digital repositories

[1] Moutouama, J**; **Gaoue OG** (2023), Altitude-mediated soil properties, not geography or climatic distance, explain the distribution of a tropical endemic herb, Dryad, Dataset, <https://doi.org/10.5061/dryad.ghx3ffbqp>

[2] Moutouama, J**; **Gaoue OG** (2022), Soil nitrogen mediates the effect of distance from climatic center on herbivory rates in a tropical herb, Dryad, Dataset, <https://doi.org/10.5061/dryad.kpr44xh61>

[3] **Gaoue OG**, Yessoufou K, Mangka L, Vodouhe F. (2021), Phylogeny reveals non-random medicinal plant organs selection by local people in Benin, Dryad, Dataset, <https://doi.org/10.5061/dryad.pk0p2ngnh>

[4] **Gaoue OG** et al. (2021), Limited ant co-occurrence and defensive mutualism in Acacia plants in a West African savanna, Dryad, Dataset, <https://doi.org/10.5061/dryad.00000003t>

[5] **Gaoue OG** et al. (2021), Methodological advances for hypothesis-driven ethnobiology, Dryad, Dataset, <https://doi.org/10.5061/dryad.w6m905qph>

[6] Hart-Fredeluces G, **Gaoue OG**, Mandle L. (2020). Stochastic life table response experiments in R for Integral Projection Models (Version v1.0.0). *Zenodo*, <http://doi.org/10.5281/zenodo.4148300>.

[7] Bond M** and **Gaoue OG** (2020) Data from: Adjacency matrices and nodal attributes for prestige and homophily predict network structure for social learning of medicinal plant knowledge. *v2, Dryad Dataset*, <https://doi.org/10.5061/dryad.cfxpvnv3q>.

[8] **Gaoue OG** and Yessoufou K (2019) R Script for Strong seedling recruitment does not limit mangrove vulnerability to harvest. *GitHub*, <https://github.com/ogaoue/SMangroveR.git>.

[9] **Gaoue OG**, Gado C, Natta AK, Kouagou M (2017) Data from: Recurrent fruits harvest reduces seedling density but increases clonal reproduction in a tropical tree. *Dryad Digital Repository* doi:10.5061/dryad.h58kg.

- [10] Bialic-Murphy L**, **Gaoue OG**, Kawelo K (2017) Data from: Microhabitat heterogeneity and a non-native avian frugivore drive the population dynamics of an island endemic shrub, *Cyrtandra dentata*. *Dryad Digital Repository* doi.org/10.5061/dryad.35b38.
- [11] **Gaoue OG**. (2015) Data from: Transient dynamics reveal the importance of early life survival to the response of a tropical tree to harvest. *Dryad Digital Repository* doi.org/10.5061/dryad.mb1d0.
- [12] Bufford LJ*** and **Gaoue OG** (2014) Data from: Defoliation by pastoralists affects savanna tree seedling dynamics by limiting the facilitative role of canopy cover. *Dryad Digital Repository*, doi.org/10.5061/dryad.j21n1.
- [13] **Gaoue OG**. (2015) R Script for Age-from-stage matrix project model. *GitHub Repository*, <https://github.com/ogaoue/age-from-stage.git>.
- [14] **Gaoue OG**. (2015) R Script for the elasticity of transient population growth rates. *GitHub Repository*, <https://github.com/ogaoue/Khaya-Transient-Elasticity.git>.
- [15] **Gaoue OG**. (2015) R Script for an integral projection model of the role of individual heterogeneity. *GitHub Repository*, https://github.com/ogaoue/ESA_IPM_antiCookBook.git.

Awards and Honors

- 2019 Julie Denslow Prize for outstanding paper in *Biotropica*
- 2017 Carnegie African Diaspora Fellowship, Institute of International Education
- 2016 Excellence in Teaching Award Nominee, University of Hawaii at Manoa
- 2015 Excellence in Teaching Award Nominee, University of Hawaii at Manoa
- 2004 Vavilov Frankel Fellowship for Young Scientists.

Research Grants

Funded grants

National Science Foundation NSF 2107127: IRES Track I Investigating the demographic consequences of species interactions. (2021-2024). Gaoue OG (PI): \$300,000.

Department of Defense, Oahu Army Natural Resources Program: Short and Long Term Stability of endangered and endemic plants on Oahu (2016-2017). Gaoue OG (PI) and L. Bialic-Murphy (co-PI): \$77,857.00.

Carnegie African Diaspora Fellowship (CADFP) PS00241633: Co-developing curriculum in mathematical modeling in ecology and research collaboration linking phylogenetic diversity with population dynamics (2017). Gaoue OG (PI) and K Yessoufou (co-PI): \$14,700.

International Center for Pure and Applied Mathematics (CIMPA): African Mathematical School Benin 2017 - Mathematical modeling for epidemiology, ecology and conservation (2017). Gaoue OG (PI): € 7,500.00 (approx. \$10,000).

National Science Foundation NSF SPRF-IBSS-1513314: Linking complex social and ecological systems through integrative network modeling. (2015-2017). M. Barnes (PI) and Gaoue OG (co-PI): \$152,298.

Department of Defense, Oahu Army Natural Resources Program: Population stability assessment of endangered Hawaiian plants. (2014-2016). Gaoue OG (PI), Barton K (PI), and L. Bialic-Murphy (co-PI): \$186,370.

National Institute for Mathematical and Biological Synthesis, Postdoc Fellowship: Integrating new developments in stochastic demography to modeling the ecological impacts of non-timber forest products harvest (2011-2013): \$106,000.

National Evolutionary Synthesis Center, Postdoc Fellowship: Transient dynamics and evolutionary implications of wild plants harvest in a changing world (2011-2013): \$84,000. (Offer declined).

Rufford Maurice Laing Foundation: Population dynamics of *Voacanga africana* and implications for its conservation in Benin (2009-2011): \$8,677.

International Foundation for Science: Population viability analysis of *Khaya senegalensis*: Assessing the impact of NTFP harvest (2008-2010): \$11,975.

Beatrice Krauss Fellowship, University of Hawaii at Manoa: Ethnoecology of *Khaya senegalensis* harvest by Fulani people in Benin (2007-2008): \$1,000.

British Ecological Society – Overseas Bursary Award: Investigating the ecophysiological impact of NTFP harvest on *Khaya senegalensis* (2006-2007): \$11,902.

Rufford Maurice Laing Foundation: Ecology, medicinal uses and domestication of *Rauwolfia vomitoria* in Benin (2006-2007): \$8,493.

African Forestry Research Network: Effects of bark removal and pruning on the reproductive biology of *Khaya* spp. (2005-2006): \$7,820.

Vavilov Frankel Fellowship, Bioversity International: Impact of bark and foliage harvest by local people on the genetic diversity of *Khaya* in Benin (2004-2007): \$20,000.

International Foundation for Science: Using matrix model to assess the impact of bark and foliage harvesting on *Khaya senegalensis* in Benin (2004-2007): \$11,500.

Ecology, Evolution & Conservation Biology Program, University of Hawaii: Assessing the impact of foliage harvest on *Khaya senegalensis* in Benin (2004-2008). Dissertation Awards: \$13,827.

Submitted but Declined

National Science Foundation NSF DISES: The Erosion of Cultural Wisdom: How global change affects the stability of socio-eco-political systems (2021-2025). Fefferman NH (PI), Gaoue OG (co-PI) and Zia A (co-PI): \$1,064,595.

US Fulbright Scholar 11012-SF: Modeling the sustainable harvest of wild plants in South Africa (2021). Gaoue OG (PI)

Carnegie African Diaspora Fellowship (CADFP): Co-developing online ecology curriculum and research collaboration on the influence of community diversity on population dynamics (2021). Gaoue OG (PI) and K Yessoufou (co-PI): \$15,000.

National Science Foundation NSF CNH2-S: The Erosion of Cultural Wisdom: How global change affects the stability of socio-eco-political systems (2020-2023). Fefferman NH (PI), Gaoue OG (co-PI) and Zia A (co-PI): \$749,7901.

OneUT Collaboration and Innovation Grant: The Influence of urbanization on species interactions across latitudinal gradient (2020-2022). Gaoue OG (PI) and Russo L (co-PI): \$42,860.

National Science Foundation NSF REU: Biodiversity Foundry: Conservation Solutions (2020- 2023).

Schweitzer J (PI), Kalisz S (co-PI), Bailey J (Investigator), Derryberry E (Investigator), Gaoue OG (Investigator), Horn S (Investigator), Kivlin S (Investigator), Matheny P (Investigator), McKinney M (Investigator), Schadt C (Investigator), Sheldon K (Investigator), Kwit C (Investigator): \$521,228.

UTK Student/Faculty Research Award: Predator impacts on plant population dynamics, growth and evolution via pollinators and herbivores. (2018-2019). A. Benoit (Student PI) and OG Gaoue (Faculty PI): \$5,000.

Simons Foundation Grant: Simon Investigators in the Mathematical Modeling of Living Systems – Early Career. (2017-2021). Gaoue OG (PI): \$550,000.

Chinese National Science Foundation: Linking genetic diversity and population fitness to identify sustainable harvest limits (2018-2019). Haikui Chen (PI), Gaoue OG (co-PI), Yessoufou K (co-PI): \$25,000.

Department of Defense, Legacy Grant. Assessing the status and environmental drivers of *Sanicula maritima* population dynamics (2016-2017). McElderry R (PI), Bialic-Murphy L and Gaoue OG (co-IPs). Hawaii, USA: \$32,118.

Department of Defense Legacy Grant: Developing a predictive model to identify adaptive strategies to mitigate the impacts of emerging threats on rare species. (2016-2017). Gaoue OG (PI) and L. Bialic-Murphy (co-PI): \$58,393.

National Geographic Society NGS-216217: Effect of harvest and habitat fragmentation on the dynamics of *Pentadesma butyracea* (2016-2017). Gaoue OG (PI): \$20,000.

National Science Foundation NSF BCS-1430108: Collaborative Research: Linking social networks, Decision-making, local ecological knowledge and sustainable management of non-timber forest products by pastoralists (2014–2017). R Stepp (PI) and Gaoue OG (co-PI): \$306,969.

National Science Foundation NSF CNH-1114925: Coupling resource dynamics models with decision-making processes in an indigenous economy that depends upon sustainable harvest of NTFP (2011-2014). Horvitz CC (PI), Gaoue OG (co-PI) and R Stepp (co-PI): \$965,762.

Teaching

University of Tennessee Knoxville (Since 2017)

BIO 260/269 Ecology	Springs, even years
EEB 476 Theoretical Ecology and Applications	Springs, odd years
EEB 484 Conservation Biology	Falls, even years
EEB 509 Core Ecology (<i>Population Ecology Section</i>)	Springs, odd years
EEB 602 Topics in Population Ecology	Falls, odd years
EEB 485 Theory in Ethnobiology	Summer 2018, 2020
EEB 580 Population Modeling with R	Fall 2018, 2019
EEB 490 Undergraduate Seminar	Fall 2019, Spring 2020
EEB 503 Graduate Seminar	Spring 2019, Fall 2019

University of Hawaii at Manoa (2013-2017)

BOT 653 Population Dynamics Models in R	Spring 2015, Fall 2016
BOT 660 Ecological Statistics with R	Fall 2013, 2015
BOT 440 Theory and Methods in Ethnobotany	Fall 2014, Spring 2016
BOT 301 Plant Conservation Biology	Spring 2014, 2017

Guest Lectures (at UHM and UTK)

EEB 415 Psychology of Religion	Fall 2017
BOT 100 Freshman Seminar	Fall 2016
BOT 105 Introduction to Ethnobotany	Fall 2013–2016
BOT 200 Sophomore Seminar	Fall 2013–2015
BOT 202 Plant Ecology	Fall 2013, 2014
BOT 454 Plant Community Ecology	Spring 2015
IS 750 Biocultural Diversity	Fall 2015
HON 101 Introduction to Research	Fall 2013

International Short CoursesPopulation Dynamics Models in R

University of Johannesburg, South Africa	2017
University of South Africa, South Africa	2017
University of Abomey Calavi, Benin	2015–2019
University of Parakou, Benin	2013–2019

Theory and Methods in Ethnobiology

University of Johannesburg, South Africa	2017
University of Parakou, Benin	2016–2018

Ecological Statistics with R

OTS Fundamentals of Tropical Biology, Costa Rica	2012–2013
--------------------------------------------------	-----------

Mentoring**Postdoctoral Fellows Advised**

Robert McElderry	University of Tennessee Knoxville	Ecology	2019 – 2020
Michele Barnes	University of Hawaii at Manoa	Botany	2015 – 2017
Jennifer L. Bufford	University of Hawaii at Manoa	Botany	2014

Graduate Students Advised (**co-advised*, ***visiting student*)

Nadedja Sero	University of Tennessee Knoxville	PhD Ecology	2021 –
Jacob Moutouama	University of Tennessee Knoxville	PhD Ecology	2018 –
Matthew Bond	University of Hawaii at Manoa	PhD Botany	2014 – 2020
Michael Coe	University of Hawaii at Manoa	PhD Botany	2015 – 2019
Lalasia Bialic-Murphy	University of Hawaii at Manoa	PhD Botany	2013 – 2017
Dane Gonsalves	University of Hawaii at Manoa	MS Botany	2015 – 2017
Nadia Stanis	University of Hawaii at Manoa	MS Botany	2013 – 2015
Juliana L. de Almeida*	UFPE, Recife, Brazil	PhD Ecology	2014 – 2017
Linde Berg*	Wageningen University, Netherlands	MS Ecology	2016 – 2017
Daniela Robles**	Florida Atlantic University, FL	MS Ethnobotany	2016 – 2017
M'Mouyohoun Kouagou*	University of Parakou, Benin	PhD Forestry	2016 – 2021
Daniel N'Woueni	University of Parakou, Benin	PhD Forestry	2018 – 2022
Bienvenu Houehanou	University of Parakou, Benin	PhD Forestry	2018 –
Yanik Akin	University of Abomey-Calavi, Benin	PhD Forestry	2021 –

Anita Korogone	University of Parakou, Benin	MS Forestry	2021 –
Biova Gastien Dangnon	University of Parakou, Benin	MS Forestry	2018 – 2019
Barriou Babah Daouda	University of Parakou, Benin	MS Forestry	2018 – 2019
Mathieu Kiki	University of Parakou, Benin	MS Forestry	2018 – 2019
Isidore Amahowe*	University of Parakou, Benin	PhD Forestry	2015 – 2017
Daniel N'Woueni*	University of Parakou, Benin	MS Forestry	2016 – 2017
Choukouratou Gado*	University of Parakou, Benin	MS Forestry	2012 – 2013
M'Mouyohoun Kouagou*	University of Parakou, Benin	MS Forestry	2012 – 2013
Sinagabe Korogone*	University of Abomey Calavi, Benin	MS Forestry	2016 – 2019
Abdel-Aziz Yarou*	University of Abomey Calavi, Benin	MS Forestry	2017 – 2019
Gilles Laly	University of Abomey-Calavi, Benin	MS Biostatistics	2017 – 2020
Habib Sabi Gani	University of Abomey-Calavi, Benin	MS Biostatistics	2019 – 2020
Valere Salako*	University of Abomey-Calavi, Benin	MS Biostatistics	2016 – 2017
Anyse Djogbenou*	University of Abomey-Calavi, Benin	MS Forestry	2016
M'Mouyohoun Kouagou*	University of Abomey Calavi, Benin	MS Biostatistics	2015 – 2016

Member of Graduate Committees (**interim committee*, ***external examiner*)

Michael L. Ngoh	University of Tennessee Knoxville	MSc Ecology	2020 –
Tricia Phillips	University of Tennessee Knoxville	PhD Mathematics	2019 – 2020
Lauren Lyon	University of Tennessee Knoxville	PhD Ecology	2019 –
Lucas Santana Souza	University of Tennessee Knoxville	PhD Ecology	2018 –
Amanda Hyman	University of Tennessee Knoxville	PhD Ecology	2018 – 2022
Sonia Padonou	University of Illinois at UC, IL	MS Conservation	2019 – 2021
Mdweshu Luleka**	University of Fort Hare, South Africa	MS Botany	2020
Ashley McGuigan	University of Hawaii at Manoa	PhD Botany	2016 –
Gioconda Lopez	University of Hawaii at Manoa	PhD Botany	2014 – 2019
Georgia Hart	University of Hawaii at Manoa	PhD Botany	2015 – 2019
Anita Varghese	University of Hawaii at Manoa	PhD Botany	2013 – 2014
Tamara Luthy	University of Hawaii at Manoa	MS Botany	2015 – 2017
Patricia Pali	University of Hawaii at Manoa	MS Botany	2016 – 2017
Noweo Kai*	University of Hawaii at Manoa	MS Botany	2016 – 2016
Barnabas Seyler	University of Hawaii at Manoa	PhD Botany	2013 – 2017
Casey Jones	University of Hawaii at Manoa	MS Botany	2013 – 2017
Natalie Kurashima	University of Hawaii at Manoa	PhD Botany	2013 – 2016
Alexander Ebert*	University of Hawaii at Manoa	PhD Botany	2013
Erin Datlof *	University of Hawaii at Manoa	MS Botany	2014
Maria Nogueira Ribeiro**	INPA, Brazil	PhD Ecology	2011

Undergraduate Students

Mary K DeWane	Cornell University	BS Ecology	2021
Rita Arkhipenko	University of Tennessee Knoxville	BS Ecology	2020
Victoria Brandt	University of Tennessee Knoxville	BS Ecology	2020
Ryan Vichich	University of Tennessee Knoxville	BS Ecology	2018
Tyler Bryant Daniels	University of Tennessee Knoxville	BS Ecology	2018
Douglas Graham	University of Tennessee Knoxville	BS Mathematics	2017
Andrew Gerren	University of Hawaii at Manoa	BS Botany	2016 – 2017
Jason Ford	University of Hawaii at Manoa	BS Botany	2016 – 2017
Coral Bielecki	University of Hawaii at Manoa	BS Botany	2014
Alyssa Gormley	University of Miami	BS Biology	2011

Candy Whyte University of Miami BS Biology 2010

Synergistic Activities

Invited participant, Fall 2019 National Science Foundation Grants Conference, Boston, MA, 2019.

Invited participant, NSF Workshop to Advance Theory in Ecology, Pennsylvania State University, State College, PA, 2019.

Invited participant, Inspire talk on "*Plant Love Stories*", ESA Meeting, Louisville, KY, 2019.

Participant, Investigative Workshop: Transients in Biological Systems, National Institute for Mathematical and Biological Synthesis (NIMBioS), Knoxville, TN, 2019.

Participant, Mobile Summer Institute on Scientific Teaching, University of Tennessee, TN, 2019.

Invited participant, Symposium on "*Downscaling, Extreme Events and Stochastic Population Models*", 2018 ESA Meeting, New Orleans.

Invited participant, Symposium on "*Frontiers in demographic modeling for forest conservation and management*", 2018 ATBC Meeting, Kuching, Malaysia.

Invited participant, Symposium on "*Sustainable management of renewal resources, ecosystems, and biodiversity*", 2018 Society for Industrial and Applied Mathematics (SIAM) 'Mathematics of Planet Earth' (MPE18) Conference, Philadelphia, PA.

Organizer, African Mathematics School (AMS) on "*CIMPA Research School on mathematical modeling for epidemiology, ecology and conservation*", January 2018 (with M. Leite, F. Augusto, B. Chen-Charpentier, R. Glele Kakai).

Invited participant, The Fields Institute for Research in Mathematical Sciences Thematic Workshop on "*Emerging Challenges in Mathematical Biology*", Toronto, Canada, January-June, 2018.

Invited participant, OTS Emerging Frontiers Workshop on "*The challenges and opportunities in estimating tropical extinction and co-extinction rates*", La Selva Biological Station, Costa Rica, May 2017"

Invited participant, Symposium at the 12th International Congress of Ecology (INTECOL) on "*Species in a changing world: the population perspective*", Beijing, China, August, 2017.

Invited participant, Symposium on "*Tropical plant-animal interactions in the Anthropocene*", 2017 ATBC Meeting, Merida, Mexico.

Organizer, Symposium on "*Harvest as herbivory: New Developments in Theoretical and Empirical Models*". 2016 ATBC Annual Meeting, Montpellier, France (with Pieter Zuidema).

Co-organizer, NIMBioS Working Group (*Proposal declined*) on "*Mathematical and Ecological Properties of Models and their Uses in Guiding Plant Diseases Research*" (with M. Leite, F. Augusto, B. Chen-Charpentier and P. Stiling).

Co-organizer, American Institute of Mathematics (AIM) Working Group (*Proposal declined*) on "*The sustainability of harvesting non-timber forest products in fragmented landscape under the threat of invasive species*" (with M. Leite, F. Augusto, B. Chen-Charpentier and P. Stiling).

Invited participant, NIMBioS Working Group (*Proposal declined*) on "*Choosing Between Flexible and Permanent Conservation Investments under Uncertain Future Change*."

Invited participant, Symposium on "*Demography gone wild: Applications of Integral Projection Models*".

2015 Ecological Society of America Meeting, Baltimore, MD.

Invited participant, Symposium on "*Contemporary Approaches in Mathematical Epidemiology, Ecology of Forest and Plant Diseases*". 2015 Society for Mathematical Biology Meeting, Atlanta, GA.

Invited participant, Symposium on "*Chronic Anthropogenic Disturbances in Tropical Forests: Negative Impacts from Population to Ecosystems*". 2015 ATBC Meeting, Honolulu, HI.

Invited participant, Symposium on "*Modeling Coupled Natural-Human Systems in the Tropics*". 2013 ATBC Meeting, San Jose, Costa Rica.

Invited participant, Open Science Network in Ethnobiology. Organized by the Botanical Research Institute of Texas, Kauai, Hawaii October, 2012.

Organizer, Symposium on "*Non-Timber Forest Products and Impacts of Harvest in a Changing World*". 2011 ATBC Meeting, Arusha, Tanzania (with C. Horvitz, T. Ticktin and R. Stepp).

Invited participant, US-Africa Collaborative Research Network in Mathematical Sciences, Working Group organized by Auburn University: Zambia 2011, Malawi 2012, and Zimbabwe 2014.

Contributed Talks

2021 Moutouama JK, **Gaoue OG** Demographic response of a range-limited tropical plant to climatic and geographic gradients shapes its population dynamics from center to periphery. Ecological Society of America (ESA), Virtual Annual Meeting.

2019 **Gaoue OG**, Korogone AB, Igari MY, Kouagou M. Are plant populations demographically better off in a diverse community? Association for Tropical Biology and Conservation (ATBC) Meeting, Antananarivo, Madagascar, 2019.

2019 **Gaoue OG**. From Africa to Honolulu and back: Demography of African Mahogany, the money tree. *Invited Talk in a Symposium*, Ecological Society of America (ESA), Louisville, KY.

2019 **Gaoue OG**, Yessoufou K, Mangka L, Vodouhe F. Phylogeny reveals patterns of non-random medicinal plant selection by local people. Society for Economic Botany, Cincinnati, OH.

2018 **Gaoue OG**, Yessoufou K. Low reproductive values confer resilience of mangrove species to harvest. *Invited Talk in a Symposium*, Association for Tropical Biology and Conservation Meeting, Kuching, Malaysia.

2018 **Gaoue OG**, Salako V. Demographic responses of a tropical tree to serial auto-correlation and harvest in extreme environment. *Invited Talk in a Symposium*, Ecological Society of America (ESA) Meeting, New Orleans, LS.

2018 **Gaoue OG**. Optimal harvesting strategies for timber and non-timber forest products in tropical systems. *Invited Talk in a Symposium*, SIAM Conference on Mathematics of Planet Earth (MPE18), Philadelphia, PA.

2018 **Gaoue OG** A new call for a paradigm shift and theory driven research in ethnobotany. Society for Economic Botany Annual Meeting, Madison, WI.

2017 **Gaoue OG**. Effects of human-mediated mutualism disruption on the population dynamics of a tropical tree. *Invited Talk in a Symposium* at the 12th International Congress of Ecology (INTECOL), Beijing, China.

2017 **Gaoue OG**. Individual heterogeneity promotes a tropical tree resilience to non-timber forest

products harvest. South African Society for Systematic Biology (SASSB) Conference, Pretoria, South Africa.

2016 **Gaoue OG**. How is combined harvest of timber and non-timber forest product possible? Association for Tropical Biology and Conservation Meeting, Montpellier, France.

2015 **Gaoue OG**. Climate, harvest and the dynamics of age-specific mortality of a tropical tree. Evolutionary Demography Society Conference, Lunteren, The Netherlands.

2015 **Gaoue OG**. Toward a mechanistic understanding of the synergistic effect of timber and NTFP harvest. *Invited Talk in a Symposium*, Society for Mathematical Biology Meeting, Atlanta, GA.

2015 **Gaoue OG**. Trophic cascades? Defoliation by pastoralists alters plant-ant interactions in a tropical tree. *Invited Talk in a Symposium*, Association for Tropical Biology and Conservation Meeting, Honolulu, HI.

2015 **Gaoue OG**. Individual heterogeneity and plant population response to harvest. *Invited Talk in a Symposium*, Ecological Society of America Meeting, Baltimore, MD.

2015 Horvitz CC, Denslow J, **Gaoue OG**, Johnson T. Expected effects of an insect bio-control on the short term dynamics of an invasive pest plant in Hawaii. Association for Tropical Biology and Conservation Meeting, Honolulu, HI.

2015 Denslow J, Horvitz CC, Johnson T, **Gaoue OG**. Variation in the population structure of strawberry guava, an invasive tree in Hawaiian rain forests. ATBC Meeting, Honolulu, HI.

2015 Mandle L, Schmidt IB., **Gaoue OG**, Ticktin T. Can population structure be a useful proxy for projected population growth? Ecological Society of America Meeting, Baltimore, MD.

2014 **Gaoue OG**, Natta A, Kouagou M, Gado C. Can clonal reproduction buffer the ecological effect of non-timber forest product harvest? Association for Tropical Biology and Conservation Meeting, Cairns, Australia.

2014 **Gaoue OG**, Horvitz CC, Denslow J, Johnson T. Spatio-temporal demography of an invasive tree in a Pacific island rain forest. Island Biology Conference, Honolulu, USA.

2013 Horvitz C, Denslow J, **Gaoue OG**, Uowolo A. Integral projection population dynamic model of an invasive tree in a Pacific island rainforest. Association for Tropical Biology and Conservation Meeting, San Jose, Costa Rica.

2013 **Gaoue OG**. Transience and the impact of stochastic NTFP harvesting by indigenous people. *Invited Talk in a Symposium*, Association for Tropical Biology and Conservation Meeting, San Jose, Costa Rica.

2012 **Gaoue OG**. Non-timber forest products harvest affects life history traits of a tropical tree. British Ecological Society Meeting, University of Birmingham, UK.

2012 **Gaoue OG**. Integral projection modeling of the effects of multipurpose harvest of wild plants. IPM Working Group, Max Planck Institute for Demographic Research, Rostock, Germany.

2011 **Gaoue OG**. Asymptotic growth rates underestimate the transient response of a tropical tree to harvest. MBI Workshop for Young Researchers in Mathematical Biology. Ohio State University.

2011 **Gaoue OG**. What metric of sustainability for NTFP harvest: population structure, reproduction or growth rate? Association for Tropical Biology and Conservation (ATBC) Meeting, Arusha, Tanzania.

2010 **Gaoue OG**, Horvitz C. Modeling the effect of plant harvest in variable environments. Plant Population Biology Meeting, University of Nijmegen, The Netherlands.

2007 **Gaoue OG**, Sack L., Ticktin T. Ecophysiological impact of non-timber forest product harvest on *Khaya senegalensis* in Benin. British Ecological Society Meeting, Glasgow, UK.

2007 **Gaoue OG**, Ticktin T. Demographic impacts of harvesting non-timber products from an African mahogany. Ecological Society of America Meeting, San Jose, CA.

2007 **Gaoue OG**, Ticktin T. Patterns of NTFP harvest from the multi-use *Khaya senegalensis* by indigenous people in Benin. Society for Economic Botany Meeting, Chicago, IL.

2006 **Gaoue OG**, Effect of multipurpose harvest on the reproductive performance of *Khaya senegalensis*. Society for Tropical Ecology Meeting, University of Kaiserslautern, Germany.

2004 **Gaoue OG**, Ticktin T. Impact of non-timber forest product harvest on population genetic diversity. Society for Economic Botany Meeting. University of Kent, UK.

Invited Talks

- 2021 University of Florida, Department of Mathematics
- 2021 Chinese Academy of Sciences, Xishuangbanna Tropical Botanical Garden
- 2021 Western Colorado University, Department of Ecology and Evolutionary Biology
- 2021 Northern Arizona University, School of EcoInformatics Seminar
- 2020 University of Miami, Department of Biology
- 2020 Florida State University, Department of Ecology and Evolution
- 2019 University of Tennessee Institute of Agriculture, Tennessee Plant Research Center
- 2018 University of Tennessee at Chattanooga, Department of Biology
- 2018 Stony Brook University, Department of Ecology and Evolution
- 2018 Archbold Biological Station, FL, Plant Ecology Program
- 2017 African School of Economics, Benin
- 2017 University of Abomey Calavi, Biostatistics Program, Benin
- 2017 North Minzu University, Department of Biosciences, China
- 2017 Nanjing Forestry University, College of Forestry, China
- 2017 Chinese Academy of Sciences, Kunming Institute of Botany, China
- 2017 University of Johannesburg, Faculty of Sciences, South Africa
- 2017 University of Johannesburg, Department of Geography, South Africa
- 2017 University of South Africa, College of Agriculture & Environmental Sciences
- 2016 University of Tennessee, Department of Ecology and Evolutionary Biology
- 2015 University of Hawaii at Manoa, Department of Geography
- 2014 Wageningen University, Forest Ecology and Management Group, The Netherlands
- 2013 University of Abomey-Calavi, Faculty of Agronomy, Benin
- 2012 North Carolina State University, Department of Plant Biology
- 2012 University of Hawaii at Manoa, Department of Botany
- 2011 Howard University, Department of Mathematics
- 2011 National Institute for Mathematical and Biological Synthesis
- 2011 University of Miami, Department of Biology
- 2010 Florida International University, Department of Biology
- 2010 University of Abomey-Calavi, Faculty of Agronomy, Benin
- 2010 University of Florida, Department of Wildlife Ecology and Conservation

- 2010 University of Parakou, Faculty of Agronomy, Benin
 2010 University of Hawaii at Manoa, Department of Botany
 2009 University of Miami, Department of Mathematics
 2009 Ohio State University, Department of Evolution, Ecology and Organismal Biology
 2008 Instituto Nacional de Pesquisas da Amazonia, Manaus, Brazil.

Professional Service

- 2013 – **Subject Editor**, *Biotropica*
 2021 – **Associate Editor**, *Frontiers in Ecology and Evolution – Models in Ecology and Evolution*
 2020 – **Faculty Member**, *Faculty Opinions*
 2019 – 2021 **Associate Editor**, *Ecological Solutions and Evidence*
 2014 – 2017 **Associate Editor**, *Economic Botany*
 2013 – 2016 **Editorial Board**, *Journal of Ethnobiology and Ethnomedicines*

Manuscript Reviewer: *Journal of Ecology, Ecology, Journal of Applied Ecology, Ecological Applications, Journal of Animal Ecology, Conservation Biology, Theoretical Population Biology, Ecological Modelling, Bulletin of Mathematical Biology, Biotropica, Forest Ecology & Management, Global Ecology and Conservation, Tropical Ecology, Environmental Management, African Journal of Ecology, Belgian Journal of Botany, Environmental Conservation, International Forestry Review, Forests, Journal of Arid Environment, Ecological Process, Economic Botany, Ethnobotany Research and Applications, Journal of Ethnobiology and Ethnomedicines, Sustainability, Biological Journal of the Linnean Society, Environment, Development and Sustainability, Forest Policy and Economics.*

Grant Proposal Reviewer: USAID PEER, International Foundation for Science, South Africa National Research Foundation (Plant Sciences Panel), Sigma Delta Epsilon Graduate Women in Science Fellowships.

Department, University Service and Outreach

- Member, Graduate Affairs Committee, EEB, University of Tennessee Knoxville, 2021 –
 Chair, Graduate Admission Committee, EEB, University of Tennessee Knoxville, 2020 –2021
 Member, Executive Committee, EEB, University of Tennessee Knoxville, 2020 –2021
 Chair, Seminar Committee, EEB, University of Tennessee Knoxville, 2017-2020
 Member, Graduate Admission Committee, EEB, University of Tennessee Knoxville, 2017-2020
 Member, Graduate Admission Committee, Dept. of Botany, UH Manoa, 2014, 2016, 2017
 Member, Ethnobotany Certificate Committee, Department of Botany, UH Manoa, 2015
 Member, Curriculum Revision Committee, B.S. in Ethnobotany, UH Manoa, 2013
 Member, Provost's Tenured Faculty Advisory Council, University of Tennessee, 2021 –
 Member, Dean's Advisory Council, College of Art & Science, University of Tennessee, 2020 –
 Co-organizer, UTK Biology Research Day, University of Tennessee Knoxville, 2019
 Co-organizer, College of Art & Sciences Explore day, University of Tennessee Knoxville, 2019
 Judge, University of Tennessee, EuReCA Undergraduate Research Symposium, 2019
 Judge, University of Tennessee, EEB Undergraduate Poster Symposium, 2018
 Reviewer, University of Hawaii at Manoa, UROP Student Grant proposals, 2015
 Member, UH Office of Graduate Education's Panel on Advisor-Advisee relationship, 2015
 Judge, University of Hawaii at Manoa, UROP Undergraduate Symposium, 2014
 Judge, University of Miami Research, Creativity and Innovation Forum, 2011
 Chair, Grant and Awards Program, Graduate Student Organization, UH Manoa, 2007
 Member, Manoa International Education Committee, UH Manoa, 2003

Speaker at Kapa'a High School, Kauai on "Importance of maths for conservation", 2015
 Speaker, American Space at the University of Abomey-Calavi, US Embassy program, 2015
 Senior Judge, Hawaii State Science and Engineering Fair, 2014, 2015

Councilor, Association for Tropical Biology & Conservation, 2020-2023
 Member, Capacity Building Committee, Association for Tropical Biology & Conservation
 Member, Awards Committee, Association for Tropical Biology & Conservation
 Councilor, Society for Economic Botany, 2020-2023
 Member, Membership Committee, Society for Economic Botany
 Facilitator, Creation of the ATBC Africa Chapter, 2016
 Graduate Mentor, Association for Tropical Biology and Conservation, 2015
 Member, Organizing Committee of the 2015 ATBC meeting, Honolulu, HI, 2015
 Member, Conservation Committee of the ATBC, 2014-2015.

Professional Memberships

Association for Tropical Biology and Conservation
 Ecological Society of America
 Evolutionary Demography Society
 Society for Economic Botany

Professional Training

2019 NSF Grant Conference, Boston, MA
 2019 Mobile Scientific Teaching Institute, University of Tennessee, Knoxville
 2019 Network Modeling, NIMBioS, University of Tennessee, Knoxville
 2016 Bayesian Modeling for Ecologists, Colorado State University, Fort Collins
 2016 Game Theoretical Modeling, NIMBioS, University of Tennessee, Knoxville
 2015 Structural Equation Modeling, University of Hawaii at Manoa, Honolulu
 2011 Building Future Faculty Program, North Carolina State University, Raleigh
 2010 Formal Demography: Mortality Forecasting, Stanford University, Stanford
 2009 Meta-analysis in Ecology and Evolution, NESCent, Duke University, Durham
 2009 Biodemography, Stanford University, Stanford.