### **University of Arkansas**

Emily G. McDermott, PhD



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# **EDUCATION**

#### University of California- Riverside, Riverside, CA

*PhD in Medical and Veterinary Entomology (2016)* Concentrations in biomedical sciences and insect ecology

#### The Ohio State University, Columbus, OH

*BS in Entomology (2012)* Minor in plant pathology Magna cum laude

# AWARDS, HONORS, and DISTINCTIONS

- United States Department of the Army Civilian Service Commendation Medal (2020)
- Walter Reed Army Institute of Research Award in Recognition of Commitment to Mentorship (2018)
- University of California, Riverside Department of Entomology Student Seminar Day Oral Presentation Competition: Second Prize (2016)
- University of California, Riverside Department of Entomology Student Seminar Day Poster Presentation Competition: First Prize (2015)
- American Association of Veterinary Parasitologists-Bayer Student Oral Presentation Award: Honorable Mention (2015)
- Farm and Dairy Newspaper's "Ones to Watch: Women in Agriculture" (2015)
- Livestock Insect Workers Conference Student Travel Grant (2014-2015)
- University of California, Riverside Department of Entomology Student Seminar Day Oral Presentation Competition: First Prize (2014)
- Recipient of the CNAS Dean's Scholarship and Fellowship Funds (2014)
- Lauren D. and Mildred D. Anderson Endowed Graduate Assistantship in Immature Insects (2013)
- Chancellor's Distinguished Fellowship (2012)

## **GRANTS and FELLOWSHIPS**

- US Army Medical Research and Development Command, \$5,000,000 (2023); Co-I Remote Emerging Disease Intelligence- NETwork (REDI-NET) Phase III: Expanding and preparing for Force Health Protection/Force Readiness
- University of Arkansas System Division of Agriculture Research Incentive Grant, \$28,104 (2023); Co-I Examining the role of foliar and floral volatiles of Arkansas rice cultivars on feeding and oviposition success of two mosquito species
- UADA Animal Health Awards, \$15,000 (2022); Co-I

Screening for presence of emerging diseases & invasive species in Northwest Arkansas: Determining the prevalence of developing threats such as Theileria orientalis (Ikeda Genotype), Panola Mountain Ehrlichia (PME) and Haemaphysalis longicornis Neumann (Asian Longhorned Tick)

 Centers for Disease Control and Prevention BAA 75D301-22-R-72097, \$74,435 (2022); PI

Evaluation of "base layers" as a personal protection measure against tick bites

• Armed Forces Pest Management Board Deployed Warfighter Protection Program, \$211,241 (2021); PI

A novel yeast microencapsulated formulation of fluralaner for the control of larval mosquitoes, biting midges, and house flies

- University of Arkansas System Division of Agriculture Research Incentive Grant, \$21,869 (2021); PI Competitive interactions between invasive mosquito and native biting midge vectors in
- shared container habitats in Arkansas
  Southern IPM Center Enhancement Grants Program, \$27,972 (2021); PI Assessing the prevalence of <u>Anaplasma</u> spp. in livestock and wildlife associated ticks in Arkansas
- Armed Forces Health Surveillance Branch Global Emerging Infections Surveillance, \$235,000 (2019); PI

Tick-borne encephalitis surveillance in Latvian Ixodes spp. ticks

- Military Infectious Disease Research Program, \$137,000 (2019); PI Evaluating the use of diatomaceous earth and entomopathogenic fungi for tick control
- Military Infectious Disease Research Program, \$114,000 (2019); PI Improving mosquito attraction to a novel sodium ascorbate toxic sugar bait for vector control
- Military Infectious Disease Research Program, \$46,000 (2019); PI Determining the susceptibility of the invasive tick, <u>Haemaphysalis longicornis</u>, to DEET and permethrin treated military uniforms
- National Research Council Postdoctoral Fellowship, \$124,568 (2017-2018) Superinfection dynamics of co-occurring, emerging viruses of significant human health concern in <u>Aedes</u> mosquitoes
- USDA-AFRI-NIFA Predoctoral Fellowship, \$66,293 (2016) Low temperature tolerance in subtropical and temperate populations of the bluetongue virus vector, <u>Culicoides sonorensis</u>

# **Cooperative Agreements and Other Funding**

- USDA-ARS-Arthropod-Borne Animal Disease Research Unit, \$75,731 (2022); PI *Effects of repellent and sublethal insecticide exposure on <u>Culicoides</u> biting midge behavior and susceptibility to bluetongue virus*
- USDA-ARS-Foreign Arthropod-Borne Animal Disease Research Unit, \$225,224 (2023); PI

Vector surveillance at an active bluetongue virus and Cache Valley virus focus

# RESEARCH

#### **University of Arkansas, Department of Entomology and Plant Pathology, Fayetteville, AR** *Assistant Professor (2020-Present)*

- Biology and ecology of *Culicoides* biting midges
- Epidemiology of vector-borne livestock diseases (BTV, EHDV, VSV, anaplasmosis, ehrlichiosis) in Arkansas

# Walter Reed Army Institute of Research, Entomology Branch, Vector Control, Silver Spring, MD

Department Senior Scientist (2018-2020)

- Development of novel vector control strategies
- Assessment of vector control and personal protective measures to improve force readiness

# Walter Reed Army Institute of Research, Entomology Branch, Vector and Parasite Biology, Silver Spring, MD

Postdoctoral Fellow (2017-2018)

- Superinfection of Flaviviruses in *Aedes albopictus* and *Ae. aegypti* (Diptera: Culicidae) (BSL-2, ACL-2/3)
- Genotype-by-genotype interactions of vector populations for arbovirus competence
- Development of novel vector control strategies

#### **University of California, Riverside Department of Entomology, Riverside, CA** *Graduate Research Assistant (2012-2016)*

- Trans-seasonality and surveillance of bluetongue virus and *Culicoides sonorensis* (Diptera: Ceratopogonidae)
- Vector-pathogen interactions

# The Ohio State University Department of Entomology, Columbus, OH

Undergraduate Research Assistant (2011)

• Genetic basis for diapause in *Aedes albopictus* (Diptera: Culicidae)

# United States Department of Agriculture, APHIS-PPQ-CPHST, Otis Air National Guard Base, MA

Biological Science Technician (2011)

- Sterile insect technique with *Lobesia botrana* (Lepidoptera: Tortricidae)
- Preformed research in a quarantine facility (ACL-3)

# TEACHING

#### Morphology of Insects (ENTO 5013)

University of Arkansas

• Co-Instructor of Record (AU 2023)

**Special Topics- Medical and Veterinary Entomology (ENTO 410V/510V)** University of Arkansas

• Instructor of Record (SP 2022-2024)

#### Special Problems- Laboratory Research (ENTO 400V)

University of Arkansas

• Instructor of Record (SP 2022)

#### Graduate Seminar (ENTO 6071)

University of Arkansas

• Instructor of Record (AU 2021)

#### **Special Problems- Insect Vector Colonies for Laboratory Research (ENTO 400V)** University of Arkansas

• Instructor of Record (SP 2021)

#### Medical and Veterinary Entomology (ENTM 126)

University of California Riverside

• Teaching Assistant (2015)

#### Natural History of Insects (ENTM 010)

University of California Riverside

• Teaching Assistant (2014)

# MENTORING

Graduate Students PhD (2- enrolled AU 2021) MS (1- enrolled AU 2022)

## **Undergraduate Students**

Honors thesis chairs (2) Honors thesis committees (2)

#### Walter Reed Army Institute of Research, Silver Spring, MD

Eleanor Roosevelt High School Science and Technology Internship Mentor (2017-2020)

• Advised high school seniors (3) on independent research projects, which resulted in two publications (See: PUBLICATIONS)

## Walter Reed Army Institute of Research, Silver Spring, MD

Army Educational Outreach Program- Science and Engineering Apprenticeship Program and College Qualified Leaders Mentor (2018-2020)

• Advised summer intern students (3) on independent research projects

# University of California, Riverside Department of Entomology, Riverside, CA

Undergraduate Research Supervisor (2012-2016)

- Supervised two undergraduate students involved in several laboratory projects
- Advised an undergraduate researcher on an independent research project, which resulted in a publication (See: PUBLICATIONS)

# **PROFESSIONAL TRAINING**

Python FundamentalsAdvanced Programming in PythonFebruary 2016Manipulating Data in PythonMay 2016University of California, Riverside, Grad Success GradQuant ProgramWebGIS and Mobile Data CollectionOctober 2015University of California Agriculture and Natural Resources Informatics and GIS StatewideProgram

# **PUBLICATIONS**

\*Undergraduate student †High school student ‡Invited manuscript

- 1. <u>Steele, C. H., and E. G. McDermott. 2024.</u> From forests to fields: investigating *Culicoides* (Diptera: Ceratopogonidae) abundance and diversity in cattle pastures and adjacent woodlands. Journal of Medical Entomology. 61: 473-480.
- Briggs, C., E. Smith, J. Vansandt, B. Carr, K. Loftin, and E. G. McDermott. 2023. Prevalence of *Ehrlichia* and *Anaplasma* spp. in ticks collected from cattle and deer in Arkansas, USA. Journal of Parasitology. 109: 530-536.
- <u>Carpenter, M., A. Benavides Obon, J. Kopanke, J. Lee, K. Reed, T. Sherman, C. Rodgers, M. Stenglein, E. McDermott, and C. Mayo. 2023.</u> In situ hybridization (RNAscope®) detection of bluetongue virus serotype 10 and 17 in experimentally coinfected *Culicoides sonorensis*. Pathogens. 12: 1207.
- Lawson, B. E., and E. G. McDermott. 2023. Topical, contact, and oral susceptibility of adult *Culicoides* biting midges (Diptera: Ceratopogonidae) to fluralaner. Parasites & Vectors. 16: 281.
- 5. <u>Briggs, C., and E. G. McDermott. 2023.</u> Co-occurrence of *Culicoides guttipennis* (Coquillett) with tree hole mosquito species, including *Aedes albopictus* Skuse, in container habitats in northwest Arkansas, USA. Journal of Vector Ecology. 48: 7-11.
- McGregor, B. L., P. T. Shults, and E. G. McDermott. 2022. A review of the vector status of North American *Culicoides* (Diptera: Ceratopogonidae) for bluetongue virus, epizootic hemorrhagic disease virus, and other arboviruses of concern. Current Tropical Medicine Reports. 9: 130-139.<sup>‡</sup>
- <u>Tucker, K. R.<sup>†</sup>, C. H. Steele, and E. G. McDermott. 2022.</u> Aedes aegypti (L.) and Anopheles stephensi Liston (Diptera: Culicidae) susceptibility and response to different experimental formulations of a sodium ascorbate toxic sugar bait. Journal of Medical Entomology. 59: 1710-1720.
- Kopanke, J., M. Carpenter, J. Lee, K. Reed, C. Rodgers, M. Burton, K. Lovett, J. Westrich, E. McNulty, E. McDermott, C. Barbera, S. Cavany, J. Rohr, A. Perkins, C. Mathiason, M. Stenglein, and C. Mayo. 2022. Bluetongue research at a crossroads: modern genomics tools can pave the way to new insights. Annual Review of Animal Biosciences. 10: 303-24.<sup>‡</sup>
- 9. <u>C. H. Steele, and E. G. McDermott. 2022.</u> Male and female mosquito (Diptera: Culicidae) attraction to sound and its relevance to potential applications in vector surveillance. Annals of the Entomological Society of America. 115: 113-126.<sup>‡</sup>
- <u>Ngape, D.<sup>†</sup>, C. H. Steele, and E. G. McDermott. 2021.</u> A comparison of BG Sentinel and CDC trap attractants for mosquito surveillance in urban and suburban areas of Montgomery and Prince George's Counties, Maryland, USA. Journal of Vector Ecology. 46: 186-199.
- 11. <u>McDermott, E.G., and T. J. Lysyk. 2020.</u> Sampling considerations for adult and immature *Culicoides* (Diptera: Ceratopogonidae). Journal of Insect Science. 20: 1-11.<sup>‡</sup>
- C. E. Mayo, E. G. McDermott, J. Kopanke, M. Stenglein, J. Lee, C. Mathiason, M. Carpenter, K. Reed, and T. A. Perkins. 2020. Ecological dynamics impacting bluetongue virus transmission in North America. Frontiers in Veterinary Science. 7: 186.

- McDermott, E. G., B. A. Mullens, C. E. Mayo, E. B. Roark, C. R. Maupin, A. C. Gerry, and G. L. Hamer. 2019. Laboratory evaluation of stable isotope labeling of *Culicoides* (Diptera: Ceratopoginidae) for adult dispersal studies. Parasites & Vectors. 12: 411.
- McDermott, E. G., E. K. Morris, and L. S. Garver. 2019. Sodium ascorbate as a potential toxicant in attractive toxic sugar baits for control of adult mosquitoes (Diptera: Culicidae) and sand flies (Diptera: Psychodidae). Journal of Medical Entomology. 56: 1359-1367.
- 15. McDermott, E. G., and B. A. Mullens. 2018. The dark side of light traps. Journal of Medical Entomology. 55: 251-261.
- Wong, N. D.\*, E. G. McDermott, A. C. Murillo, and B. A. Mullens. 2018. Field distribution and density of *Culicoides sonorensis* (Diptera: Ceratopogonidae) eggs in dairy wastewater habitats. Journal of Medical Entomology. 55: 382-391.
- 17. McDermott, E. G., C. E. Mayo, and B. A. Mullens. 2017. Low temperature tolerance of *Culicoides sonorensis* (Diptera: Ceratopogonidae) eggs, larvae, and pupae from temperate and subtropical climates. Journal of Medical Entomology. 54: 264-274.
- 18. <u>McDermott, E. G., C. E. Mayo, A. C. Gerry, and B. A. Mullens. 2016.</u> Trap placement and attractant choice affect capture and create sex and parity biases in collections of the biting midge, *Culicoides sonorensis*. Medical and Veterinary Entomology. 30: 293-300.
- McDermott, E. G., C. E. Mayo, A. C. Gerry, D. Laudier, N. J. MacLachlan, and B. A. Mullens. 2015. Bluetongue virus infection creates light averse *Culicoides* vectors and serious errors in transmission risk estimates. Parasites & Vectors. 8: doi: 10.1186/s13071-015-1062-4.
- 20. <u>Mullens, B. A., E. G. McDermott, and A. C. Gerry. 2015.</u> Progress and knowledge gaps in *Culicoides* ecology and control. Veterinaria Italiana. 51: 313-323.
- 21. Osborne, C. J.\*, C. E. Mayo, B. A. Mullens, E. G. McDermott, A. C. Gerry, W. K. <u>Reisen, and N. J. MacLachlan. 2015.</u> Lack of evidence for laboratory and natural vertical transmission of bluetongue virus in *Culicoides sonorensis* (Diptera: Ceratopogonidae). Journal of Medical Entomology. 52: 274-277.
- McDermott, E. G., and B. A. Mullens. 2014. Desiccation tolerance in the eggs of the primary North American bluetongue virus vector, *Culicoides sonorensis* (Diptera: Ceratopogonidae), and implications for vector persistence. Journal of Medical Entomology. 51: 1151-1158.

## PRESENTATIONS

\*Invited speaker

- 1. <u>E. G. McDermott,\* and C. Steele.</u> Vectors in the (out)field: do sylvatic *Culicoides* species present a bluetongue virus risk to pastured cattle? *Entomological Society of America National Meeting, National Harbor, MD (2023)*
- <u>E. G. McDermott, C. Briggs, E. Smith, J. Vansandt, B. Carr, and K. Loftin.</u> Prevalence of Ehrlichial pathogens in *Amblyomma americanum* collected from cattle in Arkansas *Livestock Insect Workers Conference, Fredericksburg, TX (2023)*
- 3. <u>E. G. McDermott.\*</u> Characterizing the distribution of *Culicoides* biting midges across landscapes to inform disease risk
- Virtual Vector Biology Seminar Series, Virtual (2023)
  4. <u>E. G. McDermott\* and B. Lawson.</u> Development and evaluation of microencapsulated
  - fluralaner as an insecticide

Deployed Warfighter Protection Program Research Symposium, Silver Spring, MD (2023)

- 5. <u>E. G. McDermott.\*</u> Landscape ecology of *Culicoides* biting midges University of Arkansas Department of Biological Sciences Seminar Series, Fayetteville, AR (2022)
- 6. <u>E. G. McDermott,\* and C. Briggs.</u> Investigating the extent of resource partitioning between container breeding mosquitoes and tree-hole *Culicoides* in natural and disturbed landscapes

Entomological Society of America National Meeting, Denver, CO (2021)

7. <u>E. G. McDermott.\*</u> Right trap, right study: understanding trap biases in vector surveillance

Washington State University Department of Entomology Marilyn and James Hyde Seminar Series (2021)

8. <u>E. G. McDermott.\*</u> Right trap, right study: understanding trap biases in vector surveillance

University of Minnesota Department of Entomology Guest Seminar Series, Virtual (2020)

9. <u>D. Ngape, C. H. Steele, and E. G. McDermott.</u> Evaluation of commercially available traps and attractants for mosquito-borne disease surveillance in an urban area of Montgomery Co., Maryland

Entomological Society of America National Meeting, Virtual (2020)

- 10. <u>C. H. Steele, K. R. Tucker, and E. G. McDermott.</u> Addition of plant volatile compounds to sodium ascorbate toxic sugar baits increases mosquito mortality and attraction *Entomological Society of America National Meeting, Virtual (2020)*
- 11. <u>McDermott, E. G., K. Tucker, E. K. Morris, and L. S. Garver.</u> Vitamin C as a low-cost, low toxicity alternative to synthetic insecticides in attractive toxic sugar baits *Entomological Society of America National Meeting, St. Louis, MO (2019)*
- 12. <u>McDermott, E. G.,\* C. E. Mayo, and B. A. Mullens.</u> Don't go into the light: pathogen manipulation of vector behavior and disease surveillance *Entomological Society of America, Entomological Society of Canada, and Entomological Society of British Columbia Joint Meeting, Vancouver, British Columbia, Canada (2018)*
- McDermott, E. G., T. Olowolayemo, and L. S. Garver. Superinfection exclusion between dengue and Zika viruses in *Aedes* mosquitoes *American Society of Tropical Medicine and Hygiene Annual Meeting, New Orleans, LA* (2018)
- 14. <u>McDermott, E. G., and B. A. Mullens.</u> Downstream effects of bluetongue virus exposure on *Culicoides sonorensis* offspring *Entomological Society of America National Meeting, Denver, CO (2017)*
- McDermott, E. G., and B. A. Mullens. Downstream effects of bluetongue virus exposure on *Culicoides sonorensis* offspring *Society for Vector Ecology 7<sup>th</sup> International Congress, Palma, Mallorca, Spain (2017)*
- Mullens, B. A., and E. G. McDermott. Culicoides eggs: what do we know, and why should we care? Society for Vector Ecology 7<sup>th</sup> International Congress, Palma, Mallorca, Spain (2017)
- McDermott, E. G.,\* C. E. Mayo, and B. A. Mullens. Overwintering and strategies for surviving adverse conditions in *Culicoides sonorensis International Congress of Entomology XXV, Orlando, FL (2016)*

- McDermott, E. G., C. E. Mayo, and B. A. Mullens. Low temperature tolerance of immature *Culicoides sonorensis* from California and Colorado *Livestock Insect Workers Conference, Oklahoma City, OK (2016)*
- McDermott, E. G.\* Working with half the pieces: towards a better understanding of Culicoides persistence and disease surveillance University of California, Riverside Department of Entomology Seminar Series, Riverside, CA (2016)
- 20. McDermott, E. G., C. E. Mayo, A. C. Gerry, D. Laudier, N. J. MacLachlan, and B. A. <u>Mullens</u>. Estimates of bluetongue virus infection rates in *Culicoides* midge vectors depend on trap attractant and placement *Entomologinal Society of America National Macting Minneapolis* MN (2015).

Entomological Society of America National Meeting, Minneapolis, MN (2015)

- 21. <u>McDermott, E. G., N. Wong, and B. A. Mullens.</u> What can the environmental tolerances of immature *Culicoides* midges tell us about their overwintering strategies? *American Association of Veterinary Parasitologists-Livestock Insect Workers Conference-International Symposium on Ectoparasites of Pets Joint Meeting, Boston, MA (2015)*
- 22. <u>McDermott, E. G., C. E. Mayo, A. C. Gerry, and B. A. Mullens.</u> Location, location, location: optimizing surveillance efforts for *Culicoides sonorensis* and bluetongue virus through trap placement and attractant choices *Entomological Society of America National Meeting, Portland, OR (2014)*
- 23. <u>De La Riva, D., P. M. Kietzman, A. Lindsey, E. G. McDermott, and C. Shogren.</u> Outreach at UCR: Dynamic Approaches to Community Science Education *Entomological Society of America National Meeting, Portland, OR (2014)*
- McDermott, E. G., N. Wong, and B. A. Mullens. Oviposition behavior and egg desiccation tolerance in the bluetongue vector, *Culicoides sonorensis* Bluetongue and Related Orbiviruses IV International Conference, Rome, Italy (2014)
- 25. <u>McDermott, E. G., C. E. Mayo, A. C. Gerry, and B. A. Mullens.</u> Location, location, location: optimizing surveillance efforts for *Culicoides sonorensis* and bluetongue virus through trap placement and attractant choices *Livestock Insect Workers Conference, San Diego, CA (2014)*

26. <u>McDermott, E. G., and B. A. Mullens.</u> Desiccation tolerance in the eggs of *Culicoides sonorensis*: implications for vector persistence Society for Vector Ecology 6<sup>th</sup> International Congress, La Quinta, CA (2013)

**Outreach and Extension Presentations** 

- 1. <u>McDermott, E.G.\*</u> Vector biology and vector-borne diseases WRAIR STEM Day at the Labs, Silver Spring, MD (2018)
- 2. <u>McDermott, E. G.\*</u> Bluetongue: a re-emerging, vector-borne livestock disease University of California, Riverside Pre-Veterinary Club, Riverside, CA (2016)
- 3. <u>McDermott, E. G.\*</u> Veterinary vector biology University of California, Riverside Pre-Veterinary Club, Riverside, CA (2016)
- 4. <u>McDermott, E. G.</u> From A-to-Zika: What you should know about mosquitoes and disease

Riverside Insect Fair, Riverside, CA (2016)

# PATENTS

US Provisional Patent Application No. 63/489,859, "Yeast-microencapsulated larvicide compositions and methods for making and using the same." *Inventors: Emily McDermott and Blythe Lawson* 

# **PROFESSIONAL SERVICE**

#### **Entomological Society of America**

Section Moderator (2021, 2023)

Member Symposium Organizer (2021)

Medical, Urban, and Veterinary Entomology Section Awards Committee (2020)

#### **Armed Forces Pest Management Board**

Research, Development, Testing & Evaluation Committee (2019-2020)

American Society of Tropical Medicine and Hygiene

Section Moderator (2018)

Livestock Insect Workers Conference

Section Moderator (2014-2015)

University of California, Riverside Department of Entomology, Riverside, CA

New Faculty Search Committee, Student Representative (2013-2015)

#### **Journal Reviewer**

• Journal of Medical Entomology, Vector-Borne and Zoonotic Diseases, Veterinary Parasitology, Journal of Vector Ecology, Journal of Economic Entomology, Entomologia Experimentalis et Applicata, Veterinary Microbiology, Journal of Applied Ecology, Veterinary Record, Florida Entomologist, Medical and Veterinary Entomology, Methods in Ecology and Evolution, Parasites & Vectors, Pathogens, Acta Tropica, Acta Parasitologica, Diversity, Journal of the Florida Mosquito Control Association, Biological Procedures Online

#### **Editorial Service**

Journal of Vector Ecology, Editorial Board (2022-Present) Journal of Medical Entomology, Subject Editor (2022-Present)

## **UNIVERSITY SERVICE**

University of Arkansas Patent and Copyright Committee (2024-Present) Department of Entomology and Plant Pathology Seminar Committee (2022-2023) New Faculty Search Committee (2022) Insect Festival Planning Committee (2021-2022) Curriculum Committee (2021-Present) Center for Agricultural Data Analytics New Faculty Search Committee (2023)

# **COMMUNITY OUTREACH**

University of Arkansas, Department of Entomology and Plant Pathology, Fayetteville, AR Insect Festival Volunteer (2022-Present)

• Organized a booth to teach attendees about mosquito development, including a "tip and toss" activity for children to teach them about removing standing water from their yards

Walter Reed Army Institute of Research, Silver Spring, MD

#### Outreach Volunteer (2017-2020)

- Represented Entomology Branch at WRAIR outreach events, including National STEM Week at the Labs, for local middle and high school students as well as Service Members and their families
- Participated in Army Educational Outreach Programming including the Science and Engineering Apprenticeship Program and Gains in the Education of Mathematics and Science

#### Science Olympiad, King High School, Riverside, CA

Coach (2015-2016)

- Coached 7 local high school students for the Science Olympiad to compete in the "Disease Detectives" event
- Met once a week to teach college level epidemiology and prepare students for competition
- 1<sup>st</sup> place in event at Inland Empire Regional competition

## Annual Biological Sciences Congressional District Visits, Sponsored by the American Institute of Biological Sciences and the Entomological Society of America

Participant (2013)

• Met with the staff of Rep. Mark Takano to discuss the importance of supporting government funding of scientific research

#### University of California, Riverside Department of Entomology, Riverside, CA

*Outreach Volunteer (2012-2016); Outreach Committee (2013-2014)* 

- Participated in outreach events for local schools and the UCR community
- Maintained live insect colonies used for outreach events
- Prepared posted presentation on the outreach program at UCR for national ESA meeting
- Completed over 100 hours of outreach

# The Ohio State University College of Food, Agriculture, and Environmental Science, Columbus, OH

Recruitment Volunteer (2010-2012)

- Assisted with student recruitment for the CFAES entomology program
- Hosted potential incoming CFAES students

# The Ohio State University Museum of Biological Diversity, Charles A. Triplehorn Insect Collection, Columbus, OH

Annual Museum Open House Day Volunteer (2010-2012)

• Educated the public about work at the C.A. Triplehorn Insect Collection, insect current event issues, and general entomology

# ASSOCIATIONS

North American *Culicoides* Collective

Founding Member (2017-Present)

Livestock Insect Workers Conference

Member (2014-Present)

Society for Vector Ecology

Member (2013-Present)

**Entomological Society of America** 

Member (2011-Present)

- MUVE section (2012-Present)
- P-IE section (2011-2012)

American Society of Tropical Medicine and Hygiene

Member (2018-2019)

• American Committee of Medical Entomology (2018-2019)