# Gordon M. Bennett, Ph.D.

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# Professional Preparation

# **Research Appointment:**

University of California, Merced	Assistant Professor
	2018 – current
University of Hawai'i, Mānoa.	Assistant Professor
	2015 – 2017
Postdoctoral Institutions:	
University of Texas, Austin	USDA NIFA Postdoctoral Fellow
•	2013 – 2015
Yale University	Postdoctoral Scholar
,	2012 – 2013
Graduate Institution:	
University of California, Berkeley	PhD Major: Entomology in Environmental Science, Policy and Management (Entomology), Received 2012.
Undergraduate Institution:	
University of Vermont	BS Major: Science and Education; Concentration in Biology, Received 2006. <i>Graduated Cum Laude</i>

# Appointments

2018 – current	Assistant Professor of Insect-Microbial Interactions. University of California at Merced, Dept. of Life and Environmental Sciences
2015 – 2017	(LES), School of Natural Sciences (SNS). Assistant Professor of Insect-Microbial Interactions. University of Hawai'i at Mānoa, Dept. Plant & Environmental Protection
	Sciences (PEPS), College of Tropical Agriculture & Human Resources (CTAHR).
2015 – 2017	Graduate Faculty in Ecology, Evolution, and Conservation Biology Graduate Group. University of Hawai'i at Mānoa.
2013 – 2015	USDA NIFA Postdoctoral Fellow University of Texas at Austin. Adviser: Dr. Nancy Moran.
	Project: The function and regulation of obligate symbioses during environmental adaptation of pestiferous species.
2012 – 2013	Postdoctoral Research Associate
	Yale University. Adviser: Dr. Nancy Moran. Project: Genomics of Bacterial symbionts of sap-feeding insects.
2006 - 2012	University of California, Berkeley, Graduate Research Assistant
2008 – 2010	NSF GK-12Fellow: Exploring California Biodiversity, Berkeley Natural History Museums Project. 5th & 7th grade Natural Science Educator.
2005 – 2006	Essex High School, Science Teacher: Conceptual Biology (10th grade), Ecology (11th & 12th grades), and A.P. Chemistry (11th & 12th grades).

# **Grants and Fellowships**

In Revision:	
-	National Institute of Health, National Institute of General Medical Sciences, R01. Title: <i>The control of insect metabolism through nutrition-based</i> symbiosis.
-	National Science Foundation, Integrative Organismal Systems (IOS), CAREER. Title: <i>Going down the rabbit hole: understanding how insects</i> <i>maintain obligate symbioses with beneficial - but unreliable – bacteria</i> . PI: Bennett. Amount: \$950,000. Note: Submitted 19July2019.
Awarded:	
2018	National Institute of Health, National Institute of General Medical Sciences, Centers of Biomedical Research Excellence (COBRE): <i>Integrative Center for</i> <i>Environmental Microbiomes and Human Health.</i> Role: Junior Investigator (JI), Project Proposed: <i>The control of insect</i> <i>metabolism through nutrition-based symbiosis</i> (R01 Proposal Format). PIs: Margaret McFall-Ngai and Edward Ruby P20 GM125508-01. Amount: \$10,000,000, \$212,000/Yr for 5 Yrs per JI. <i>Award declined by PI due to change in institution.</i>
2017 – 2018	Office of Maunakea Management. Title: Understanding the diversity and ecological function of microbial endosymbionts associated. with Maunakea's endemic wēkiu bug (Nysius wekiuicola). PI: Bennett. Amount: \$135,000. Award declined by PI due to change in institution.
2016 – 2017	USDA Forest Service, Technology and Development Program. Title: <i>The</i> <i>Role of Ambrosia Beetle Boring Dust in the spread of Ceratocystis Wilt of</i> <i>Native 'Ōhi'a forest (Myrtaceae: Metrosideros polymorpha) on the Big Island</i> <i>of Hawai'i.</i> PI: Bennett. Amount: \$15,000
2016 – 2017	USDA McIntire-Stennis. Title: <i>Diversity and Impact Of Hawaiian Bark</i> Beetles (Coleoptera: Curculionidae) And Their Fungal Associations On The Health Of Hawaiian Forests. PI: Bennett. Amount: \$125,000 Award declined by PI due to change in institution.
2016 – 2017	USDA Hatch. Title: <i>Identification and Risk Assessment of Microbial-Insect Associations in Hawaiian Plant-Sap Feeding Insects (Hemiptera).</i> PI: Bennett Amount: \$40,000 <i>Award declined by PI due to change in institution.</i>
2016 – 2017	Hawaii Department of Agriculture Research Grant. Title: <i>Insect vectors of Rapid 'Ōhi'a Death (Ceratocystis fimbriata)</i> . PI: Bennett. Amount: \$60,000
2016 – 2017	United States Forest Service Research Grant. Title: <i>Insect vectors of Rapid</i> 'Ōhi'a Death (Ceratocystis fimbriata). PI: Bennett. Amount: \$40,000
2016 – 2017	Hau'oli Mau Loa Grant, University of Hawaii Foundation. Title: <i>Rapid 'Ōhi'a Death</i> . PI: Bennett. Amount: \$38,000.

2015 – 2016	USDA Forest Service Research Grant. Title: <i>The role of insect vectors in the spread of Rapid 'Ohi'a Death</i> . PI: Bennett. Amount: \$85,000.
2014 – 2017	National Science Foundation BIO IOS. Title: <i>Host–mediated regulation of dual obligate intracellular symbionts</i> . PI: Nancy Moran. Co-written with sub-award to GM Bennett as postdoc. Amount: \$580,000.
2013 – 2015	USDA AFRI NIFA Postdoctoral Fellowship. Title: <i>The function and regulation of obligate symbioses during environmental adaptation of pestiferous species</i> . PI: Bennett. Amount: \$150,000.
2010 – 2012	NSF Doctoral Dissertation Improvement Grant (DDIG). Title: Systematics, island biogeography, and coevolution of native Hawaiian leafhoppers (Cicadellidae: Deltocephalinae: Nesophrosyne) and their endosymbionts. Amount: \$15,100.
Publications	

### In-press:

- **Bennett GM**. Evolving integrated multipartite symbioses between plant-sap feeding insects (Hemiptera) and their endosymbionts. In: Hadfield, M.G., and Bosch, T. (Eds.) Cellular Dialogues in the Holobiont. CRC Press. *In review.*
- **Bennett GM.** The microbial symbionts of leafhoppers. In: Webb, M., and Badmin, J. (*Eds.*) *The Leafhoppers: Form Function and Phylogeny*. Book in press.

### 2020

- Mao M. & **Bennett GM**. Symbiont replacements reset the co-evolutionary relationship between insects and their heritable bacteria. *ISME Journal.* e-pub ahead of print.
- Gillespie R, **Bennett GM**, De Meester L, Fleischer R, Harmon L, Hendry A, et al., Comparing adaptive radiations across space, time, and taxa. *Heredity*. 111: 1-20.

## <u>2019:</u>

- Van Leuven JT, Mao M, Xing DD, **Bennett, GM**, McCutcheon, JP. 2019. Cicada endosymbionts have tRNAs that are correctly processed despite having genomes that do not encode all of the tRNA processing machinery. *mBio.* 10: e01950-18.
- Roy K, Ewing CP, Hughes MA, Keith L, **Bennett GM.** 2019. Presence and viability of *Ceratocystis lukuohia* in ambrosia beetle frass from Rapid Ohia Death-affected Metrosideros polymorpha trees on Hawaii Island. *Forest Pathology*. 49: 1437-4781.

### <u> 2018:</u>

- Mao M, Yang X, Poff K, & **Bennett GM**. 2018. Evolution of host support for two ancient bacterial symbionts with differentially degraded genomes in a leafhopper host. *Proceedings of the National Academy of Sciences*. 115:E11691-E11700.
- **Bennett GM**, & Mao M. 2018. Comparative genomics of a quadripartite symbiosis in a planthopper host reveals the origins and rearranged nutritional responsibilities of anciently diverged bacterial lineages. *Environmental Microbiology*. 20:4461-4472.
- Wright MG, **Bennett GM**. 2018. Evolution of biological control agents following introduction to new environment. *BioControl*. 63:105-116.
- Hynson NA, Frank KL, Alegado RA, Amend AS, Arif M, **Bennett GM**, et al., 2018. Synergy among microbiota and their hosts: leveraging the Hawaiian archipelago and local collaborative networks to address pressing questions in microbiome research. *mSystems*. 3:e00159-17.

<u> 2017:</u>

Poff KE\*, Stever H\*, Reil JB\*, Seabourn P\*, Ching AJ\*, Aoki S\*, Logan M\*, Michalski JR\*, Santamaria J\*, Adams JW\*, Eiben JA, Yew JW, Ewing CP, Magnacca KN, & **Bennett GM**. 2017. The Native Hawaiian Insect Microbiome Initiative: A Critical Perspective for Hawaiian Insect Evolution. *Insects*. 8:130.

\* Student contributors from a graduate class (PEPS 686 - Insect-Microbe Interactions)

Denis M\*, & Bennett GM. 2017. Description of Nesophrosyne melemele sp. n., an endemic Hawaiian leafhopper (Hemiptera: Cicadellidae: Deltocephalinae: Opsiini) associated with Myoporum sandwicense (Scrophulariaceae). Proceedings of the Hawaiian Entomological Society. 49:47-50.

\* Undergraduate Research Assistant

- **Bennett GM**, & Chong RA. 2017. Genome-wide transcriptional dynamics in the companion bacterial symbionts of the glassy-winged sharpshooter (Cicadellidae: *Homalodisca vitripennis*) reveal differential gene expression in bacteria occupying multiple host organs. *G3: Genes, Genomes, Genetics.* [in-press, e-pub ahead of print]
- Mao M, Yang X, Poff K, & **Bennett GM**. 2017. Complete genomes of the ancient dual-obligate symbionts from the treehopper, *Entylia carinata* (Hemiptera: Membracidae), provides insight into the co-evolution of ancient symbioses in the Auchenorrhyncha. *Genome Biology and Evolution*. [in-press, e-pub ahead of print].
- MG Wright, & **Bennett GM.** 2017. Evolution of biological control agents following introduction to new environments. *Biocontrol.* [in-press, e-pub ahead of print]
- Mao M, Yang X, & **Bennett GM**. 2017. The complete mitochondrial genome of *Macrosteles quadrilineatus* (Hemiptera: Cicadellidae). *DNA Part B: Resources*. 1:173-175.

## <u> 2016:</u>

- **Bennett GM**, McCutcheon JP, McDonald B, & Moran NA. 2016. Lineage-specific patterns of genome deterioration in obligate symbionts. *Genome Biology and Evolution*. 8:296.
- **Bennett GM,** Abba S, Kube M, & Marzachi C. 2016. Complete Genome Sequences of the Obligate Symbionts "Candidatus Sulcia muelleri" and "Ca. Nasuia deltocephalinicola" from the Pestiferous Leafhopper *Macrosteles quadripunctulatus* (Hemiptera: Cicadellidae). *Genome Announcements.* 4:e01604-15.
- Mao M, Yang X, & **Bennett GM.** 2016. The complete mitochondrial genome of *Entylia carinata* (Hemiptera: Membracidae). DNA Part B: Resources. 1:662-663.
- Rominger A, Goodman K, Lim JL, Valdovinos F, Armstrong E, **Bennett GM.** et al., 2016. Community assembly on isolated islands: Macroecology meets evolution. *Global Ecology and Biogeography*. 25:769-780.
- Loope L, Hughes F, Keith L, Harrington T, Hauff R, Friday JB, Ewing C, **Bennett GM**, Cannon P, Atkinson C, Martin C, Melzer M. 2016. Guidance document for Rapid Ohia Death: background for the 2017-2019 ROD strategic response plan. University of Hawaii: College of Tropical Agriculture and Human Resources.

## <u> 2015:</u>

Bennett GM, & Moran NA. 2015. Heritable symbiosis: the advantages and perils of an evolutionary rabbit hole. *Proceedings of the National Academy of Sciences, USA*. 112:10169.

<u>2014:</u>

- **Bennett GM**, McCutcheon JP, McDonald B, Romanovich D, & Moran NA. 2014. Differential genome evolution between companion symbionts in an insect-bacteria symbiosis. *mBio*. 5:e01697-14.
- Moran NA, & **Bennett GM.** 2014. The tiniest tiny genomes. *Annual Review of Microbiology*. 68:195.

<u>2013:</u>

- **Bennett GM**, & Moran NA. 2013. Small, smaller, smallest: the origins and evolution of ancient dual symbioses in a phloem-feeding insect. *Genome Biology and Evolution*. 5:1675.
- **Bennett GM,** & O'Grady PM. 2013. Historical biogeography and ecological opportunity in the adaptive radiation of native Hawaiian leafhoppers (Cicadellidae: *Nesophrosyne*). *Journal of Biogeography.* 40:1512.
- Sloan DB, **Bennett GM**, Engel P, Williams D, & Ochman H. Disentangling associated genomes. *Methods in Enzymology.* 531:445.
- Koga RK, **Bennett GM**, Cryan JR, & Moran NA. 2013. Evolutionary replacement of obligate symbionts in an ancient and diverse insect lineage. *Environmental Microbiology*. 15:2073.

2012:

- **Bennett GM**, & O'Grady PM. 2012. Host-plants drive insect diversity: Phylogeny, diversity, and origins of native Hawaiian leafhoppers (Cicadellidae: *Nesophrosyne*). *Molecular Phylogenetics and Evolution*. 65:705.
- **Bennett GM**, Pantoja N, & O'Grady PM. 2012. Diversity and phylogenetic relationships of *Wolbachia* in *Drosophila* and other native Hawaiian insects. *Fly*. 6:273.
- O'Grady PM, **Bennett GM**, Funk VA, & Altheide TK. 2012. Retrograde Biogeography. *Taxon.* 61:702.

### <u> 2011 – 2006:</u>

- **Bennett GM**, & O'Grady PM. 2011. Review of The Native Hawaiian Leafhopper Genus *Nesophrosyne* (Hemiptera: Cicadellidae: Deltocephalinae) with Description of Eight New Species Associated with *Broussaisia arguta* (Hydrangeaceae). *Zootaxa*. 2805:1.
- Almeida RPP, **Bennett GM**, Anhalt MD, Tsai CW, & O'Grady PM. 2009. Spread of an introduced vector-borne banana virus in Hawaii. *Molecular Ecology*. 18:136.
- O'Grady PM, Lapoint RP, & **Bennett GM.** 2008. The potential and peril of the supertree approach: A response to van der Linde and Houle. *Insect. Syst. Evol.* 39:269.

#### **Selected Presentations**

#### Keynote Speaker:

**Bennett GM.** 2019. Evolving integrated symbioses between insects and their intracellular bacteria. West Coast Bacterial Physiology Annual Meeting, Asilomar Conference Center, Pacific Grove, CA, USA.

#### Invited Seminars:

- **Bennett, GM.** 2019. Evolving integrated symbioses between plant-sap feeding insects (Hemiptera) and their beneficial bacterial symbionts. School of Life Sciences Seminar Series, University of Nevada Las Vegas, Las Vegas, NV, USA.
- **Bennett, GM.** 2019. Down the rabbit-hole: origins and co-evolution of obligate bacterial symbioses in plant-sap feeding leafhoppers (Hemiptera: Cicadellidae). Entomology Seminar Series, University of California Riverside, Riverside, CA, USA.
- **Bennett, GM.** 2018. Down the rabbit-hole: ancient co-evolution of an insect-microbial symbiosis. Essig Museum of Entomology Seminar Series, University of California Berkeley, CA, USA.
- **Bennett, GM.** 2017. Down the rabbit hole: co-evolution of insect-microbial symbioses. School of Natural Sciences Research Seminar Series, University of California Merced, CA, USA.
- **Bennett, GM.** 2017. Co-evolution of Obligate Symbioses in Sap-feeding Leafhoppers (Hemiptera: Cicadellidae). Pacific Biosciences Research Seminar, Honolulu, Hawaii.

- Ewing, C.P., & **Bennett GM.** 2016. Rapid 'ōhi'a death: insects associated with infected trees and potential vectors of the causative agent (Ceratocystidceae: *Ceratocystis*). Rapid 'Ōhi'a Death Research Symposium, UH Mānoa Campus, Honolulu, HI.
- **Bennett GM.** 2015. Evolution of Obligate Symbioses in Insects. Ecology, Evolution and Conservation Biology Seminar Series, University of Hawaii at Manoa, Honolulu, Hawaii.

### Invited Conference Symposia:

- Bennett, GM. 2019. Origins and co-evolution of an obligate bacterial symbioses. Willi Hennig Society International Meeting, Berkeley, CA, USA.
- **Bennett, GM.** 2019. Evolutionary origins and integration of two ancient and obligate symbionts in the leafhopper host, Macrosteles quadrilineatus (Hemiptera: Cicadellidae). Pacific Branch Entomology Society of America Meeting, San Diego, CA, USA.
- Bennett, GM. 2018. The >300 million-year history of key innovations and adaptive radiations in plant-sap feeding leafhoppers (Hemiptera: Cicadellidae). American Genetics Association, Waimea, HI, USA.
- **Bennett, GM.** 2018. Obligate bacterial symbioses in the widespread pest leafhopper, *Macrosteles quadrilineatus* (Hemiptera: Cicadellidae). Pacific Entomology Conference, Honolulu, HI, USA.
- Ewing C, Roy K, & **Bennett GM**. 2018. The role of insects in transmitting Rapid Ohia Death. Pacific Entomology Conference. Honolulu, HI, USA.
- Roy K, Ewing C, Hughes M, & **Bennett GM. 2018** Infectivity of boring dust produced by ambrosia beetles in ROD positive trees. Pacific Entomology Conference, Honolulu, HI, USA.
- Bennett, GM. 2016. Summary of ROD research, response, and outreach achievements and needs. Hawaii Governor Ige Rapid Ohia Death Summit, Honolulu, HI, USA.
- **Bennett, GM.** 2016. Genome evolution and phylogenomics of heritable symbionts in sapfeeding insects. International Conference of Entomology XXV. Orlando, FL, USA.
- **Bennett GM.** 2016. The evolution of nutritional symbioses in plant sap-feeding leafhoppers (Hemiptera: Cicadellidae). Pacific Branch Entomological Society, Honolulu, HI. April.
- **Bennett GM**, & Moran NA. 2015. Genome evolution of heritable symbionts in leafhoppers (Hemiptera: Cicadellidae). Entomological Society of America. Minneapolis, MN, USA.

### Submitted Abstracts:

- Meng M, & **Bennett GM**. 2019. The repeated evolution of host support mechanisms for bacterial symbionts in leafhoppers are reminiscent of the eukaryotic-organelle origins. Gordon Research Conference: Animal-Microbe Symbiosis, Dover, VT, USA.
- Maynard R, & **Bennett GM**. 2019. Gut microbial health can affect social behaviors in social animals. Yosemite Symbiosis Workshop, Yosemite, CA, USA.
- Stever H, & **Bennett GM.** 2019. Understanding the role of insect-associated microbial symbionts in wekiu bug (Nysius wekiuicola) evolution and survival on the 4,200 meter summit of Hawaii Island's Maunakea volcano. Yosemite Symbiosis Workshop, Yosemite, CA, USA.
- **Bennett, GM**. 2018. Parallel Universes: Origins and co-evolution of ancient symbioses in plant sap-feeding insects (Hemiptera: Auchenorrhyncha). Yosemite Symbiosis Conference, Yosemite NP, CA, USA. November.
- Meng, M & **Bennett, GM**. 2018. Tailored host adaptation to support two ancient bacterial symbionts with differentially degraded genomes in a leafhopper host. Yosemite Symbiosis Conference, Yosemite NP, CA, USA. November.
- Mao M, & **Bennett GM**. 2018. Tailored host adaptation to support two ancient bacterial symbionts with differentially degraded genomes in a leafhopper host. International Symbiosis Society. Corvalis, OR, USA.

- **Bennett GM**. 2017. Parallel Universes: Origins and co-evolution of ancient symbioses in plant sap-feeding insects (Hemiptera: Auchenorrhyncha). Gordon Research Conference Animal-Microbe Symbiosis. West Dover, VT. July.
- Mao M. & **Bennett GM.** 2017. Host-mediated support and integration of two obligate symbionts with highly degenerate genome in sap-feeding leafhoppers. Gordon Research Conference Animal-Microbe Symbiosis. West Dover, VT. July.
- **Bennett GM.** 2016. Molecular evolution of obligate bacterial symbionts in sharpshooter leafhoppers (Hemiptera: Cicadellidae). Evolution Conference. Austin, TX, USA. June.
- Ewing CP, & **Bennett GM.** 2016. Rapid öhi'a death: insects associated with infected trees and potential vectors of the causative agent (Ceratocystidceae: *Ceratocystis*). Pacific Branch Entomology Society of America, Honolulu, HI. April.
- Bennett GM, & Moran NA. 2014. Differential genome evolution between companion symbionts in ancient sap-feeding insect-bacterial symbioses. Arthur M. Sackler Colloquia, National Academy of Sciences. U.C., Irvine, CA., USA.

#### Teaching

2015 – current	<ul> <li>Instructor at UC Merced, Dept. Life and Environmental Sciences:</li> <li>BIO 141: Evolution (4 cr; Undergrad Course; Fall 2018, Spring 2019)</li> <li>BIO 159: Insect Ecology &amp; Evoluiton (4 cr; Undergrad Course; Spring 2020)</li> </ul>
	<ul> <li>Instructor at UH Mānoa, Dept. Plant and Environmental Sciences:</li> <li>PEPS 686: Insect-Microbial Interactions (3 cr; Grad Course; Spring 2017)</li> <li>PEPS 499: Undergraduate directed research (2 cr; Spring 2017)</li> <li>PEPS 363/363: General Entomology and General Entomology Lab (4 cr; Undergrad Course; Fall 2016, Fall 2017).</li> <li>PEPS 691: Genome Evolution and Speciation (1 cr; Grad. Course; Spring 2016)</li> <li>PEPS 690: Entomology Seminar (1 cr; Grad Course; Spring 2016)</li> </ul>
2015 – current	Guest Lecturer: • Ecology of Infectious Diseases (OCN 340) • Ecology of Microbial Symbioses (Botany 612) • Hawaiian Natural History (Botany 454) • Plant Virology (PEPS 630)
2008 – 2010	NSF GK-12: Exploring California Biodiversity, Berkeley Natural History Museums. 7th & 5th grade Natural Science Education Program.
2005 – 2006	Essex High School, VT: Teaching and curriculum design in Biology (10th grade), Ecology (12th grade), and A.P. Chemistry (11th & 12th grades).
Mentorship	
2016 – 2019	Postdoctoral Mentor (n = 2): Past: Meng Mao (Received position at Univ. Georgia, Athens) Past: Curtis Ewing (Received position at Cal Fire, Entomology)
2016 – current	PhD Major Adviser (current; n = 3): UC Merced: Heather Stever (QSB) Yumary Vasquez (QSB) Reo Maynard (QSB)
2015 – current	PhD and Master's Committee Member $(n = 10)$ :

	UC Merced: Laura Van Vranken (QSB, PhD), Sona Garsevanyan (QSB, PhD), Crooke Weinstein (QSB, PhD), Graham Larue (QSB, PhD),
	Jacqueline Shay (QSB, PhD), Monique Kolster (QSB, PhD), Jasper
	Toscani Field (QSB, PhD)
	UH Manoa: Abdulla Ali (PEPS, PhD), Rachel Somer (PBRC, MS), Jared
	Bernard (Dept. PEPS, PhD)
2018 – current	Undergrad. Research Mentor UC Merced (n = 4): Tiffany Chang, Allen
	Kalamapukattussery, Jesus Espinoza, Phalen Vang.
2015 – 2017	Undergrad. Research Mentor UH Manoa: Michael Denis and Michelle Au

	Service, S	ynergistic	Activities,	and	Professional	Associations
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2019	Federal Grant Review Panel: National Institute of Health, Early Career
	Reviewer Program. Served on Vector Biology Review Panel.
2019	Federal Grant Review Panel: National Science Foundation, Integrative Organismal Systems.
2017 – current	Associate Editor for: <i>Frontiers in Ecology and Evolution</i> Associate Editor for: <i>Proceedings of the Hawaiian Entomological Society</i>
2016 – current	Associate Curator of the University of Hawaii Mānoa Insect Museum, Honolulu, HI.
2016 – current	Affiliate Researcher of the Bernice P. Bishop Museum, Insect Research Collection, Honolulu, HI.
2016 – current	Departmental and University Service: UC Merced
	Initiated Evolution Graduate Group Journal Club
	Dept. of MCB, Microbiology Faculty Search Committee
	LES Faculty Presidential Postdoctoral Fellow Search Committee
	Life Sciences Curriculum Committee (BIO & LES)
	LES Programing Committee
	LES Mission Statement Development Committee
	UC Manoa
	PEPS and TPSS Undergraduate Curriculum Committee,
	PEPS Departmental Mediation and Governance Committee,
	Pollinator Biology Search Committee (served twice),
	Environmental Microbiologist Search Committee, and
	Rapid 'Ōhi'a Death disease Research Symposium Organizer.
current	Reviewer for: Molecular Biology and Evolution, Proceedings of the
	National Academy of Sciences USA, Proceedings of the Royal Society B,
	Nature Communications, Scientific Communications, International Society
	for Microbial Ecology (ISME), mSphere, mBio, Frontiers in Microbiology, BMC Evolution, Molecular Ecology, Genome Biology and Evolution, G3,
	Ecology and Evolution, FEMS Microbiology, Applied Environmental
	Microbiology, Functional Ecology, Biological Invasions, Molecular
	Phylogenetics and Evolution, PloS One.
2015 – current	Ad hoc reviewer for <i>National Science Foundation DEB and IOS</i> (n = 4).
2007 - current	Society for the Study of Evolution (SEE): Member.
2013 – current	American Society of Microbiology: Member.
2013 – current	Society for Molecular Biology and Evolution: Member.
2012 – current	AAAS: Member.
2009 – current	Entomological Society of America: Member.