



CDC Southeastern Center of Excellence in Vector Borne Diseases The Gateway Program

Newsletter

News and Updates

Publication spotlight

Published [online in Current Biology](#) "*Aedes aegypti* Mosquitoes Detect Acidic Volatiles Found in Human Odor Using the IR8a Pathway" is exciting new research out of the DeGennaro lab at Florida International University.

The authors summarized their new work by saying “mosquitoes use olfaction as a primary means of detecting their hosts. Previously, the functional ablation of a family of *Aedes aegypti* olfactory receptors, the odorant receptors (ORs), was not sufficient to reduce host seeking in the presence of carbon dioxide (CO₂). This suggests the olfactory receptors that remain, such as the ionotropic receptors (IRs), could play a significant role in host detection. To test this, we disrupted the *Ir8a* co-receptor in *Ae. aegypti* using CRISPR/Cas9. We found that *Ir8a* mutant female mosquitoes are not attracted to lactic acid, a behaviorally active component of human sweat, and they lack odor-evoked responses to acidic volatiles. The loss of *Ir8a* reduces mosquito attraction to humans and their odor. We show that the CO₂-detection pathway is necessary but not sufficient for IR8a to detect human odor. Our study reveals that the IR8a pathway is crucial for an anthropophilic vector mosquito to effectively seek hosts.”

This recent publication has been picked up by [NPR](#), The [New York Times](#), [Science News](#), and many other news outlets.

Dodd short course fellows

Another successful round of Dodd Short Courses wrapped up in February, hosted in at UF in Gainesville. We had a fantastic group of fellows who continue to show their enthusiasm and commitment to improving mosquito control across the Southeast. The Southeastern Center of Excellence in Vector Borne Disease was proud to support thirteen fellows in their attendance at this year's Dodd Short Courses!



L-R (Front): Rhoel Dinglasan (Director, CoE), Steve Keith, Aubrey Paulino (TX), Savannah Duke, Tamara Hamilton, Andrea Leal (President, FMCA), Aaron Lloyd (Co-Chair, Dodd), Dena Autry. L-R (Back): Olin Towery (SC), Daniel Blanton, Tom Moran, James Brock (SC), John Bruton (SC), Matt Newberg. Not pictured: Marissa Zaragosa, Van Adams (TX).

Summer Student Internships

We are excited to be able to support a variety of student internships this summer. Currently, positions are available at the [Tennessee Department of Health Vector-Borne Diseases Program](#) in Nashville, TN; the [Kentucky Department for Public Health](#) in Frankfort, KY; [Collier Mosquito Control District](#) in Naples, FL; and [Alabama Department of Public Health](#). Many of these opportunities had April 15th application deadlines but may remain open until filled. Check out our Job Board for more information!

Training opportunities

Mosquito Training Course for Pest Managers

Along with partners in the University of Florida's Institute of Food and Agricultural Sciences, we are thrilled to announce [an online course in mosquito training](#) for pest managers. This course can serve as an introduction to mosquitoes and mosquito control for employees in the urban pest management industry. Participants who complete the 11 modules in the course will learn to identify and understand the mosquitoes of major importance in the urban environment, their life cycles, the general methods of control, personal protective equipment required for safe insecticide application, and the laws and regulations governing mosquito control for the urban pest management industry. You can sign up for the course via the [Canvas Catalog](#).

Northeast Center of Excellence Integrated Tick Management Webinar Now Available

The [NEVBD](#) hosted a webinar in August 2018 covering key topics of integrated tick management. This webinar was converted into an online course carrying 1.25 credits under categories 3a, 3b, 7a

and 8 in New York State (ME, NH, VT, and CT award these credits as well) through a partnership with the [New York State Pesticide Management Education Program](#) (PMEP). The course is available for \$37.50 through PMEP's [Online Distance Learning Center](#).

Job Opportunities

In addition to the numerous Student Internships available this summer, we also have many new job opportunities available on our [Job Board](#)!

Tenure Track Vector Biologist

The National Institute of Allergy and Infectious Diseases (NIAID) Division of Intramural Research (DIR) is seeking an outstanding scientist for a tenure-track/tenure-eligible position to carry out independent research on vector biology and arthropod-borne bacterial pathogens in the Laboratory of Bacteriology (LB), located on NIAID's Rocky Mountain Laboratories (RML) campus in Hamilton, Montana. Completed applications will be reviewed starting April 25, 2019 and will be accepted until the position is filled. For additional information about the position, please contact Dr. Frank DeLeo, Chief, LB, at FDeLeo "at" niaid.nih.gov. More information can be found [here](#).

USAID Entomologists

USAID has contracted Social Solutions International to recruit and hire TWO entomologists. Social Solutions International, Inc. is a woman and minority-owned company. Social Solutions emphasizes quality research and evaluation, training and technical assistance, and institutional support services. We are a mission-driven organization that believes that superior science can improve the world. Social Solutions is dedicated to the creation of social and health solutions to improve the welfare of under-served populations worldwide. The positions are open until filled, more information and application instructions can be found [here](#).

NACCHO Vector Control Technical Assistant

The [Vector Control Technical Assistance Program](#) supported through NACCHO is designed to help local health departments improve mosquito surveillance and control. Technical assistance will focus on providing actionable steps for local health departments to build five primary competencies in mosquito control. [Applications for this program are now open, and will be accepted on a rolling basis until April 30, 2019.](#) Local health departments that wish to improve or implement a mosquito control program are eligible to apply. Health departments will be selected based on need and location.

Postgraduate Fellowships: Tick-borne Disease Laboratory, Army Public Health Center

The Tick-Borne Disease Laboratory (TBDL) at the Army Public Health Center (APHC), based in Edgewood, MD, is seeking to fill 2 full time paid post-graduate fellowship positions. The full time experience involves standardized testing of tick specimens using PCR in a Department of Defense (DOD) testing program. The fellowship offers valuable concrete experience in working under an associated A2LA accreditation, the APHC laboratory quality system, method development activity, and a laboratory information management system (LIMS). Tick identification, tick nucleic acid isolation, PCR screening, results reporting and data entry represent typical aspects of the fellowship opportunity. Positions will be filled as soon as possible, preferably before June 1, 2019. To learn more about this position and how to apply, visit the [NEVBD External Opportunities](#) page.