

Program Instructors



MaineHealth Institute for Research – Lyme & Vector-Borne Disease Lab

Susan Elias, MS PhD, is a Staff Scientist at the Lyme & Vector-Borne Disease Laboratory at the MaineHealth Institute for Research. She completed her doctoral degree in Earth and Climate Science at the University of Maine. Her major research interests include ecology of tick and mosquito vectors and emergent vector-borne disease agents (such as *Borrelia*, *Babesia microti*, *Anaplasma phagocytophilum*, Powassan virus, eastern equine encephalitis virus) as related to climate, hosts, habitat, and human behavior; modeling environmental spatio-temporal disease risk using multivariate approaches; and disease risk communication through a One Health framework.

Charles Lubelczyk, MPH, is a Vector Ecologist at the Lyme & Vector-Borne Disease Laboratory at the MaineHealth Institute for Research. His work has focused on interactions between ticks and mosquitoes and their host and habitat requirements, as well as integrated pest management (IPM) approaches to reducing exposure to vector-borne diseases. He is currently working on projects relating to the surveillance of mosquito-borne viruses, like eastern equine encephalitis and Jamestown Canyon virus, in Maine and New Hampshire; the use of community-based strategies to control deer ticks on Maine's island communities; the role of migratory birds in the ecology of Lyme disease; and development of pesticide resistance in mosquito vectors.

Rebecca Robich, PhD, is a Staff Scientist at the Lyme & Vector-borne Disease Laboratory at the MaineHealth Institute for Research. She is interested in better understanding how changes in the natural environment impact the transmission of vector-borne diseases to humans. Recent research focuses on mapping the geographic distribution of Powassan virus in Maine, which is transmitted by the deer tick, *Ixodes scapularis*. Her work also aims to determine whether or not Powassan virus is associated with environmental habitat type, including wildlife and plant species composition. She also aims to understand how disease vectors such as ticks and mosquitoes survive the harsh environmental conditions associated with summer and winter, both at a molecular and ecological level.

Elizabeth Schneider, MPH, is a researcher at the MaineHealth Institute for Research Vector-borne Disease Lab. Her personal research interests focus on better understanding the environmental and ecological factors among disease vectors, hosts, and habitat through a One Health framework. She has worked on vector ecology studies focusing on arboviral surveillance, the emergence of tick- and mosquito- borne diseases on Maine's landscape, and insecticide resistance in mosquitoes.

Robert P. Smith, MD, is a board-certified infectious disease physician, Director of the Division of Infectious Diseases and MaineHealth Institute for Research and the Lyme and Vector-Borne Disease Laboratory, and Professor of Medicine at Tufts University School of Medicine. He has research interests in molecular epidemiology and ecology of emergent vector-borne diseases (Lyme, Babesia, Anaplasma, Powassan Virus, Eastern Equine Encephalitis Virus), as well as clinical recognition and diagnosis of emergent vector-borne diseases. Dr Smith has been recognized for over twenty consecutive years by Best Doctors in America and by America's Top Doctors. He has served as a physician panel member on the federal DHSS Tickborne Disease Working Group as well as on review committees for the CDC and the NIH. Dr. Smith graduated from Johns Hopkins Medical School and trained in infectious diseases at Boston's Beth Israel Deaconess Hospitals.



Maine Center for Disease Control and Prevention

Megan Porter, DVM, is a Public Health Educator at the Maine Center for Disease Control and Prevention. Megan has a strong background in vector surveillance techniques, particularly focused on tick surveillance and identification. She earned a Bachelor of Science in Zoology from Northern Michigan University in 2012, a Doctor of Veterinary Medicine from Michigan State University in 2017, and a Master of Science in Comparative Medicine and Integrative Biology from Michigan State University in 2019. Megan joined the Maine CDC in 2020 and serves as a tickborne disease educator for the state of Maine.



Cornell University – College of Agriculture and Life Sciences

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.



Connecticut Agricultural Experiment Station

Kirby Stafford, PhD, a medical-veterinary entomologist, is the former Chief Scientist (Head) of the Department of Entomology and State Entomologist. He retired in 2022, as an emeritus chief scientist after 35 years researching ticks, tick-borne diseases, and tick management strategies. His research program focused on the ecology, distribution, and control of the blacklegged tick, *Ixodes scapularis*, with a major focus on natural, biological, and integrated tick control. His field-oriented research has covered broad aspects of tick management including chemical control, biological control, natural products, diverse host-targeted methodologies, integrated tick management and more recently, studies on the lone star tick, *Amblyomma americanum*, a newly emerging tick species in Connecticut. He served on regional and national tick-related committees including the Federally chartered Tick-Borne Disease Working Group. He also has expertise in the biological control of fly pests of livestock and poultry pest management. He continues to work on several projects and manuscripts part-time.



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.



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.



Morris County Department of Public Works – Mosquito Control

Teresa Duckworth, BS, is the Assistant Superintendent of the Morris County (NJ) Department of Public Works, Division of Mosquito Control. She completed her Bachelor of Science degree at Rutgers University, majoring in natural resource management. She has worked in mosquito control for over 25 years, serving as Wetland Specialist and Senior Wetland Specialist prior to her current position. Duckworth currently serves as Past President of the New Jersey Mosquito Control Association.



New York State Department of Health – Wadsworth Arbovirus Laboratory

Elyse Banker, MS, is a laboratory Specialist with the Wadsworth Arbovirus Laboratory, which performs, surveillance, clinical testing, and research of arthropod-borne viruses (arboviruses). The lab studies mosquito and tick-borne agents including the flaviviruses West Nile virus, Zika virus, dengue virus, and Powassan virus, as well as alphaviruses, orthobunyaviruses, and thogotoviruses, among others. The unique facilities which comprise the Arbovirus lab allow for extensive experimentation in a range of natural invertebrate and vertebrate hosts. She completed a Master of Science in Forensic Molecular Biology from SUNY Albany in 2014.