

# 2025 Vector Biology Boot Camp



## **Program Instructors**



### Cornell University - College of Agriculture and Life Sciences

Lindsay Baxter, MS, is a Research Support Specialist in the Department of Entomology at Cornell University, and the Program Coordinator for the Northeast Regional Center for Excellence in Vector-Borne Diseases Pesticide Resistance Monitoring Program. Baxter earned a Bachelor of Science in Mico and Molecular Biology from Portland State University in 2012, and a Master of Science in Entomology from Cornell University in 2021. Prior to entering her current role, Baxter worked as a Research Technician in the Harrington Lab at Cornell University, with responsibilities centered on mosquito rearing and colony maintenance, and implementation of research protocols focused on mosquito mating and pesticide resistance monitoring. Her current efforts focus on resistance bioassays to detect pesticide resistance in mosquitoes of public health importance in the Northeast USA, as well as field efficacy trials for approaches to mosquito control.

Laura Harrington, PhD, is a Professor of Entomology at Cornell University and Director of the Northeast Regional Center for Excellence in Vector-Borne Diseases. Her research focuses on the biology, ecology and behavior of mosquitoes that transmit human diseases. Current research projects in her laboratory address the blood feeding and mating behavior of mosquito vectors of dengue fever, Zika, Chikungunya, West Nile virus and malaria. She also studies human and animal-mosquito interactions and the role of climate change and globalization on emerging vector borne diseases. Professor Harrington has published more than 80 peer-reviewed articles and 3 scientific book chapters; many of these have focused on the biology and behavior of *Aedes* disease vectors. Her research has been supported by funding from the National Institutes of Health, Gates foundation, USDA and Centers for Disease Control. She earned a PhD in Entomology in 1999 from the University of Massachusetts and completed Postdoctoral training at the University of California at Davis.

Emily Mader, MPH MPP, is the Program Manager for the Northeast Regional Center for Excellence in Vector-Borne Diseases and Extension Associate in the Cornell Department of Entomology. Emily earned her Master of Public Health and Master of Public Policy degrees from the University of Utah in 2013. She is a public health researcher trained in quantitative and qualitative research methods, with specialization in program management and evaluation, strategic planning, and survey research methods. In addition to her role in NEVBD program management, Emily regularly contributes to the development and implementation of NEVBD community of practice and training objectives designed to bolster the public health infrastructure and workforce capacity surrounding vector-borne disease prevention and control. Prior to joining Cornell University, Emily worked in chronic disease prevention and quality of care in the primary care setting.

Elisabeth Martin, is a Technician in the Harrington Lab at the Cornell University Department of Entomology. She provides direct support for the NEVBD Pesticide Resistance Monitoring Program, including conducting pesticide resistance bioassays and maintaining multiple mosquito colonies. Martin is interested in research-backed solutions for public health problems. She earned a Bachelor of Science in Biochemistry from Binghamton University in 2015.



# Cornell University - College of Veterinary Medicine

Amelia Greiner Safi, PhD, is an Associate Professor of Practice in the Department of Public and Ecosystem Health at Cornell University. She is social and behavioral scientist with expertise in multilevel influences on health, strategic public health communication, health disparities, and intervention planning. A common thread in her work is translational work – linking research to practice and policy. For the past 15 years, Dr. Safi participated in and led collaborative, multidisciplinary, and engaged research. She has often served as a bridge across disciplines, professions to find common interests in order to advance health and environmental outcomes. Much of this work has a health disparities, vulnerability or equity focus. She earned her doctoral degree from the Johns Hopkins Bloomberg School of Public Health.



#### Connecticut Agricultural Experiment Station

Megan Linske, PhD, is an Agricultural Assistant Scientist II in the Department of Entomology at the Connecticut Agricultural Experiment Station. Megan's areas of research include, but are not limited to monitoring tick abundances, tick testing for human pathogens, climate impacts on established and emerging tick populations, assessing temperature-dependent physiological responses in overwintering ticks, and implementing and assessing the efficacy of available tick control strategies while also developing and applying novel, innovative control strategies for ticks and tick-borne diseases. Her thorough working knowledge of such factors can aid in the prediction of outbreaks of ticks and tick-borne diseases as well as aid in the efficiency of current and future tick control strategies. She earned her doctoral degree from the University of Connecticut in Natural Resources and the Environment.

John Shepard, MS, is an Assistant Scientist with the Connecticut Agricultural Experiment Station where he participates in the Connecticut Mosquito and Arbovirus Surveillance Program, including coordinating trapping of mosquitoes, overseeing identification, and submission of mosquitoes for arbovirus testing. John has expertise in the identification of larval and adult mosquitoes in the northeastern U.S., mosquito biology, and the ecology/epidemiology of arboviruses in the northeastern U.S., particularly West Nile virus and Eastern Equine Encephalitis. His research interests include the biology and ecology/epidemiology of mosquitoes and mosquito-borne diseases in the northeast, phylogenetic relationships of mosquitoes based on genetic sequences, the identification of mosquitoes using molecular-based techniques. John earned a Master of Science in Biology at Southern Connecticut State University in 2005.



## Centers for Disease Control and Prevention, Division of Vector-Borne Diseases

James Burtis, PhD, is a Biologist at the Centers for Disease Control and Prevention Division of Vector-Borne Diseases. Burtis earned both a Master of Science and PhD in Natural Resources Conservation and Research from Cornell University. He has expertise in tick ecology and behavior, tick management practices, as well as mechanisms for pesticide resistance development in mosquitoes. As a postdoctoral associate at Cornell University, he instituted the NEVBD Pesticide Resistance Monitoring Program. In his current work, he supports efforts to evaluate efficacy of tick management strategies and approaches and provides technical guidance and expertise on tick surveillance, control, biology and behavior.



### Cayuga Health System

Eli Finkelsztein, MD, is an infectious disease physician affiliated with Cayuga Health System in Ithaca, NY, and serves as a Tuberculosis Consultant for the Tompkins County Department of Health, and is a teaching attending in the Cayuga Health internal medicine residency program. Dr. Finkelsztein is originally from Bogota, Colombia, where he obtained his medical degree from the Universidad de los Andes. While in medical school he became interested in infectious diseases by conducting research on Chagas disease. After graduation, he moved to the United States to work as a research associate in Weill Cornell Medicine, studying novel biomarkers and the pathophysiology of sepsis.



### **Hunterdon County Mosquito & Vector Control**

**Tadhgh Rainey, MS**, is Entomologist and Program Coordinator for the Hunterdon County Mosquito and Vector Control Program. Tadhgh Rainey received his Master of Science degree in entomology from Rutgers University in New Jersey. Since 2000, he has served as the director of the Hunterdon County Mosquito & Vector Control program, focusing on surveillance and control of mosquitoes, black flies and ticks. Tadhgh is a licensed health officer and commercial pesticide applicator in the State of New Jersey. In this capacity he interacts with residents on a variety of public health and insect related topics.



### Pennsylvania Department of Environmental Protection

Christian Boyer, is the Manager of the Tick Surveillance and Testing Program for the Pennsylvania Department of Environmental Protection (PA-DEP) Division of Vector Management. He also serves as the President of the Pennsylvania Vector Control Association. Boyer earned a Bachelor of Science in Biology from Messiah College in 2002. After graduation he joined the West Nile virus program in Union County, PA, and joined the PA-DEP in 2006 as a Water Pollution Biologist and West Nile virus program coordinator, where he worked until the PA-DEP initiated the statewide active tick surveillance program in 2018. Boyer has extensive experience in tick and mosquito surveillance, control, and pesticide application. Boyer has maintained pesticide applicator certification in Pennsylvania (ID 602439) for 22 years.

Keith Price, PhD, obtained a B.S. in biology from Jefferson University, M.S. in limnology from West Chester University, and Ph.D. in aquatic microbial ecology from Penn State University, where his dissertation work examined phosphorus uptake by algae in streams. After graduating from Penn State, he worked as an Aquatic Biologist for PA DEP Vector Management in the Black Fly Suppression Program where he researched relationships between diatom diversity and larval black fly diet. He joined DEP Bureau of Laboratories in 2014 where he worked on algal and cyanobacterial taxonomy and biomass. From 2017 to present he is working again in DEP Vector Management, this time in the Laboratory as a Microbiologist conducting arthropod-borne disease surveillance and Supervisor overseeing taxonomy and molecular biology operations.