

Caleb B. Hubbard**Curriculum Vitae**

Department of Entomology, Plant Pathology, and Weed Science • New Mexico State University
Las Cruces, NM 88003 • 575-646-5550 • calebh@nmsu.edu

EDUCATION

University of California

Riverside, CA

Ph.D. Entomology

2015–2021

Major: Medical and Veterinary Entomology

Minors: Evolutionary Genetics, Animal Behavior

Dissertation: “Mechanisms Conferring Behavioral Resistance to the Neonicotinoid: Imidacloprid in the House Fly (*Musca domestica* Linnaeus)”

University of California

Riverside, CA

B.S. Biology

2011–2015

RESEARCH EXPERIENCE

New Mexico State University

Las Cruces, NM

Assistant Professor of Urban EntomologySept 2025 – *present*

Investigates how arthropods adapt to urbanizing landscapes, with a particular focus on spillover between urban, peri-urban, and agricultural systems using insect behavior, genetics, and applied pest management techniques.

Western University of Health Sciences

Pomona, CA

Adjunct Assistant Professor of Podiatric Medicine and Surgery2022 – *present*

Mentor attending physicians, faculty, and students on research and statistical methodology.

University of California

Riverside, CA

Postdoctoral Researcher

2021– 2025

Fly behavior and management in animal agriculture systems, insecticide toxicology, utilization of sensor technology to improve insect management and animal welfare, evaluation of essential oils' effects on laying hen production, egg quality, welfare, behavior, and arthropod parasite load.

Graduate Research Assistant

2015 – 2021

Physiological and behavioral resistance to insecticides, integrated pest management of filth flies, filth fly behavior, behavioral genetics

Undergraduate Research Assistant

2012 – 2015

Evolution of cancer suppression in *Drosophila melanogaster*

PI: Leonard Nunney (Evolution Ecology and Organismal Biology)

Bioinformatics and development of mutant strains of *Neurospora crassa*

PI: Katherine Borkovich (Plant Pathology and Microbiology)

RESEARCH GRANTS & FELLOWSHIPS

Received- Direct costs totaling \$475,221

Apr 2025 – Mar 2026 PI: A. Murillo, Co-PIs: K. Mauck, **C. Hubbard**

“Essential Oils for Sustainable Mite Control in Cage-Free Chicken Production Systems”

Small SoCal OASIS

Total Costs: \$24,550

Nov 2022 – Oct 2025 PI: J. Jellyman (CPP), Co-PIs: **C. Hubbard**, A. Gerry, A. Murillo, E. Keogh

“Remote sensing to evaluate sustainable pest management of biting flies in cattle”

CSU-ARI Integrated Pest Management Program

Total Costs: \$304,834

Sept 2022 – Aug 2023 PI: J. Jellyman (CPP), Co-PIs: **C. Hubbard**, A. Gerry, A. Murillo, E. Keogh

“Wearable sensors to record cattle fly-repelling behavior”

CSU-ARI

Total Costs: \$59,811

October 2021 – October 2023 PI: A. Gerry, Co-PIs: **C. Hubbard**, K. Hung

“Attractive Toxic Sugar Bait to Control House Flies near Crop Fields”

CVMVCD Research Program

Total Costs: \$59,806

June 2020 – December 2020

Dissertation Year Program Fellowship

Total Direct Costs: \$12,970

August 2019 – August 2024

ELN Professional Edition- 5-year Developmental Grant

Total Direct Costs: \$6,200

June 2018 – August 2018 PI: Dr. Jaroslaw Krzywinski, Co-PI: **C. Hubbard**

“Advanced training in molecular and bioinformatics methods to study the biology of biting flies”

BBSRC UK-US partnering Fellowship

Total Direct Costs: \$4,250

September 2015 – June 2016

UCR Chancellor’s Distinguished Fellowship

Total Direct Costs: \$4000.00

June 2015 – September 2015

Special Incentive Award for STEM Summer Fellowship

Total Direct Costs: \$5000.00

Not Awarded

July 2025 – June 2026: PI: **C. Hubbard**, Co-PI: A. Dahanukar

“Gustatory Mechanisms of Behavioral Resistance to Imidacloprid in House Flies (*Musca domestica*): Exploring Sensory Adaptations and Neuronal Mechanisms”

University of California's President's Postdoctoral Fellowship Program

Total Costs: \$82,179

Oct 2024 – Sept 2025: J. Jellyman (CPP), Co-PIs: **C. Hubbard**, A. Gerry, A. Murillo,

“Reducing the Impacts of Biting Flies on Cattle”

CSU-ARI Integrated
Total Costs: \$97,482

Sept 2021– August 2023 PI: **C. Hubbard**, Co-PI: A. Murillo
“Evaluation Of the Biology, Dispersal Dynamics and Bacterial Communities Associated With *Fannia canicularis* L.” - *Resubmission*
USDA AFRI ELI Postdoctoral Fellowship
Total Costs: \$201,066

April 2021– March 2023 PI: **C. Hubbard**, Co-PI: A. Murillo
“Evaluation Of the Biology, Dispersal Dynamics and Bacterial Communities Associated With *Fannia canicularis* L.”
USDA AFRI ELI Postdoctoral Fellowship
Total Costs: \$164,055

TEACHING EXPERIENCE

Western University of Health Sciences, Pomona, CA

Adjunct Assistant Professor of Podiatric Medicine and Surgery
Insects and Medicine, Fall 2022, 2023, 2024

- Responsible for teaching lectures; 60 MS 1 and MS 2 students

University of California, Riverside, CA

Co-instructor

ENTM 255: **Seminar in Medical and Veterinary Entomology**, Fall 2024

- Responsible for developing presentation topics, providing examples of effective presentation techniques, and grading/providing feedback on student presentation

Associate in Entomology (Primary lecturer)

ENTM 127: **Insect Ecology**, Winter 2021

- Responsible for teaching lectures, creating and grading evaluations; 120 undergrad/graduate students

Teaching Assistant

ENTM 10: **Natural History of Insects**, Winter 2020

- Responsible for teaching discussion sections and creating and grading evaluations

ENTM 154: **Forensic Entomology**, Spring 2019

- Responsible for teaching laboratory sections and creating and grading evaluations

ENTM 126: **Medical & Veterinary Entomology**, Winter 2017, 2018

- Responsible for teaching laboratory sections and creating and grading evaluations

Undergraduate Laboratory Assistant

BIOL 20: **Dynamic Genome**, Spring 2014, Winter 2015

- Responsible for assisting in the teaching of laboratory sections; Computational and Experimental approaches in investigating the genomes of plants and animals; 50 undergraduate students; with Dr. S. Wessler, and Dr. JM. Burnette

Guest Lecturer

- Biting Midges: **Medical and Veterinary Entomology**, University of California, Riverside. 2025
- Muscidae Management: **Medical and Veterinary Entomology**, University of California, Riverside. 2023, 2024.

- Muscidae: **Medical and Veterinary Entomology**, University of California, Riverside. **2017, 2020, 2023, 2024.**
- Forensic Entomology: **Natural History of Insects**, University of California, Riverside. **2021, 2023.**
- Veterinary Entomology: House flies, behavior and resistance, **Natural History of Insects**, University of California, Riverside. **2020.**
- Alternative Career Paths: Life as a Research Scientist. **AP Biology**, Yucaipa High School, Yucaipa, CA. **2019.**
- Veterinary Entomology: Who are we and why do we do it? **Careers in Science**, Lot Whitcomb Elementary School, Portland, OR. **2019.**
- Livestock Ectoparasites: **Agriculture Biology**, Eureka High School, Eureka, IL. **2018.**
- Principles of Epidemiology Part 1 and 2: **Medical and Veterinary Entomology**, University of California, Riverside **2018.**
- Hemiptera: Bedbugs and Kissing Bugs: **Medical and Veterinary Entomology**, University of California, Riverside. **2017.**
- Mites and Ticks: **Medical and Veterinary Entomology**, University of California, Riverside. **2017.**

PEER REVIEWED PUBLICATIONS

†Indicates undergraduate co-author; †† indicates graduate student mentee co-author

13. Gerry, A.C., L. Zahn, A.C. Murillo, **C.B. Hubbard**, and F. Jurjis, 2025. Efficacy of Fluralaner Solution Administered to Egg Layer Chickens through Drinking Water for Control of Northern Fowl Mite (*Ornithonyssus sylviarum*). Parasites and Vectors. (*Accepted*)
12. Chu, Q. **††**, **C.B. Hubbard**, and C.P. Hubbard. 2025. Efficacy and Efficiency of Maggot Therapy for Diabetic Ulcers: A Review. Extremitas: The Journal of Lower Limb Medicine.
11. Torres, J.N. **†**, **C.B. Hubbard**, and A.C. Murillo. 2024. Examining imidacloprid behaviorally resistant house flies (*Musca domestica* L.) (Diptera: Muscidae) for neonicotinoid cross-resistance Journal of Medical Entomology. DOI:10.1093/jme/tjae105
10. D'Arco, S. **††**, L. Maistrello, **C.B. Hubbard**, A.C. Murillo, and A.C. Gerry. 2024. Use of the Proboscis Extension Response Assay to Evaluate the Mechanism of House Fly Behavioral Resistance to Imidacloprid. Insects. DOI: 10.1002/ps.885
9. **Hubbard, C.B. Invited.** 2024. Highlights in Veterinary Entomology, 2022. Journal of Medical Entomology. DOI: 10.1093/jme/tjad172
8. **Hubbard, C.B.** and A.C. Murillo. **Invited.** 2024. Behavioral Resistance to Insecticides: Current Understanding, Challenges, and Future Directions. Current Opinion in Insect Science. DOI: 10.1016/j.cois.2024.101177
7. **Hubbard, C.B.** and A.C. Murillo. 2024. Evaluation of the inheritance and dominance of behavioral resistance to imidacloprid in the house fly (*Musca domestica* L.) (Diptera: Muscidae). Insect Science. DOI: 10.1111/1744-7917.13326
6. **Hubbard, C.B.**, A.C. Gerry, and A.C. Murillo. 2024. Evaluation of the stability of physiological and behavioral resistance to imidacloprid in the house fly (*Musca domestica* L.) (Diptera: Muscidae). Pest Management Sciences. DOI: 10.1002/ps.7866
5. **Hubbard, C.B.** and A.C. Murillo. 2022. Concentration dependent feeding on imidacloprid by behaviorally resistant house flies, *Musca domestica* L. (Diptera: Muscidae). Journal of Medical Entomology. DOI: 10.1093/jme/tjac130.

4. Murillo, A.C., **C.B. Hubbard**, A.C. Gerry, H.C. Hinkle. 2021. Big problems with little house fly, *Fannia canicularis* (Diptera: Fanniidae). Journal of Integrated Pest Management. DOI: 10.1093/jipm/pmaa023.
3. **Hubbard, C.B.**, and A.C. Gerry. 2021. Genetic evaluation and characterization of behavioral resistance to imidacloprid in the house fly. Pesticide Biochemistry and Physiology. DOI: 10.1016/j.pestbp.2020.104741.
2. **Hubbard, C.B.** and A.C. Gerry. 2020. Selection, reversion, and characterization of house fly (*Musca domestica*) behavioral resistance to the insecticide imidacloprid. Journal of Medical Entomology. DOI: 10.1093/jme/tjaa105.
1. **Hubbard C.B.** and A.C. Gerry. 2019. Evaluation of Spider Venom Toxin-Based Insecticide to Control House Flies, 2018. Arthropod Management Tests. DOI: 10.1093/amt/tsz006.

PUBLICATIONS IN PREPARATION

Hubbard, C.B. and A.C. Murillo. “Essential oil treatment effects on laying hen production, welfare, behavior and northern fowl mite infestations” (*In Prep*)

EXTENSION PUBLICATIONS

1. Hubbard, C.B. and A.C. Murillo. Backyard Poultry Fly Control. UC Cooperative Extension *Poultry Ponderings*. Fall 2016.

SCHOLARSHIP & AWARDS

- 2024** Selected as a fellow for the 2024 [Future Faculty Diversity Program](#) at Virginia Tech
- 2022** [ESA Medical, Urban and Veterinary Entomology Early Career Award](#)
Public Health Entomology for All (PHEFA) Travel Grant
ESA, ESC, and ESBC Joint Annual Meeting Travel Grant
- 2021** [PBESA John Henry Comstock Award from the Entomological Society of America](#)
“This award recognizes the single top graduate student in each branch of the Society based upon academic and research achievement, service and professional activities and letters of support from faculty. This award is considered the highest honor a graduate student in entomology can receive.”
- 2020** MUVE Member Spotlight: December MUVeR in Veterinary Entomology
Dissertation Year Program Fellowship
The Pacific Egg & Poultry Association Student Merit Award
Carl Strom / Western Exterminator Company Scholarship
Novogene Life Sciences NovoBowl Sequencing award
Tejal Reddy Endowed Graduate Award
- 2019** *First place*, Riverside Insect Fair, Best Educational Booth
Carl Strom/ Western Exterminator Company Scholarship
- 2018** *Second Place, President’s Prize runner-up*, student oral presentation at ESA, ESC, and ESBC Joint Annual Meeting
Graduate Student Affairs travel grant
Francis A. & Jane Davies Gunther Endowed Graduate Award in Entomology
Carl Strom/ Western Exterminator Company Scholarship
- 2017** 7th International Congress of the Society for Vector Ecology Student Travel Grant

2015 UCR Chancellor's Distinguished Fellowship
Special Incentive Award for STEM Summer Fellowship

MENTORSHIP

- During the past 5 years, I have mentored or am currently mentoring 24 undergraduate and graduate students.
- Currently mentoring 1 undergraduate and 3 Ph.D. students in the lab of Dr. Amy Murillo at UC Riverside, 2 undergraduate and 1 master's student in the lab of Dr. Alec Gerry at UC Riverside, 1 master's student in the lab of Dr. Juanita Jellyman at Cal Poly Pomona, and 1 medical student at Western University of Health Sciences.

Ph.D. Students (UCR unless specified otherwise)

1. Leon Kataw *	Summer 2024 – <i>Current</i>
2. Jaqueline Holquinn *	2023 – <i>Current</i>
3. Hannah Chu*	2021 – <i>Current</i>
4. Sara D'arco (University of Modena and Reggio Emilia, Modena, Italy) Φ	2022 – 2024
5. Laura Harmon	2020 – 2023
6. Xinmi Zhang	2017 – 2022

Master's Students (UCR unless specified otherwise)

1. Jane Rumpak (Cal Poly Pomona) *	Summer 2024 – <i>Current</i>
2. Karla Lemus*	Summer 2024 – <i>Current</i>
3. Sydney Wilson	2023 – 2024
4. Jaqueline Holquinn	2021 – 2023

Undergraduate Students (UCR unless specified otherwise)

1. Teddy Adams*	Winter 2024 – Fall 2025
2. Jack Jennings*	Winter 2024 – Fall 2025
3. Indigo Talley*	2023 – <i>Current</i>
4. Isabella Loaisiga	Winter 2024 – Spring 2024
5. Jaqueline TorresΦ	2022 – 2024
6. Jane Rumpak (Cal Poly Pomona)	2023 – 2024
7. Sydney Wilson	2022 – 2023
8. Laetitia Nowers	Winter 2023 – Summer 2023
9. Alec Wrightson	Fall 2023 – Spring 2023
10. Persha Alvandi	Fall 2023 – Winter 2023
11. Helena Levin	Fall 2023 – Winter 2023
12. AJ Aarsalne	Winter 2022 – Spring 2022

Medical Students (Affiliation noted)

1. Qi ChuΦ - Medical Student (Western University of Health Sciences)	2022 – 2025
2. Anthony Sarmiento - Medical Student (UCR Medical School)	Summer 2023

*Currently Mentoring

Φ Published papers with

- Due to COVID-19 restrictions, we were unable to host students on-campus for research mentoring. I developed and led a weekly virtual mentoring meeting to provide undergraduate students with an opportunity to learn about research methods and discuss current literature. Fifteen biology and entomology undergraduate students are a part of this meeting (2021).

PROFESSIONAL PRESENTATIONS

*46 presentations, 12 invited, 8 international**

† indicates undergraduate co-author; †† indicates graduate student mentee co-author

46. **Hubbard, C.B.** Urban Entomology as a Tool for Exploration, Discovery, and Belonging. *Invited Speaker*. New Mexico State University, Department of Entomology, Plant Pathology, and Weed Science. Las Cruces, NM. 22 April 2025.
45. **Hubbard, C.B.** Adaptive Urban Invaders: Behavioral Resistance and Sustainable Innovations in Pest Management. *Invited Speaker*. New Mexico State University, Department of Entomology, Plant Pathology, and Weed Science. Las Cruces, NM. 22 April 2025.
44. Murillo, A.C., **C.B. Hubbard**, A.C. Gerry. Exploring New Opportunities for Control of Cattle Ectoparasites. UC ANR Conference. Riverside, CA. 18 February 2025.
43. Murillo, A.C., **C.B. Hubbard**, A.C. Gerry, J.K. Jellyman. Repellents for Control of Biting Flies. World Ag Expo. Tulare, CA. 11 February 2025.
42. **Hubbard, C.B.** Behavioral resistance to insecticides: Current Understanding, Challenges, and Future Directions in Agricultural Pest Control. *Invited Speaker*. Northern Illinois University, Department of Biological Sciences. DeKalb, IL. 23 January 2025.
41. **Hubbard, C.B.**, A.C. Gerry, J.K. Jellyman, E. Loera, and A.C. Murillo. Using sensors to monitor fly-repelling cattle behavior. S1076 Multi-State Research Meeting. Stillwater, OK. 14 January 2025.
40. **Hubbard, C.B.**, A.C. Gerry, J.K. Jellyman, E. Loera, and A.C. Murillo. Bugs and bovids: Addressing veterinary entomology challenges through behavioral research. Entomological Society of America Annual Meeting. Phoenix, AZ. 13 November 2024.
39. Rumpak, J.^{††}, J.K. Jellyman, A.C. Gerry, **C.B. Hubbard**, and A.C. Murillo. Effects of Repellent Treatments on Biting Flies and Cattle. CSU Agriculture Research Institute Meeting. Sacramento, CA. 7 November 2024.
38. **Hubbard, C.B.**, A.C. Gerry, J.K. Jellyman, E. Loera, and A.C. Murillo. Bugs and bovids: Addressing pest management and welfare challenges through behavioral research. CSU Agriculture Research Institute-IPM Meeting. Sacramento, CA. 6 November 2024.
37. **Hubbard, C.B.** From Flies to Farms: Leveraging Insect and Animal Behavior to Improve Health and Welfare. *Invited Speaker*. Virginia Tech, Department of Biomedical Sciences and Pathobiology, Blacksburg, VA. 8 October 2024.
36. Murillo, A.C. and **C.B. Hubbard**. House fly behavioral resistance: Current understanding, challenges, and future directions. 27th International Congress of Entomology, Kyoto, JPN. 26 August 2024. *
35. Chu, Q.^{††}, **C.B. Hubbard**, and C.P. Hubbard. Safety and Efficacy of Maggot Therapy for Diabetic Ulcers: A Review. Kaiser Foot & Ankle Summit. San Francisco, CA. 29 May 2024.
34. **Hubbard, C.B.**, K.E. Mauck, and A.C. Murillo. *Invited Speaker*. Examining the efficacy of thyme essential oil for on-chicken control of Northern fowl mites. Entomological Society of America Pacific Branch Meeting, Waikoloa Beach, Hi. 16 April 2024.

33. A.C. Murillo and **C.B. Hubbard**. House fly behavioral resistance. S1076 Multi-State Research Meeting. January 2024.
32. **Hubbard, C.B.**, and A.C. Murillo. Treatment of chickens with thyme essential oil for northern fowl mite control. Entomological Society of America Annual Meeting, Nation Harbor, MD. 8 November 2023.
31. D'Arco S. ^{††}, A.C. Gerry, **C.B. Hubbard**, A.C. Murillo, and L. Maistrello. Evaluation of proboscis extension response to sucrose containing imidacloprid in *Musca domestica* L. XVII Italian National Congress of Entomology, Palermo, ITALY. 12–16 June 2023. *
30. **Hubbard, C.B.**, J.N. Torres[†], and A.C. Murillo. Beyond Imidacloprid: Evaluating neonicotinoid behavioral resistance in house flies. Livestock Insect Worker Conference Annual Meeting, Fredericksburg, TX. 11–14 June 2023.
29. Murillo, A.C. and **C.B. Hubbard**. Treatment of chickens with thyme essential oil for northern fowl mite control. Livestock Insect Worker Conference Annual Meeting, Fredericksburg, TX. 11–14 June 2023.
28. **Hubbard, C.B.**, A.C. Murillo, and A.C. Gerry. Pest Surveillance in Animal Agriculture Using Remote Sensing and New Technologies. University of California Agriculture and Natural Resources Statewide Conference, Fresno, CA. 25 April 2023
27. **Hubbard, C.B.**, and A.C. Murillo. *Invited Speaker*. Concentration dependent feeding of imidacloprid in behaviorally resistant house flies (*Musca domestica* L). Entomological Society of America, Entomological Society of Canada, and Entomological Society of British Columbia Joint Annual Meeting, Vancouver, BC. 16 November 2022. *
26. **Hubbard, C.B.** Highlights in Veterinary Entomology. *Invited Speaker*. Entomological Society of America, Entomological Society of Canada, and Entomological Society of British Columbia Joint Annual Meeting, Vancouver, BC. 14 November 2022. *
25. Murillo, A.C. and **C.B. Hubbard**. Treatment of chickens with thyme essential oil for control of northern fowl mites. Entomological Society of America, Entomological Society of Canada, and Entomological Society of British Columbia Joint Annual Meeting, Vancouver, BC. 13 November 2022. *
24. Murillo, A.C. and **C.B. Hubbard**. Treatment of chickens with thyme essential oil for control of northern fowl mites. Department of Entomology Seminar Series. UC Riverside, Riverside, CA. 7 October 2022.
23. **Hubbard, C.** Bugs and Bovids: Solving Veterinary Entomology Problems Utilizing Behavior. *Invited Speaker*. Department of Entomology Seminar Series. UC Riverside, Riverside, CA. 26 September 2022.
22. **Hubbard, C.B.** and A.C. Murillo. Concentration dependent detection of imidacloprid in behaviorally resistant house flies (*Musca domestica* L.). Livestock Insect Worker Conference Annual Meeting, Dallas, TX. 6–9 June 2022.
21. **Hubbard, C.B.**, A.C. Gerry, and A.C. Murillo. What we know about the stability of behavioral resistance to imidacloprid in the house fly. S1076 Multi-State Research Virtual Meeting. 11 January 2022.
20. **Hubbard, C.B.** and A.C. Murillo. Stability of behavioral resistance to imidacloprid in the house fly (*Musca domestica*). Entomological Society of America Annual Meeting, Denver, CO. 31 October 2021.

19. **Hubbard, C.B.** What's Bugging Your Feet? Bites and Blood Suckers. *Invited Speaker*. Western University of Health Sciences: College of Podiatric Medicine, Chino Valley Medical Center and Kaiser Permanente Central Valley Medical Center Didactics Conference, Pomona, CA. 27 September 2021.
18. **Hubbard, C.B.,** J.E. Stajich, and A.C. Gerry. *Invited Speaker*. Mechanisms Conferring Behavioral Resistance to the Neonicotinoid: Imidacloprid in the House Fly. Entomological Society of America Virtual Pacific Branch Meeting Comstock Award Presentation. 5 April 2021.
17. **Hubbard, C.B.** Behavioral resistance to imidacloprid: Where We Were, Where We Are, & Where We're Going. S1076 Multi-State Research Virtual Meeting. 6 January 2021.
16. **Hubbard, C.B.** and A.C. Gerry. Genetic evaluation and characterization of behavioral resistance to imidacloprid in the house fly. Entomological Society of America Virtual Annual Meeting. 11–25 November 2020.
15. **Hubbard, C.B.** and A.C. Gerry. Genetics and inheritance of behavioral resistance to imidacloprid in the house fly. Poster uploaded digitally for the 29th Annual UCR Urban Pest Management Conference, UC Riverside, Riverside CA. *Conference rescheduled due to COVID-19*.
14. **Hubbard, C.B.** Pests of the hospital. *Invited Speaker*. Western University of Health Sciences: College of Podiatric Medicine, Chino Valley Medical Center and Kaiser Permanente Central Valley Medical Center Didactics Conference. Pomona, CA. 12 December 2019.
13. Gerry, A. C., L. Zahn, A. C. Murillo, **C.B. Hubbard** and Faris Jirjis. Control of northern fowl mite (*Ornithonyssus sylviarum*) on layer chickens using a fluralaner solution administered through drinking water. Entomological Society of America Annual Meeting, St. Louis, MO. 19 November 2019.
12. **Hubbard, C.B.** and A.C. Gerry. Autosomal linkage analysis and inheritance of behavioral resistance to imidacloprid in house flies. Entomological Society of America Annual Meeting, St. Louis, MO. 18 November 2019.
11. **Hubbard, C.B.,** J.G. Scott, A.C. Gerry. Autosomal linkage analysis of behavioral resistance to imidacloprid in the house fly. Poster presented at the Department of Entomology Graduate Student Seminar Day, UC Riverside, Riverside, CA. 17 September 2019.
10. **Hubbard, C.B.** and A.C. Gerry. Evaluation of a Novel Spider Venom Toxin-Based Insecticide to Control House Flies. Poster presented at the 28th Annual UCR Urban Pest Management Conference, UC Riverside, Riverside, CA. 20 March 2019.
9. **Hubbard, C.B.** and A.C. Gerry. To feed or not to feed: The flaw of traditional resistance screening. Entomological Society of America, Entomological Society of Canada, and Entomological Society of British Columbia Joint Annual Meeting, Vancouver, BC. 11–14 November 2018. *
8. **Hubbard, C.B.** and A.C. Gerry. To feed or not to feed: Physiological resistance to insecticides, the flaw of traditional screening practices. Department of Entomology Graduate Student Seminar Day, UC Riverside, Riverside, CA. 19 September 2018.
7. **Hubbard, C.B.** Behavioral resistance to imidacloprid in house flies: What We Know and What We Don't. *Invited Speaker*. Vector Molecular Biology Research Group Meeting, Pirbright Institute, Pirbright, United Kingdom. 3 August 2018. *
6. **Hubbard, C.B.** and A.C. Gerry. High throughput screening of feeding behavior of house flies selected for behavioral resistance to the Neonicotinoid: Imidacloprid. Poster presented at 27th Annual UC Riverside Urban Pest Management Conference, Riverside, CA. 21 March 2018.

5. **Hubbard, C.B.** and A.C. Gerry. Evaluation of the landing preference of house flies selected for behavioral resistance to the Neonicotinoid: Imidacloprid. 7th International Society of Vector Ecology Meeting, Palma de Mallorca, Spain, 1–7 October 2017. *
4. **Hubbard, C.B.** and A.C. Gerry. Screening of feeding behavior of house flies selected for behavioral resistance to the Neonicotinoid: Imidacloprid. Poster presented at Department of Entomology Graduate Student Seminar Day, UC Riverside, Riverside, CA. 18 September 2017.
3. **Hubbard, C.B.** and A.C. Gerry. Evaluation of the feeding preference of house flies selected for behavioral resistance to the Neonicotinoid: Imidacloprid. Livestock Insect Worker Conference Annual Meeting, Savannah, GA. 25–28 June 2017.
2. Zahn, L., A.C. Gerry, **C.B. Hubbard**. Survival Time of House Flies (Diptera: Muscidae) Exposed to a Novel Granular Bait. Livestock Insect Worker Conference Annual Meeting, Savannah, GA. 25–28 June 2017.
1. **Hubbard, C.B.** and A.C. Gerry A solution to the pesky house fly (*Musca domestica L.*): Behavioral Resistance to Imidacloprid. Department of Entomology Graduate Student Seminar Day, UC Riverside, Riverside, CA. 14 September 2016.

* Denotes international presentations

SELECT EXTENSION & OUTREACH PRESENTATIONS

8. Entomologists are community helpers. *Invited Speaker*. **Sunnyside Elementary School**, Portland, OR. *Via Zoom*. 6 March 2023.
7. My journey as an entomologist. **UC Riverside undergraduate Veterinary Entomology Research Lab Meeting**. *Via Zoom*. 3 May 2021.
6. Life as a Scientist: The Good, The Bad, and The Ugly. **Yucaipa High School Mito Science Club General Meeting**. *Via Zoom*. 10 December 2020.
5. Home invaders: Pests plaguing the home. **4th Annual Riverside Insect Fair**. Riverside, CA. 27 April 2019.
4. Controlling the pesky fly: Techniques to prevent and eliminate nuisance flies. **Fifth annual Southern Area Animal Science Field Day**. Walnut, CA. 22 September 2018.
3. What's Bugging Your Farm Friends. **Fourth Annual Southern Area Animal Science Field Day**. Walnut, CA. 23 September 2017.
2. Backyard Bugs. **3rd Annual Riverside Insect Fair**. Riverside, CA. 29 April 2017.
1. Home Invaders (Fleas, Ticks, Flies). **2nd Annual Riverside Insect Fair**. Riverside, CA. 18 April 2016.

SELECT PRESS COVERAGE

Bernstein, J., and D. Yanega. Buzzards of the barnyard. *Can I Bug You? Podcast*. 7 April 2025.

Porterfield, A. House Fly Resistance to One Neonic Insecticide Doesn't Extend to Others, Study Shows. *Entomology Today*. 24 September 2024

Vold, L. Research In Progress: Study is the first to field-test essential oil treatment against northern fowl mite. *Egg Industry Center Impact Report*. 20 Jan 2023.

Bernstein, J. UCR entomologists' reputations soar with new awards. *University of California Riverside News*. 24 Sep 2021.

Peiser, J. 'Harris/Fly 2024': Debate viewers couldn't look away from the bug on Pence's head. *The Washington Post*. 8 Oct 2020.

Larson, J., Green, J., and Skvarla, M. Insecticide Resistance with Caleb Hubbard. *Arthro-Pod Podcast*. 22 Jul 2020.

Bernstein, J. Maggots and murder: what insects can teach us about crime. *University of California Riverside News*. 29 April 2019.

Rivera, C. Universities are focusing more on undergraduate research projects. *Los Angeles Times*. 27 Nov 2014.

ACADEMIC & PROFESSIONAL SERVICE

Entomological Society of America

Mentee: ESA MUVE Mentorship Program, 2023 – 2024

Member: ESA MUVE Awards Committee, 2023

Student Competition Judge: ESA Annual Meeting, 2022, 2024

Moderator: ESA Annual Meeting, 2021, 2023, 2024

SUBJECT MATTER EXPERT

eXtension (www.eXtension.org) – respond to public inquiries submitted to the national extension community (eXtension) in the area of arthropod pests of animals (2020 - *present*).

MEMBER

S1076 *Multistate Project*- Multistate project focused on the management of arthropod pests of livestock (2019 – *present*)

MANUSCRIPT REVIEWER

Journal of Pest Science (1)

Journal of Insect Science (1)

The Canadian Entomologist (1)

Medical and Veterinary Entomology (2)

Journal of Applied Entomology (2)

Pest Management Science (1)

Journal of Medical Entomology (7)

Journal of Economic Entomology (4)

Biocontrol Science & Technology (2)

New Mexico State University, Las Cruces, NM

Department of Entomology, Plant Pathology, and Weed Science

MEMBER

Seminar Committee, 2025 – *present*

Recruitment and Retention Committee, 2025 – *present*

University of California, Riverside, CA

Department of Entomology

MEMBER

Inclusivity & Diversity Committee, **2024 – 2025**
Seminar Committee, **2023 – 2025**

COACH

University of California, Riverside Entomology Games Team, **2021–2023**

OUTREACH COORDINATOR

Winter 2016, Spring 2016

Neil A. Campbell Science Learning Laboratory

FOUNDING MEMBER AND TREASURER

The Dynamic Genome Outreach Group, **2012 – 2015**

Since founding this outreach program in 2012, we have reached over 7,000 students, most of whom are from the communities surrounding UCR.

PROFESSIONAL TRAINING

- AI TeachTalk: Generative AI in Teaching, **February 2025**
- Fellow of the 2024 Future Faculty Diversity Program at Virginia Tech, **October 2024**
- Media Training: Understanding the media: A starter guide for scientists, **Summer 2024**
- Applying for Academic Jobs: UCR ENTM Postdoc Workshop, University of California, Riverside, **2023 – 2024**
- Best practices for manuscript review, Society of Vector Ecology, **Spring 2024**
- Cheaters Beware: Appropriate Remote Assessments, University of California, Riverside, **Spring 2021**
- Illumina Genomics Training Workshop, University of California, Riverside. **Winter 2020**
- Advanced training in Molecular and Bioinformatics methods to study the biology of biting flies, The Pirbright Institute, Pirbright, Surrey, England. **25 June – 6 August 2018.**
- Teaching Development Workshop, University of California, Riverside. **Spring 2018**
- Teaching Assistant Orientation and Training, University of California, Riverside. **Fall 2016**
- WebGIS and Mobile Data Collection Workshop, University of California, Riverside. **20 Oct. 2015**

PROFESSIONAL MEMBERSHIPS

- Association for Chemoreception Science, **2020 – 2023**
- Society of Vector Ecology, **2016 – *present***
- Entomological Society of America, **2015 – *present* (Early Career Professional Member)**