

Cooperating Faculty Member (CFM) within CNAS

DEPARTMENT OF BOTANY AND PLANT SCIENCES (requesting department)

Cooperating Faculty Appointment/Reappointment

Instructions: Please complete the following.


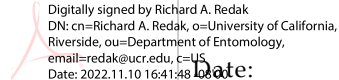
1. Attach a current CV of potential CFM.
2. Statement of Anticipated or Past Involvement in the department referenced above.

Please provide or attach a statement that describes your anticipated or past involvement as a CFM in the department referenced above.

3. My signature below (or attached emailed approval) indicates my willingness to accept an appointment as a CFM in the department referenced above.

Printed Name: Kerry Mauck Signature:  Date: **10-18-22**

4. Approval by Cooperating Faculty Member's Home Department Chair
As Chair of the Department of Entomology, my signature below (or attached emailed approval) indicates my approval of Kerry Mauck participating as a CFM in the department referenced above.

Printed Name: Rick Redak Signature:  Date: 
Digitally signed by Richard A. Redak
DN: cn=Richard A. Redak, o=University of California,
Riverside, ou=Department of Entomology,
email=redak@ucr.edu, c=US
Date: 2022.11.10 16:41:48 -0800

HOST DEPARTMENT VOTE: FOR, AGAINST, UNAVAILABLE

DATES OF APPOINTMENT: 09/19/2022 TO 09/18/2024

5. Approval by CFM's Host Department Chair
As Chair of the Department referenced above, my signature below (or attached emailed approval) indicates my approval of Kerry Mauck participating in the department referenced above.

Printed Name: Patricia Springer Signature: Date:

CNAS DEAN'S APPROVAL:

Date:

Appointments/reappointments are for 2 years for Asst. and Assoc. Professors, and 3 years for full Professors

- To add electronic signatures, unprotect the document.
- Once approved, please send a copy of the host department's appointment letter to the appropriate analyst in the CNAS Dean's office and to Amanda Wong in the Graduate Division.

Dr. Kerry Mauck
900 University Ave
Entomology building room 163
Riverside, CA 92521-0001
Phone: (951)-827-5444
Email: kerry.mauck@ucr.edu

September 9, 2022

Dear Members of the Department of Botany and Plant Sciences,

I am writing to request consideration for Cooperating Faculty Member status. As a vector biologist in the Department of Entomology, I conduct basic and applied research on plant-insect-pathogen interactions from organismal to community levels and across ecological transition zones. Thus far, I have established three major research programs with relevance to your department, described below:

1. Phenotypic responses of plants to pathogens and vectors. Host plant resistance is an efficient means of combating pest and pathogen threats, but poorly understood regarding connections between traits conferring resistance to insect vectors and the pathogens they transmit. To address this, my laboratory explores the genetic basis and inducibility of virus and vector resistance in wild and cultivated muskmelons, a major crop in California. In related work, we are continuing efforts to understand virus manipulation of plant phenotypes and vector behavior. There are now numerous reports of plant viruses altering the phenotypes of their hosts in ways that enhance their own transmission. We are pursuing projects to identify beneficial microbes and environmentally benign chemical elicitors that function to disrupt these virus effects in field settings.

2. Pathogens in wild plants: friends or foes? Due to a historical focus on studying plant pathogen infections in fast-growing annual crops, little is known about the diversity and impact of pathogens on the perennials that structure wild communities. Working in the UC Natural Reserve system, my laboratory recently found that drought-adapted perennial cucurbits harbor multiple infections by crop-associated and novel viruses. We are continuing to develop wild cucurbit species as models for virus and vector ecology while quantifying virus impacts on plant health. My lab is now branching out from viruses to explore the diversity and abundance of economically important pathogens in the genus *Candidatus Liberibacter*. Recently, we combined molecular and bioinformatic approaches to understand disease emergence within the *Ca. Liberibacter* genus by recovering DNA from historic and contemporary wild plant specimens, which led to USDA funding to expand this work throughout the Southwest in the coming years.

3. Symbiont modification of plant-hemipteran interactions. Piercing-sucking vectors feed on plants through secretion of effector proteins that suppress defenses. Characterization of effector proteins will advance technologies for disrupting vector feeding and pathogen transmission. As new effectors are discovered, we are also learning that bacterial symbionts living within vectors can have profound effects on saliva content and activity. Recently, my laboratory established that induction of systemic defenses against whiteflies is reversed when the insects carry a facultative symbiont. We are now characterizing the effects of this symbiont on salivary effector composition and function. In related work, my lab is studying salivary effectors in psyllid vectors in association with *Candidatus Liberibacter* symbionts.

Planned contributions to Botany & Plant Sciences. As is evident from the research summaries above, I am pursuing projects that align closely with both the curriculum and research foci within Botany & Plant Sciences. As a cooperating faculty member in your department, I can offer training in plant chemical ecology, insect behavior, and plant-insect interactions that will provide an important breadth of opportunities for undergraduate and graduate students. I have already provided such training to several

graduate students who have participated in my ENTM 251 seminar in Plant-Insect Interactions and an undergraduate BPSC major working in my laboratory. In the future, I hope to teach graduate seminars of interest to Botany & Plant Sciences Students (e.g., on the impacts of agricultural pests and pathogens on wild plant communities) and contribute to outreach events sponsored by your department. Beyond this, I have experience applying to and managing educational grants to provide training, mentorship, and research opportunities for students who are members of historically (and presently) marginalized groups and communities. I hope to continue to lead and contribute to efforts to make Botany & Plant Sciences a more diverse and inclusive space through involvement in future educational grant activities.

Sincerely,



Dr. Kerry Mauck

Associate Professor, Department of Entomology, University of California-Riverside



Dr. Kerry E. Mauck

University of California, Riverside
163 Entomology Building
Riverside, CA 92507
Email: kerry.mauck@ucr.edu
Phone: 951-827-5444

Current Position & Affiliation

Associate Professor of Vector Biology, University of California, Riverside, Department of Entomology, *March 2022-present*

Cooperating Faculty Member, University of California, Riverside, Department of Microbiology and Plant Pathology, *March 2020-present*

Education

Ph.D. in Entomology	August 2012	Department of Entomology, Penn State University, University Park, PA
B.S. in Biology	May 2005	Department of Biology, The College of New Jersey, Ewing, NJ

Employment History

Assistant Professor of Vector Biology, UCR Dept. of Entomology, *Oct. 2016-March 2022*

Post-doctoral fellow, ETH Zürich, Institute for Ag. Sciences, *Oct. 2013 to Aug. 2016*

Post-doctoral researcher, Penn State University, Dept. of Entom., *Aug. 2012 to Sept. 2013*

Bio-Aide, Phillip Alampi Beneficial Insect Lab, NJ Dept. of Agriculture, *May 2005 to Jul. 2006*

Publications

Published primary research articles (mentees underlined)

1. Morrison JA, Lubchansky HA, **Mauck KE**, McCartney K, and Dunn B (2007) Ecological comparison of two co-invasive species in eastern deciduous forests: *Alliaria petiolata* and *Microstegium vimineum*. *Journal of the Torrey Botanical Society* 134: 1-17. [https://doi.org/10.3159/1095-5674\(2007\)134\[1:ECOTCS\]2.0.CO;2](https://doi.org/10.3159/1095-5674(2007)134[1:ECOTCS]2.0.CO;2)
2. *Morrison JA, **Mauck KE** (2007) Experimental field comparison of native and non-native maple seedlings: natural enemies, ecophysiology, growth and survival. *Journal of Ecology* 95: 1036-1049. <https://doi.org/10.1111/j.1365-2745.2007.01270.x>
3. **Mauck KE**, De Moraes CM, Mescher M (2010) Deceptive chemical signals induced by a plant virus attract insect vectors to inferior hosts. *Proceedings of the National Academy of Sciences* 107 (8): 3600-3605. (Faculty of 1000 Biology: Must Read for February 2010) <https://dx.doi.org/10.1073/pnas.0907191107>
4. Kariyat RR, **Mauck KE**, De Moraes CM, Stephenson AG, Mescher MC (2012) Inbreeding alters volatile signaling phenotypes and influences tri-trophic interactions in horsenettle (*Solanum carolinense* L.). *Ecology Letters* 15(4): 301-309. <https://doi.org/10.1111/j.1461-0248.2011.01738.x>
5. Shapiro LR, Salvaudon L, **Mauck KE**, Pulido H, De Moraes CM, Stephenson AG, Mescher MC (2013) Disease interactions in a shared host plant: effects of pre-existing viral infection on

- cucurbit plant defense responses and resistance to bacterial wilt disease. *PLoS ONE* 8(10): e77393. <https://doi.org/10.1371/journal.pone.0077393>
6. Kariyat RR, **Mauck KE**, Balogh CM, Stephenson AG, Mescher MC, De Moraes CM (2013) Inbreeding in horsenettle (*Solanum carolinense*) alters night-time volatile emissions that guide oviposition by *Manduca sexta* moths. *Proceedings of the Royal Society B* 280: 20130020. <https://doi.org/10.1098/rspb.2013.0020>
 7. Halloran ST, **Mauck KE**, Fleischer SJ, Tumlinson JH (2013) Volatiles from intact and *Lygus*-damaged *Erigeron annuus* (L.) Pers. are highly attractive to ovipositing *Lygus* and its parasitoid *Peristenus relictus* Ruthe. *Journal of Chemical Ecology* 39: 1115-1128. <https://doi.org/10.1007/s10886-013-0331-y>
 8. **Mauck KE**, De Moraes CM, Mescher MC (2014) Evidence of local adaptation in the effects of plant viruses on host-vector interactions. *Integrative and Comparative Biology* 54(2): 193-209. <https://doi.org/10.1093/icb/ucu012>
 9. **Mauck KE**, De Moraes CM, Mescher MC (2014) Biochemical and physiological mechanisms underlying effects of *Cucumber mosaic virus* on host-plant traits that mediate transmission by aphid vectors. *Plant, Cell & Environment* 37(6), 1427-1439. <https://doi.org/10.1111/pce.12249>
 10. **Mauck KE**, De Moraes CM, Mescher MC (2015) Infection of host plants by *Cucumber mosaic virus* increases the susceptibility of *Myzus persicae* to the parasitoid *Aphidius colemani*. *Scientific Reports* 5: 10963. <https://doi.org/10.1038/srep10963>
 11. **Mauck KE**, Smyers E, De Moraes CM, Mescher MC (2015) Virus infection influences host plant interactions with non-vector herbivores and predators. *Functional Ecology* 29: 662-673. <https://doi.org/10.1111/1365-2435.12371>
 12. Peñaflor MFGV, **Mauck KE**, Alves KJ, De Moraes CM, Mescher MC (2016) Effects of single and mixed infections of *Bean pod mottle virus* and *Soybean mosaic virus* on host plant chemistry and host-vector interactions. *Functional Ecology* 30: 1648-1659. <https://doi.org/10.1111/1365-2435.12649>
 13. Chesnais Q, & **Mauck KE** (2018) Choice of tethering material influences the magnitude and significance of treatment effects in whitefly electrical penetration graph recordings. *Journal of Insect Behavior*, 31(6), 656–671. <https://doi.org/10.1007/s10905-018-9705-x>
 14. **Mauck KE**, Sun P, Meduri V, & Hansen AK (2019) New Ca. *Liberibacter psyllae* haplotype resurrected from a 49-year-old specimen of *Solanum umbelliferum*: a native host of the psyllid vector. *Scientific Reports*, 9(1), 9530. <https://doi.org/10.1038/s41598-019-45975-6>
 15. Pulido H, **Mauck KE**, De Moraes CM, & Mescher MC (2019) Combined effects of mutualistic rhizobacteria counteract virus-induced suppression of indirect plant defences in soya bean. *Proceedings of the Royal Society B*, 286(1903), 20190211. <https://doi.org/10.1098/rspb.2019.0211>
 16. Chesnais Q, **Mauck KE**, Bogaert F, Bamière A, Catterou M, Spicher F, Brault V, Tepfer M, Ameline A (2019) Virus effects on plant quality and vector behavior are species specific and do not depend on host physiological phenotype. *Journal of Pest Science* 92(2): 791-804. <https://doi.org/10.1007/s10340-019-01082-z>
 17. Shates TM, Sun P, Malmstrom CM, Dominguez C, & **Mauck KE** (2019) Addressing research needs in the field of plant virus ecology by defining knowledge gaps and developing wild dicot study systems. *Frontiers in Microbiology*, 9, 3305. <https://doi.org/10.3389/fmicb.2018.03305>

18. Madrid F, Singh S, Chesnais Q, **Mauck KE**, Keogh E (2019) Matrix Profile XVI: efficient and effective labeling of massive time series archives. In: 2019 IEEE International Conference on Data Science and Advanced Analytics (DSAA). pp 463–472. <https://doi.org/10.1109/DSAA.2019.00061>
19. Kenney JR, Grandmont M-E, **Mauck, KE** (2020) Priming melon defenses with acibenzolar-S-methyl attenuates infections by phylogenetically distinct viruses and diminishes vector preferences for infected hosts. *Viruses* 12, 257. <https://doi.org/10.3390/v12030257>
20. Chesnais Q, Vidal GC, Coquelle R, Yvon M, **Mauck KE**, Brault V, & Ameline A (2020) Post-acquisition effects of viruses on vector behavior are important components of manipulation strategies. *Oecologia*, 194 (3), 429-440. <https://doi.org/10.1007/s00442-020-04763-0>
21. Sarro E, Sun P, **Mauck KE**, Rodriguez-Arellano D, Yamanaka N, Woodard SH (2021) An organizing feature of bumble bee life history: worker emergence promotes queen reproduction and survival in young nests. *Conservation Physiology* (9) <https://doi.org/10.1093/conphys/coab047>
22. Chesnais Q, Sun P, **Mauck KE** (2021) Advanced infections by cucurbit yellow stunting disorder virus encourage whitefly vector colonization while discouraging non-vector aphid competitors. *Journal of Pest Science* <https://doi.org/10.1007/s10340-021-01394-z>
23. Kwak Y, Sun P, Meduri VR, Percy DM, **Mauck KE**, Hansen AK (2021) Uncovering symbionts across the psyllid tree of life and the discovery of a new *Liberibacter* species, ‘*Candidatus*’ *Liberibacter capsica*. *Frontiers in Microbiology*, 12, 739763. <https://www.frontiersin.org/articles/10.3389/fmicb.2021.739763/abstract>
24. Nenadić M, Grandi L, Mescher MC, De Moraes CM, **Mauck, KE** (2022) Transmission-enhancing effects of a plant virus depend on host association with beneficial bacteria. *Arthropod-Plant Interactions*. *Arthropod-Plant Interactions*, 16(1), 15-31
25. Antolinez CA, Szejbak K, **Mauck KE**, Rivera MJ. Assessment of variation in feeding behavior by color morph in the Asian citrus psyllid (*Diaphorini citri* Kuwayama). Pub. January 4, 2022, at *Journal of Insect Behavior*. <https://doi.org/10.1007/s10905-021-09791-z>
26. Gebiola M, Le B, **Mauck KE** (2022) A reproducible and sensitive method for generating high quality transcriptomes from single whitefly salivary glands and other low-input tissues. Pub. January 24, 2022, at *Insect Science*. <https://doi.org/10.1111/1744-7917.13008>
27. MacWilliams JR, Chesnais Q, Nabity P, **Mauck KE**, Kaloshian I (2022) Cowpea aphid resistance in cowpea line CB77 functions primarily through antibiosis and eliminates phytotoxic symptoms of aphid feeding. In press at *Journal of Pest Science*.

* indicates all authors contributed equally to this publication

Book chapters (mentees underlined)

1. Shapiro LR, **Mauck KE** (2018) “Chemically-mediated interactions among cucurbits, microbes, and insects” in *Chemical Ecology in Insects*, CRC Press. Editor: Jun Tabata. (invited book chapter). <https://doi.org/10.1201/9781351228398>
2. **Mauck KE**, Chesnais Q, Shapiro LR (2018) “Evolutionary determinants of host and vector manipulation by plant viruses” *Advances in Virus Research*, special issue on Environmental Virology. Editor: Carolyn Malmstrom. (invited book chapter). <https://doi.org/10.1016/bs.aivir.2018.02.007>

Review articles (mentees underlined)

1. **Mauck KE**, Bosque-Pérez NA, Eigenbrode SD, De Moraes CM, Mescher MC (2012) Transmission mechanisms shape pathogen effects on host-vector interactions: evidence from plant viruses. *Functional Ecology* 26(5): 1162-1175. <https://doi.org/10.1111/j.1365-2435.2012.02026.x>
2. Alexander HM, **Mauck KE**, Whitfield AE, Garrett KA, Malmstrom CM (2014) Plant-virus interactions and the agro-ecological interface. *European Journal of Plant Pathology* 138: 529-547. (invited review article) <https://doi.org/10.1007/s10658-013-0317-1>
3. **Mauck KE** (2016) Variation in virus effects on host plant phenotypes and insect vector behavior: what can it teach us about virus evolution? *Current Opinion in Virology* 21: 114-123. (invited review article). <https://doi.org/10.1016/j.coviro.2016.09.002>
4. **Mauck KE**, De Moraes CM, Mescher MC (2016) Effects of pathogens on sensory-mediated interactions between plants and insect vectors. *Current Opinion in Plant Biology* 32: 53-61. (invited review article). <https://doi.org/10.1016/j.pbi.2016.06.012>
5. **Mauck KE**, Kenney JR, & Chesnais Q (2019) Progress and challenges in identifying molecular mechanisms underlying host and vector manipulation by plant viruses. *Current Opinion in Insect Science* 33: 7-18. (invited review article). <https://doi.org/10.1016/j.cois.2019.01.001>
6. **Mauck KE**, Chesnais Q (2020) A synthesis of virus-vector associations reveals important deficiencies in studies on host and vector manipulation by plant viruses. *Virus Research*, 285, 197957. <https://doi.org/10.1016/j.virusres.2020.197957>

Recent Research Support

Granting Agency	Title	Active dates	Total Award	Amount to K. Mauck	Role
USDA NIFA Foundational and Applied Science Program	Illuminating plant pathogen emergence through historical samples and contemporary microbial ecology of vector-host interactions	04/01/2022 - 03/31/2024	\$288,661	\$257,454	PI
USDA-NIFA Crop Protection and Pest Management Program	Integration of host plant resistance with immunity modification for management of established and emerging virus threats to melons	09/01/2021 - 08/31/2024	\$323,225	\$175,760	PI
California Department of Pesticide Regulation	Enhancing virus control in lettuce and melons by optimizing immunity priming approaches	07/01/2021 - 06/30/2024	\$216,967	\$135,244	PI
CNAS Delfino Agricultural Innovation Seed Funding	BSFROBOREAR: Autonomous Rearing of Black Soldier Fly	07/01/2021 - 06/30/2022	\$24,976	\$13,486	Co-PI
UCR Office of Research and Economic Development	Understanding plant pathogen emergence through microbial ecology of wild insect vectors	05/15/2021 - 03/31/2022	\$24,952	\$24,952	PI
CA Leafy Greens Research Program	Evaluating plant immunity priming agents for protection against virus infection in lettuce.	04/01/2021 - 03/31/2022	\$15,888	\$15,888	PI

Granting Agency	Title	Active dates	Total Award	Amount to K. Mauck	Role
CA Melon Research Board	Optimizing elicitor combinations, dosage, and timing for prolonged virus control in melon.	02/28/2021 - 02/27/2022	\$5,000	\$5,000	PI
UC Multicampus Research Programs and Initiatives	Strengthening honeybee health and crop pollination to safeguard food availability and affordability	01/01/2021 - 12/31/2023	\$894,518	\$35,761	Co-PI
UCR Faculty Senate	Gaining insight into pathogen emergence by studying associations among wild insect vectors, microbes, and host plants	07/01/2020 - 06/30/2022	\$4,000	\$4,000	PI
National Institute of Food and Agriculture	Six Legs, Endless Possibilities: Training the Next Generation of Agricultural Scientist	10/01/2019 - 09/30/2023	\$1,000,000	\$23,144	Co-PI
UC Ag. Exp. Station Funding	Ecological impacts of virus effects on host plant chemistry and vector behavior	07/01/2018 - present	\$62,500	\$62,500	PI
USDA NIFA Foundational and Applied Science Program	Identification and functional validation of symbiont- and insect-produced effector proteins in saliva of the invasive whitefly, <i>Bemisia tabaci</i> MEAM1	04/01/2019 - 03/31/2022	\$138,296	\$138,296	PI
USDA NIFA Emergency Citrus Disease Research and Extension Program	Develop therapies using a novel class of citrus-derived dual-functional antimicrobial peptides to cure HLB-positive trees and to protect healthy trees	02/01/2019 - 01/31/2023	\$3,783,145	\$419,582	Co-PI
UC Multicampus Research Programs and Initiatives	UC Initiative to Save California's Citrus	01/01/2019 - 03/31/2022	\$1,100,000	\$67,000	Co-PI
USDA-ARS	Characterization of Resistance in Melon to Sweet potato Whitefly	06/01/2018 - 05/31/2022	\$49,526	\$49,526	Collab.

Student Instruction & Sponsorship

In my laboratory

Benjamin Van Raalte, Ph.D., **Major professor**, 2022-present
Savana Becerra, Ph.D., **Major professor**, 2021-present
Jaimie Kenney, Ph.D., **Major professor**, 2018-present
Tessa Shates, Ph.D., **Major professor**, 2016-present, *defending Fall 2021*
Rachel Norris, M.S., **Major professor**, 2018-2020
Marie-Eve Grandmont, M.S., **Thesis supervisor**, 2018
Quentin Chesnais, **Post-doctoral researcher**, 2017-2019

Undergraduate and master's student researcher mentees

17 undergraduates mentored at UCR, three master's students and one undergraduate mentored during post-doctoral research at the ETH Zürich

Selected Recent Invited Presentations

Title	Event Name	Society / Institution	Location	Date
Keeping up with the microbes: how insect vectors interact with emerging plant pathogens	Department Seminar	Colorado State University	Virtual	05/2022
Ecology of insect-transmitted plant pathogens across agricultural and wild transition zones	Department Seminar	University of Florida	Virtual	04/2022
Illuminating the evolution, ecology, and emergence of insect-transmitted plant pathogens across environmental transition zones	Department Seminar	Cornell University	Virtual	02/2022
Keeping up with the microbes: How insect vectors interact with emerging plant pathogens	Member Symposium	Entomological Society of America Annual Meeting	Virtual	11/2021
Ecology of insect-transmitted plant pathogens across agricultural and wild transition zones	Department Seminar	Wageningen University, The Netherlands	Virtual	05/2021
Historical samples as gateways to virus ecology and evolution: challenges and opportunities.	Workshop	INEXTVIR consortium of researchers (UK) (https://inextvir.eu/)	Virtual	04/2021
Ecology of insect-transmitted plant pathogens	Department Seminar	University of Texas Rio Grande Valley, Dept. of Biology	Virtual	03/2021
Ecology of plant pathogens and their vectors in managed and unmanaged ecosystems	Department Seminar	UC Davis Department of Plant Pathology	Davis, CA	02/2020
Chemical ecology of pathogen-host-vector interactions: a presentation of research in the Mauck lab	Monthly Meeting	Botany and Entomology Undergraduate Student Association	UCR	11/2019
Using chemistry to understand and disrupt virus manipulation of hosts and vectors	Annual Meeting	American Chemical Society	San Diego, CA	08/2019
Virus manipulation of hosts and vectors depends on pathogen traits and host context (<i>symposium plenary</i>)	Annual Meeting	International Society of Chemical Ecology: Symposium on Honest Signaling	Atlanta, GA	06/2019
Ecology of host and vector manipulation by plant viruses: new perspectives on a rapidly expanding field (<i>keynote</i>)	14th International Plant Virus Epidemiology Symposium	International Plant Virus Epidemiology Committee	Seoul, South Korea	05/2019
Hunting for Candidatus Liberibacter in the forgotten corners of the UC Riverside Herbarium	Annual Meeting	Entomological Society of America: Pacific Branch	San Diego, CA	04/2019
How plant virus ecology provides insights into hemipteran feeding behavior	Conference on Plant-Herbivore Interactions	Gordon Research Conferences	Ventura, CA	02/2019
Understanding plant virus biodiversity and impacts on cucurbit hosts in extreme habitats	Annual Meeting	Entomological Society of America	Vancouver, BC, Canada	11/2018
Ecology of plant pathogens and their vectors in managed and unmanaged ecosystems	Department Seminar	UCR Department of Microbiology and Plant Pathology	UCR	11/2018

Elucidating complex interactions between viruses and vectors: Virus impacts on biology and behavior	International Congress of Plant Pathology	American Phytopathological Society	Boston, MA	08/2018
Evolutionary determinants of host and vector manipulation by plant viruses	European Congress of Entomology	European Congress of Entomology	Naples, Italy	07/2018
Plant viruses manipulate host chemistry and insect vectors	Department Seminar	UC Davis	Davis, CA	02/2018

Extension Presentations

- 2021 **California Melon Research Board Annual Symposium**. Title: Using plant hormone mimics for virus control and fruit set manipulation.
- 2020 **CA Specialty Crops Technical Council Meeting**. Title: Ecology of plant pathogens and their vectors in managed and unmanaged ecosystems.
California Melon Research Board Annual Symposium, San Diego, CA. Title: Mitigating virus threats through real-time immunity modification and traditional plant breeding.
- 2019 **California Melon Research Board Annual Symposium**, San Diego, CA. Title: Developing sustainable solutions for plant virus and insect vector control in melons. *Delivered updates on my own board-supported research and additional talks on other research projects for grant awardees unable to attend due to the government shutdown.*
- 2018 **California Melon Research Board Annual Symposium**, San Diego, CA. Title: Overview of research in the Mauck Lab.
- 2009 **Mid-Atlantic Fruit and Vegetable Growers Convention**, Hershey, PA. Title: Management Strategies for Cucurbit Viruses: Risks, Benefits, and Modes of Action.

Teaching Experience

At UC Riverside

- ENTM127: Insect Ecology** (Winter 2022, 100%, enroll. 97 students, 4 credits). *I teach students the fundamentals of advanced ecology using insect examples. Students use active learning exercises to understand complex quantitative concepts in ecology.*
- ENTM060W: Scicomm: Exploring Effective Communications Strategies in the Life Sciences** (Fa. 2019 50%/2020 100%/2021 50%, enroll. 30-45 students, 4 credits). *I created this course with a colleague. Students engage in writing exercises that translate research publications into narrative-based popular science articles.*
- ENTM010: Insect Natural History** (Sp. 2018/2019 100% average enrollment 165 students, 4 credits). *Used active learning and real-life demonstrations to teach non-science majors about insects, invasive species, climate change, agriculture, and the scientific method.*
- BIOL 005A: Cell & Molecular Biology** (five iterations at 50%, avg. enroll. 400 students, 4 credits). *I prepared for this course through a ten-week workshop in course transformation. Subsequently, I developed active learning-based lectures and activities to engage life sciences majors in their first general biology course.*
- ENTM 252: Seminar in Insect Behavior** (Sp. 2017-2021 33-50%, avg. enroll. 5-10, 2 credits)
- ENTM 251: Seminar in Plant-Insect Interactions** (W. 2017-2019 50%, W. 2020-2021 100%, avg. enroll. 5-10, 2 credits)
- ENTM 250: Seminar in Entomology** (2020-2021 all quarters, enroll. 44, 1 credit)
- NASC 093: Freshman Advising Seminar** (Fa. 2018, enroll. 22, 1 credit)
- BIOL 002: Introduction to Cell and Molecular Biology (non-majors)** (Fa. 2016 20% - average enrollment 250 undergraduate students, 4 credits)

Selected Recent Outreach Efforts

Presenter, activities with live insects for UCR Early Childhood Development Center, 2019

Presenter, UC Riverside Insect Fair (approximately 12,000 attendees annually), 2017-2019, 2022

Presenter, UC Riverside Board of Trustees – delivered an overview and interactive, hands-on laboratory tour to showcase my research in the Dept. of Entomology at UCR, 2018

Workshop Coordinator, GradEdge Jump-Start Program seminar series, 2017-present

Presenter, UCR PERSIST program, presentations on research in entomology, 2017-2019

Workshop Coordinator, Girls Excelling in Math and Science (GEMS), UC Riverside, 2016

Display presenter for “Forschung Live” museum outreach event, ETH Zürich, 2015

Professional Service

Treasurer & Executive Council Member, International Soc. of Chem. Ecology, 2018-present

Operations Coordinator, Pacific Branch of the Entom. Soc. of America Annual Meeting, 2017

Member: Professional Awards Review Committee, Entomological Society of America, 2021

US Representative, International Committee for Plant Virus Epidemiology

Reviewer, 47 manuscripts for 29 different journals

Associate/handling Editor, *Journal of Insect Behavior*, *Arthropod-Plant Interactions*, and *Journal of Integrative Plant Biology*

Guest Editor, special issues of *Virus Research* and *Journal of Chemical Ecology*

UC Liaison, California Melon Research Board

Panel member, AFRI-NIFA Foundational Program, Pests and Beneficials, 2018; AFRI-NIFA

ELI Fellowship program, 2017; CDFA Pierce’s Disease and Glassy-winged Sharpshooter Grant Program 2020, 2021; CDFA Specialty Crop Block Grant Program, 2021

Ad-hoc reviewer, NSF DEB 2017.

Search committee member, USDA-ARS Salinas GS-14 Entomologist recruitment, 2019

Departmental and University Service

Member, Entomology Department Seminar Committee, 2018-2019, 2022

Chair, Entomology Department Seminar Committee, 2020-2021

Member, Entomology Department Teaching & Mentoring Committee, 2018-present

Member, Entomology Department Specialist Review Committee, 2018-2019

Member, Entomology Department Space Committee, 2019-2021

Member, Entomology Department Search Committee for a Subtropical Tree Fruit IPM Assistant Cooperative Extension Specialist, 2018

Member, Entomology Department Instruction & Student Affairs Committee, 2018-2020

Member, Entomology Department Merit and Promotion Committees, *four committees from 2018-2020*

Faculty Representative, HUB (student union) governing board 2018-present

Reviewer, Undergraduate Student Mini-Grant program, Undergraduate Student Symposium, 2018-2020

Reviewer, Marshall Scholarship Mock Interview Committee, 2019

Member, UCR College of Natural and Agricultural Sciences Greenhouse Committee, 2020-present

Member, UCR Early Childhood Services Parent Policy Council, 2020-present

Awards and Honors

2022 **Plant-Insect Ecosystems Award**, Entomological Society of America, Pacific Branch

- 2017 **Early Career Award**, International Society of Chemical Ecology.
- 2012 **First place in Student Competition for the President's Prize**, Entomological Society of America Annual Meeting.
- 2011 **First place in Student Oral Competition**, Entomological Society of America, Eastern Branch Annual Meeting.
- 2010 **Ralph O. Mumma Graduate Award**, Penn State Dept. of Entomology.
Outstanding Student Research in Ecology Award, Ecological Society of America.
- 2009 **Lloyd E. Adams Memorial Grant-in-Aid**, Penn State Dept. of Entomology.
First place in Student Competition for the President's Prize, Entomological Society of America Annual Meeting.
- 2008 **Vartkes Miroyan Memorial Award in Entomology**, Penn State Dept. of Entomology.
- 2007 **Michael E. Duke Memorial Award in Entomology**, Penn State Dept. of Entomology.