

Innovative New Curriculum Combining **Vector Biology and Public Health**

supported through the
Northeast Regional Center for Excellence in Vector-Borne Diseases

Students enrolled in this two-year program receive interdisciplinary training in courses offered through the Medical and Veterinary Entomology Concentration in the College of Agriculture and Life Sciences, and the Master of Public Health Program in the College of Veterinary Medicine.

PROGRAM HIGHLIGHTS

- ◆ **Interact with leading experts** in the field across multiple academic, state & federal government, and public health institutions in the Northeast
- ◆ **Gain hands-on experience in the field** through a fully-funded 10-week summer internship with a Northeast regional partner
- ◆ **Experience an innovative curriculum** covering public health competencies, vector biology and ecology, and the most recent advances in vector control and disease prevention

A CAREER WITH IMPACT

Graduates will leave this program fully prepared to make an impact in the field of vector-borne disease and public health.

Our program provides a foundation from which graduates can immediately enter the workforce in a wide range of roles, including biologists and control specialists for vector control districts and agencies; program coordinators and managers for public health agencies and programs; and scientists working with agricultural and cooperative extension programs.



A student inspecting a woodland habitat for mosquito larvae



The Northeast Regional Center for Excellence in Vector-Borne Diseases (NEVBD) was established in 2016 as a collaborative group of experts from across the Northeast tasked with addressing the most pressing educational and applied research needs in vector-borne disease biology and public health for the US and our region.

The NEVBD is supported through Cooperative Agreement Number 1U01CK000509-01 between the Centers for Disease Control and Prevention and Cornell University.

PROGRAM STRUCTURE

- ◆ Students must complete 50 to 52 credits in required courses to graduate. Required courses include:
 - Introduction to Disease Vectors
 - Insect Biology
 - Public Health Foundations I & II
 - Epidemiology & Statistical Methods
 - Toxicology of Insects
 - Public Health Microbiology
 - Professional Development & Leadership



CDC/J. Gathany



- ◆ Required 10-week summer internship at federal, state, or local public health agency. Topical areas include:
 - Vector biology & modeling
 - Vector surveillance & control
 - Insecticide resistance
 - Big data management
 - Public health messaging & public perceptions
- ◆ Written, publication-quality thesis based in part on summer internship program, reviewed by faculty committee

PROGRAM COST & FUNDING

- ◆ Students will receive financial support from the NEVBD, covering:
 - Full tuition
 - Health insurance coverage
 - Academic-year and summer internship stipends
- ◆ Find additional resources on program requirements, course descriptions, and how to apply at:

<http://neregionalvectorcenter.com/ms-in-entomology>



A student measuring egg production by *Aedes* mosquitoes

Program graduates will have a solid understanding of the following Core Competencies:

- Arthropod biology, body plan, organ systems, physiology, infection biology, and immunity
- Arthropod behavior, host finding, and sensory systems
- Arthropod taxonomy skills, with a focus on the classification and diversity of disease vectors
- Disease-vector evolutionary relationships
- Current state of knowledge regarding insecticide resistance and methods for resistance monitoring
- Regulation of insecticides in the US and Northeast
- Vector-borne pathogens (viruses, bacteria, protozoa) of global and regional importance
- Practical experience with surveillance methods for vectors and pathogens
- Components of a rigorous experimental design and data analysis
- Utilize data to inform and disseminate appropriate public health communications
- Foundations of public health practice