

SARAH M. SHORT

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Academic positions:

2018-present Assistant Professor, Department of Entomology, **The Ohio State University**, Columbus OH

Education and Training:

2012 – 2018 Postdoctoral Research Fellow, Molecular Microbiology and Immunology.
Johns Hopkins University, Baltimore MD
Advisor: George Dimopoulos

2012 Ph.D. in Genetics, **Cornell University**, Ithaca NY
Advisor: Brian P. Lazzaro

2005 B.S. in Biology, **Xavier University**, Cincinnati OH

Related experience:

2005 – 2006 Research Assistant, Department of Pathology, Cleveland Clinic Association, Cleveland OH

Publications (research and review articles):

- Caragata, E. and **Short, S.M.** 2022. Vector microbiota and immunity: modulating arthropod susceptibility to vertebrate pathogens. *Current Opinion in Insect Science* 50, 100875
<https://doi.org/10.1016/j.cois.2022.100875>
- MacLeod, H.; Dimopoulos, G.; **Short, S.M.** (2021) Larval diet abundance influences size and composition of the midgut microbiota of *Aedes aegypti* mosquitoes. *Frontiers in Microbiology*, 12:645362. doi: 10.3389/fmicb.2021.645362.
- Dada, N., Jupatanakul, N., Minard, G. **Short, S.M.**, Akorli, J. , Martinez Villegas, L. 2021. Considerations for mosquito microbiome research from the Mosquito Microbiome Consortium. *Microbiome* 9, 36<https://doi.org/10.1186/s40168-020-00987-7>
- Grigsby, A.*[#]; Kelly, B*[#]; Sanscrainte, ND; Becnel, JJ; and **Short, SM.** 2020. Propagation of the microsporidian parasite *Edhazardia aedis* in *Aedes aegypti* mosquitoes. *Journal of Visualized Experiments*. (162), e61574, doi:10.3791/61574. *Co-first author, [#]Undergraduate mentee.
- Mancini, M.V.*; Damiani, C.*; **Short, S.M.***; Cappelli, A.; Ulissi, U.; Capone, A.; Serrao, A.; Rossi, P.; Amici, A.; Kalogris, C.; Dimopoulos, G.; Ricci, I.; Favia, G. 2020. Inhibition of *Asaia* in Adult Mosquitoes Causes Male-Specific Mortality and Diverse Transcriptome Changes. *Pathogens*, 9, 380
*Co-first Author

- J. Carlson, **S. M. Short**, Y. Angleró-Rodríguez, and G. Dimopoulos. 2019. Larval exposure to bacteria modulates arbovirus infection and immune gene expression in adult *Aedes aegypti*. *Dev Comp Immunol*, 104, 103540. doi:10.1016/j.dci.2019.103540
- Megan E. Meuti and **Sarah M. Short**. 2019. Physiological and Environmental Factors Affecting the Composition of the Ejaculate in Mosquitoes and Other Insects. *Insects* 10:74. <https://doi.org/10.3390/insects10030074>.
- **S. M. Short**, S. van Tol, B. Smith, Y. Dong, G. Dimopoulos. 2018. The mosquito adulticidal *Chromobacterium* sp. Panama causes transgenerational impacts on fitness parameters and elicits xenobiotic gene responses. *Parasites and Vectors* 11:229.
- **S. M. Short**, S. van Tol, H.J. MacLeod, G. Dimopoulos. 2018. Hydrogen cyanide produced by the soil bacterium *Chromobacterium* sp. Panama contributes to mortality in *Anopheles gambiae* mosquito larvae. *Scientific Reports* 8:1: 8358.
- **S.M. Short**, E.F. Mongodin, H.J. MacLeod, O.A.C. Talyuli, G. Dimopoulos. 2017. Amino acid metabolic signaling influences *Aedes aegypti* midgut microbiome variability. *PLoS Negl Trop Dis* 11(7): e0005677. <https://doi.org/10.1371/journal.pntd.0005677>
- J. L. Ramirez*, **S. M. Short***, A. Bahia, R. Saraiva, Y. Dong, S. Kang, A. Tripathi, G. Mlambo and G. Dimopoulos. 2014. *Chromobacterium Csp_P* reduces malaria and dengue infection in vector mosquitoes and has entomopathogenic and *in vitro* anti-pathogen activities. *PLoS Pathogens* 10(10): e1004398. ***Co-first author**
- **S.M. Short** and B.P. Lazzaro. 2013. Reproductive status alters transcriptomic response to infection in female *Drosophila melanogaster*. *Genes|Genomes|Genetics* 3:827-840.
- M. L. del Campo, R. Halitschke, **S.M. Short**, B.P. Lazzaro and A. Kessler. 2013. Dietary plant phenolic mediates tolerance to bacterial infection in *Manduca sexta* caterpillars. *Entomologia Experimentalis et Applicata*, 146:321-331.
- **S.M. Short**, M.F. Wolfner and B.P. Lazzaro. 2012. Female *Drosophila melanogaster* suffer reduced defense against infection due to seminal fluid components. *J. Insect Physiol.*, 58:1192-1201.
- **S.M. Short** and B.P. Lazzaro. 2010. Female and male genetic contributions to post-mating immune defence in female *Drosophila melanogaster*. *Proceedings of the Royal Society B*, 277:3649-3657.
- **S.M. Short**, B.J. Yoder, S.M. Tarr, N.L. Prescott, S. Laniauskas, K. Coleman, E. Downs-Kelly, J. Pettay, T.K. Choueiri, J.P. Crowe, R.R. Tubbs, G.T. Budd, D.G. Hicks. 2007. The expression of the cytoskeletal focal adhesion protein paxillin in breast cancer correlates with HER2 over-expression and may help predict response to cytotoxic chemotherapy. *The Breast Journal*, 13(2):130-139.
- D.G. Hicks, B.J. Yoder, **S.M. Short**, S.M. Tarr, N. Prescott, J. P. Crowe, A. E. Dawson, G. T. Budd, S. Sizemore, M. Cicek, T. K. Choueiri, R. R. Tubbs, D. Gaile, N. Nowak, M. A. Accavitti-Loper, A. R. Frost, D. R. Welch, and G. Casey. 2006. Loss of Breast Cancer Metastasis Suppressor 1 Protein Expression Predicts Reduced Disease-Free Survival in Subsets of Breast Cancer Patients. *Clin Cancer Res*, 12: 6702-6708.

- D.G. Hicks, **S.M. Short**, N.L. Prescott, S.M. Tarr, K.A. Coleman, B.J. Yoder, J.P. Crowe, T.K. Choueiri, A.E. Dawson, J. Pettay, G.T. Budd, R.R. Tubbs, G. Casey, R.J. Weil. 2006. Breast cancers with brain metastases are more likely to be estrogen receptor negative, express the basal cytokeratin CK5/6 and overexpress HER2 or EGFR. *Am J Surg Pathol*, 30:1097-1104.

Book Chapters:

B. Blumberg, **S.M. Short**, G. Dimopoulos. Employing the mosquito microbiome for disease control. *Genetic Control of Malaria and Dengue*, ed. Z.N. Adelman, 2015.

Current Funding:

- | | |
|-------------------|--|
| 12/2022 – 12/2023 | The effect of the microbiota on male <i>Aedes aegypti</i> life history traits.
PI: Sarah M. Short
R21 Exploratory/Developmental Research Grant Award.
National Institutes of Health, National Institute of Allergy and Infectious Disease.
\$433,125 |
| 4/2022 – 4/2023 | What lies beneath: Using microsporidian parasites to control mosquito breeding in stormwater catch basins.
PI: Sarah M. Short
Co-I: Ryan Winston; Risa Pesapane
OSU President’s Research Excellence Program, Accelerator Grant.
\$50,000 |
| 3/2021-2/2023 | Protecting Public Health through Vector Control and Stormwater Treatment: Locating Vulnerabilities in Stormwater Infrastructure that Support Mosquito Reproduction
PI: Ryan Winston
Co-I: Sarah M. Short
OSU CFAES Internal Grants Program
\$49,980 |

Completed Funding and Fellowships:

- | | |
|------------------|---|
| 4/2019-4/2020 | Bugs without bugs: using germ-free mosquitoes to investigate the interplay between nutrition, the microbiome, and dengue infection in <i>Aedes aegypti</i> mosquitoes.
PI: Sarah Short
Infectious Diseases Institute Interdisciplinary Research SEED Grant.
\$25,000 |
| 2014 – 2017 | Analysis of molecular factors influencing variability of mosquito gut microbiota
P.I. Sarah Short
Ruth L. Kirschstein National Research Service Award
\$171,226 |
| 2008 – 2011 | Ford Foundation Pre-doctoral Diversity Fellowship
Three-year fellowship covering full stipend and tuition. |
| 2009, 2011, 2012 | Cornell University Graduate School Conference Travel Grant |

2006 – 2007	Cornell University Presidential Life Sciences Fellowship One year fellowship covering full stipend and tuition
2006	Indiana Metabolomics and Cytomics Initiative Award (declined)

Honors and Awards:

2023	OSU CFAES Distinguished Early Career Extension Faculty Award
2016	Johns Hopkins School of Public Health Student Assembly Postdoctoral Recognition Award
2015	Young Investigator Award, American Society of Tropical Medicine and Hygiene
2009	Royal Entomological Society National Science Meeting, First place poster presentation
2007	Rita and Joe Calvo Teaching Award

Teaching Experience:

Instructor	2022	ENTMLGY 5605 Vector Biology and Vector borne disease, The Ohio State University ENTMLGY 8998 Research in Entomology PhD Pre-Candidacy, The Ohio State University ENTMLGY 4999H Honors Research with Distinction, The Ohio State University ENTMLGY 4999 Research with Distinction, The Ohio State University ENTMLGY 4998 Undergraduate Research in Entomology, The Ohio State University	
	2021	ENTMLGY 5605 Vector Biology and Vector borne disease, The Ohio State University ENTMLGY 8998 Research in Entomology PhD Pre-Candidacy, The Ohio State University ENTMLGY 4999H Honors Research with Distinction, The Ohio State University ENTMLGY 4999 Research with Distinction, The Ohio State University ENTMLGY 4998 Undergraduate Research in Entomology, The Ohio State University	
	2020	ENTMLGY 5605 Vector Biology and Vector borne disease, The Ohio State University ENTMLGY 7890 Special Topics in Entomology, The Ohio State University ENTMLGY 8999 Research in Entomology, The Ohio State University ENTMLGY 4999 Research with Distinction, The Ohio State University	
	2019	ENTMLGY 5605 Vector Biology and Vector borne disease, The Ohio State University ENTMLGY 8999 Research in Entomology, The Ohio State University	
	2015	Vector Biology and Vector-Borne Diseases, Johns Hopkins Bloomberg School of Public Health	
	2014	Medical Entomology, University of Puerto Rico, Medical Sciences Campus	
	Contributor	2022	ENTMLGY 2400H Evaluating Evidence in Biology and Medicine (Topic: Climate change and vector borne disease)

- Climate Change in the Clinical Context Advance Competency Elective (Topic: Vector borne disease and climate change”).
- BIOMSCI 4810H Immunology and Infectious Disease (Topic: "Arthropod Vectors of Infectious Disease")
- 2021 ENTMLGY 6310 Insect Physiology and Molecular Biology (Topic: “Insect Immunity”)
- BIOMSCI 4810H Immunology and Infectious Disease (Topic: "Arthropod Vectors of Infectious Disease")
- 2020 ENTMLGY 5800 Pesticide Science (Topic:Pesticides in Public Health Programs)
- The Infectious Diseases Student Community of Practice & Engagement. (Topic: Tick borne disease)
- ENTMLGY 4000 General Entomology (Topic: Arthropod Vectors of Infectious Disease)
- BIOMSCI 4810H Immunology and Infectious Disease (Topic: Arthropod Vectors of Infectious Disease)
- ENTMLGY 1101 Insect Biology (Topic: Introduction to Vector Borne Disease)
- VPM 8700 Molecular Epidemiology of Infectious Disease (Topic: Evolutionary Genetics of Arboviruses)
- 2019 BIOMSCI 4810H Immunology and Infectious Disease (Topic: Arthropod Vectors of Infectious Disease)
- ENTMLGY 7930 Grant Writing (Topic: Grant writing for major funding agencies, Panel discussion)
- VPM 8700 Molecular Epidemiology of Infectious Disease (Topic: Evolutionary Genetics of Arboviruses)
- ENTMLGY 1101 Insect Biology (Topic: Introduction to Vector Borne Disease)
- ENTMLGY 4607 Veterinary Entomology (Topic: Lyme Disease)
- 2018 ENTMLGY 6410 Insect Ecology and Evolutionary Processes (Topic: Ecology of Disease Vectoring Insects)
- 2016 Vector Biology and Vector-Borne Diseases, Johns Hopkins Bloomberg School of Public Health (Topic: Arthropod-borne viruses)
- 2014 The Summer Institute in Tropical Medicine and Public Health, Johns Hopkins (Topics: Introduction to insects vectors, basic theory of vector biology, vector ecology and control)
- 2013 Molecular Entomology, Johns Hopkins (Topic: Microbiota of insect vectors)
- 2011 Sex, Genes and Evolution, Cornell University (Topic: Sexual selection and immunity)
- Teaching Assistant 2008 Genetics, Cornell University
- 2007 Human Genetics and Society, Cornell University

Invited Research Presentations:

- 2022 Short, S.M. Entomological Society of America. Emerging Models of Insect Microbiomes Symposium. Vancouver, Canada.
- 2021 Short, S.M. Entomology Colloquium. University of Illinois Urbana Champagne, United States.
- 2020 Short, S.M., H.J. MacLeod, C. DeZse, G. Dimopoulos. Entomological Society of America. Mosquito-Microbe Interactions Symposium. Virtual conference, United States.
Short, S.M. IDI Ecology, Epidemiology, and Population Health Seminar. Columbus, OH
- 2019 IDI Virus-Host Seminar. Ohio State University, Columbus, OH.
Howard University Ecology and Evolutionary Biology Symposium. Washington, D.C.
- 2018 Ohio Mosquito and Vector Control Association, Columbus OH
The Vector Encounter, Johns Hopkins Malaria Research Institute, Baltimore, MD
- 2017 The Ohio State University, Department of Entomology, Columbus, OH
Virginia Tech, Department of Biochemistry, Blacksburg, VA
- 2016 Oberlin College, Department of Biology, Oberlin, OH
International Congress of Entomology, Orlando, FL
University of Georgia, Department of Entomology, Athens, GA
Emory University, Population Biology, Ecology and Evolution Graduate Program, Atlanta, GA
- 2015 National Evolutionary Synthesis Center Catalysis meeting: Ecological Immunology Applied to Vector Biology and Vector-Borne Diseases, Durham, NC
Johns Hopkins Bloomberg School of Public Health, Malaria Interest Group, Baltimore, MD
- 2013 NIAID-sponsored workshop: Effect of Vector innate Immunity and Human-Derived Immune Molecules on the Transmission of Vector-Borne Pathogens, Washington DC
- 2012 Yale School of Public Health, Department of Epidemiology of Microbial Diseases, New Haven, CT

Research presentations (*Presenting author):

- Magistrado, D.*; **Short, S.M.** (2022). *Immune defense and the unfolded protein response in Aedes aegypti mosquitoes*. Entomological Society of America.
- Martinez, L.E.*; Lado, P.; Klompen, H.; Pesapane, R.; **Short, S.M.** (2022). *Microbiome of Amblyomma americanum reflects known westward expansion*. Entomological Society of America.
- Kelly, B.J.*; Magistrado, D.; **Short, S.M.** (2022). *Functional analysis of the effects of mating on Aedes aegypti female immunity*. Entomological Society of America.
- Winston, R*.; Radl, J; **Short, S.M.**; Tirpak, A. (2022). *Are Wetlands, Wet Ponds, and “Dry” Ponds the Mosquito Nirvana?!: Improving SCM Design to Reduce Mosquito Habitat*. ASCE Operation and Maintenance of Stormwater Control Measures Conference.
- Martinez, L.E.*; Lado, P.; Klompen, H.; Pesapane, R.; **Short, S.M.** (2021). *Variation in compositional profiles of Amblyomma Americanum microbiota driven by sex and range*. American Society of Tropical Medicine and Hygiene.
- Magistrado, D.*; Meghawry, N.; **Short, S.M.** (2021). *Nutrition impacts tolerance and resistance to bacterial infection in Aedes aegypti mosquitoes*. Entomological Society of America.

- Magistrado, D.*; Meghawry, N.; **Short, S.M.** (2021). *Diet modulates resistance and tolerance to bacterial infection in Aedes aegypti*. American Society of Tropical Medicine & Hygiene.
- Radl, J.*; Martinez-Villegas, L.; Tirpak, A.; Winston, R.; **Short, S.M.** (2021). *Mosquito diversity in stormwater ponds and constructed wetlands*. Entomological Society of America.
- Magistrado, D.*; Meghawry, N.; **Short, S.M.** (2021). *Effect of Nutrition on Tolerance to Infection in Aedes aegypti mosquitoes*. Entomological Society of America North Central Branch.
- Kelly, B.J.*; **Short, S.M.** (2021). *Assessing the impact of reproductive stress on the immunity of female Aedes aegypti mosquitoes*. Entomological Society of America.
- J. Radl*, D. Wetmore, A. Tirpak, R. Winston, **S.M. Short**. (2020) Entomological Society of America, National Meeting, Virtual. Poster presentation.
- H.J. MacLeod, G. Dimopoulos, **S.M. Short***. (2019) Oral presentation: Entomological Society of America, National Meeting, St. Louis, MO
- H.J. MacLeod, G. Dimopoulos, **S.M. Short***. (2019) Oral presentation: Entomological Society of America, North-Central Branch Meeting, Cincinnati, OH
- **S.M. Short***, H.J. MacLeod, G. Dimopoulos. (2018) American Society of Tropical Medicine and Hygiene, New Orleans, LA. Poster presentation.
- **S.M. Short***. (2019) OARDC Mosquito Research Conference, Wooster, OH. Oral presentation.
- **S.M. Short***, S. van Tol, H.J. MacLeod, Emmanuel Mongodin, G. Dimopoulos. (2017) American Society of Tropical Medicine and Hygiene, Baltimore MD. Poster presentation.
- **S.M. Short***, Octavio C. Talyuli, and G. Dimopoulos. (2015) American Society of Tropical Medicine and Hygiene, Philadelphia PA. Oral presentation.
- **S.M. Short**, (2015) Keystone Symposia Conference, The Arthropod Vector: The Controller of Transmission in Taos, NM. Oral presentation.
- **S.M. Short*** and G. Dimopoulos. (2015) The Future of Malaria Research: A Young Scientists' Meeting, Rockville, MD. Poster presentation.
- **S.M. Short*** and G. Dimopoulos. (2014) Keystone Symposia Conference, Mechanisms and Consequences of Invertebrate-Microbe Interactions in Tahoe City, CA. Poster presentation.
- **S.M. Short*** and G. Dimopoulos. (2014) Baltimore-Washington Johns Hopkins Malaria Research Institute Symposium: Microbe-based malaria control, Rockville, MD. Poster presentation.
- **S.M. Short*** and G. Dimopoulos. (2013) 62nd Annual meeting of the American Society of Tropical Medicine and Hygiene in Washington D.C. Poster presentation.
- **S.M. Short***, M.F. Wolfner and B.P. Lazzaro. (2012) 53rd annual Drosophila Research Conference, Chicago, IL. Poster presentation.
- **S.M. Short***, M.F. Wolfner and B.P. Lazzaro. (2011) 52nd annual Drosophila Research Conference, San Diego, CA. Oral presentation.
- **S.M. Short*** and B.P. Lazzaro. (2010) 8th annual Ecology and Evolution of Infectious Disease meeting. Ithaca, NY. Poster presentation.
- **S.M. Short*** and B.P. Lazzaro. (2010) 35th Annual Ecology and Evolutionary Biology Graduate Student Symposium, Ithaca, NY. Oral presentation.
- **S.M. Short*** and B.P. Lazzaro. (2010) 51st annual Drosophila Research Conference, Washington, D.C. Poster presentation.
- **S.M. Short***, M.F. Wolfner and B.P. Lazzaro. (2010) Royal Entomological Society National Science Meeting at Sheffield University. Poster presentation. First place student poster award.

- **S.M. Short*** and B.P. Lazzaro. (2009) Conference of Ford Fellows, Irvine, CA. Oral presentation.
- **S.M. Short*** and B.P. Lazzaro. (2008) 49th annual Drosophila Research Conference, San Diego, CA. Poster presentation.

Outreach, Extension, and Broader Impacts:

Summary: My main outreach and extension focus is on vector borne disease prevention. This has involved the creation and curation of a website for Ohioans about vector borne disease (the BITE site: u.osu.edu/bite), the development of new outreach materials (tick ID cards, hands-on tick removal demonstration stations), and organization of and participation in educational engagements and events for researchers, stakeholders, and the general public.

- Ongoing Lead organizer: Ohio Regional Tick Symposium
- 2022 • Panel member: Environmental and health scientists bite back! Managing tick and mosquito-bite-based diseases in Ohio and beyond. Environmental Professionals Network Breakfast Program
- OSU Extension short video segment “How to safely remove a Tick”
<https://www.youtube.com/watch?v=jrJDNB6eN18>
- Mosquito safety Extension Today with NBC 4 WCMH-TV informational news segment for Daytime Columbus.
<https://www.youtube.com/watch?v=3vnkxOdmKqQ>
- Organizer and Participant: Tick Tock, Tick Talk. COSI Science Festival
- Lecture: Update on Ticks: 2022; Wayne State Forest Employee safety meeting
- 2021 Organizer and Participant: Strategic planning meeting between OSU, Ohio Department of Health, Franklin County Public Health, Division of Wildlife, and Ohio Department of Agriculture to discuss coordinated action on ticks and tick borne disease in Ohio.
- 2021 Virtual presentation: Ticks and Tick Safety in Ohio. OSU West Fest.
- 2020 Lecture: Lyme and West Nile: Arthropod-borne disease in Ohio. Lake County Master Gardener’s Workshop.
- 2020 News article: Tick Smart: Prevention is Key, The Daily Record Wooster, OH.
- 2020 Organizer and participant: Tiny Troublemakers. A Bug's World, OARDC
- 2020 Organizer and Participant: Tick Tock, Tick Talk. COSI Virtual Science Festival
- 2020 Lecture: Ticks and Lyme disease. Ecology on Tap: Disease and Vector Biology
- 2019 Tick ID card: Updated and redesigned the tick identification card available through OSU Extension Publications: <https://extensionpubs.osu.edu/tick-id-card-set-of-25/>
- 2019 Organizer and Participant: Tick Tock, Tick Talk. COSI Science Festival
- 2019 Organizer and participant: Tiny Troublemakers. A Bug's World, OARDC
- 2019 Lecture, Lyme and West Nile: Understanding the Disease Vectors; Protecting Yourself in the Outdoors. Insect University, OSU Entomology Department
- 2018 Lecture on Vector Borne Disease at the Association of Ohio Health Commissioners

- 2016 Instructor, Baltimore Underground Science Space, Baltimore MD
Baltimore Underground Science Space gives the general public the opportunity to learn about science and conduct scientific research.
- 2016 Participant, Project Bridge, Baltimore MD.
Presented science demonstrations to the general public at the local farmer's market.
- 2014 Organizer, *Speak out for Science!*, Washington D.C.
Met with congressional representatives to appeal for increased government funding for research.
- 2009-2012 Conference co-chair, Expanding Your Horizons, Cornell University.
Expanding Your Horizons is a one-day conference aimed at encouraging 7th-9th grade girls to pursue interests in science, math and engineering-related areas of study.
2007-2009: Diversity Chair
- 2011 Organizer and Instructor, College Enhancement Program, MacCormick Secure Center, Brooktondale NY.
I helped develop an educational program for juvenile offenders focused on science and logical reasoning in everyday life.
- 2007-2011 Participant and exhibit organizer, Insectapalooza, Cornell University.
Insectapalooza is an insect-themed event where members of the community can learn about diverse areas of entomology.

Professional Service:

- 2023 Ad hoc Grant Reviewer, NIH NIAID Zoonotic and Vector Borne Disease study section
- 2022 Judge, Student Ten-minute Paper Competition, Entomological Society of America.
- 2022 Committee Member, Midwest Microbiome Symposium Planning Committee
- 2021 Panelist, American Committee on Arthropod-Borne and Zoonotic Viruses/American Committee of Medical Entomology Speed Networking Session
- 2021 Member, OSU CFAES Fellowship Review Committee
- 2020 Grant Reviewer. Ad hoc grant review panel participant for OSU Infectious Disease Institute Interdisciplinary Research SEED grant.
- 2020 Grant Reviewer. Ad hoc grant reviewer for OSU CFAES Internal Grants Program.
- 2019 Moderator, North-Central Branch M.S. Student Ten-minute Paper Competition, Entomological Society of America.
- 2019 Grant Reviewer. Ad hoc grant reviewer for Welcome Trust.
- 2018-pres Member, OSU CFAES Teaching and Learning Symposium Planning Committee
- 2018 Grant Reviewer. Ad hoc grant review panel participant for OSU Infectious Disease Institute Interdisciplinary Research SEED grant.
- 2015-2018 Organizer, Johns Hopkins School of Public Health Postdoctoral Committee.
- 2015 Organizer, Postdoctoral Summer Forum, Johns Hopkins Department of Molecular Microbiology and Immunology.
- 2015-2018 Organizer, Molecular Microbiology and Immunology Postdoctoral Fellow's Group.
- 2013-2016 Johns Hopkins Postdoctoral Association Policy and Advocacy Committee.
- 2012-present *Ad hoc* peer reviewer: Insect Molecular Biology (2022), PNAS (2021), FEMS Microbial Ecology (2020), Frontiers in Microbiology (2020), Ecosphere (2020),

Scientific Reports (2020), Parasites and Vectors (2019) PLoS Pathogens (2018, 2019), Insect Biochemistry and Molecular Biology (2018, 2020), Genetics (2016), Journal of Medical Entomology (2016), PLoS One (6x 2012-2016), Evolutionary Ecology Research (2010), FEBS Letters (2010).

Pedagogical Training:

2021	Culturally Responsive Mentoring for Underrepresented Minorities in CFAES Program
2020	Participant, CFAES Teaching and Learning Symposium
2014	Service Learning: Implementing Service-Learning in the Stem Disciplines conducted by the Center for the Integration of Research, Teaching and Learning.
2013-2014	Johns Hopkins Preparing Future Faculty Teaching Academy Fellow
2014	<i>Institute for Excellence in Education Summer Teaching Camp</i> , Johns Hopkins School of Medicine.
2013	<i>Eyes on Teaching Workshop</i> conducted by the Johns Hopkins Center for Educational Resources.

Professional Training:

2015	Prokaryotic Comparative Genomics Workshop, Institute for Genome Sciences University of Maryland School of Medicine.
2014	Research Leadership Course, Johns Hopkins Medical Institutions Professional Development Office.

Professional society memberships:

2018-present	The Entomological Society of America
2013-present	The American Society for Tropical Medicine and Hygiene.
2015-2018	National Postdoctoral Association
2008-2013, 2015	Genetics Society of America