

THE 21ST ARBOVIRUS SURVEILLANCE AND MOSQUITO CONTROL WORKSHOP

**Organized by AMCD and Sponsored by
FMCA & Gulf South V.E.C.T.O.R.**

*AMCD's Complex at:
120 EOC Drive, St. Augustine, Florida, 32092*

MARCH 2nd – 6th, 2026

www.amcdsjc.org



**THE 21ST ARBOVIRUS SURVEILLANCE
AND MOSQUITO CONTROL WORKSHOP INCONJUNCTION WITH THE
FLORIDA MOSQUITO CONTROL ASSOCIATION FLY-IN CLASS**

Sponsored by AMCD, FMCA, & Gulf South V.E.C.T.O.R.

*Being held at AMCD's Complex at:
120 EOC Drive, St. Augustine, Florida, 32092*

MARCH 2nd – 6th, 2026

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PROGRAM AGENDA (tentative,1-9-26)

MONDAY, MARCH 2-3, 2026

**FLORIDA MOSQUITO CONTROL ASSOCIATION'S AERIAL WORKSHOP, HELICOPTER
HANGAR**

TUESDAY, MARCH 3, 2026

2:00 P.M. 4TH ANNUAL AMCD'S ADJUNCT/CONSULTING/COLLABORATING MEETING
(A.I. TECHNOLOGY, E-DNA, SIT/IIT, ATSB, NEW INSECTICIDES AND
REPELLENTS IN BOARD ROOM)

5:30 P.M. Group Dinner at Ruby Tuesday (sponsored by Clarke)

WEDNESDAY, MARCH 4, 2026

7:30 A.M. Registration at the Disease Vector Education Center/Building # 450 ... AMCD Staff.

*Welcome to a tour of the Disease Vector Education Center, SIT mass-rearing facility, and other
facilities during the workshop.*

Moderator: Dr. Rui-De Xue, Executive Director, AMCD, St. Augustine, FL

PANEL SESSION:

8:30 A.M. Welcome & Introduction ... **Ms. Gayle Gardner, Chairperson of AMCD Board of
Commissioners, and Dr. Peter Jiang, President of the FMCA**

8:40 A.M. **Keynote Speaker:** Keeping up with evolution and emergence of new arboviruses: An ongoing challenge
for mosquito control ... **Dr. John Glenn Morris, Professor, University of Florida/EPI. Gainesville,
FL**

9:10 A.M. **Keynote Speaker:** Opportunities and challenges of the sterile insect techniques (SIT) for the control of
Aedes mosquitoes and arboviral diseases ... **Dr. Florence Fougue, Senior Scientist, Switzerland,
Adjunct Entomologist, AMCD, St. Augustine, FL**

9:40 A.M. **Guest Speaker:** Predicting and Suppressing Dengue Transmission Risk: Ovitrap Surveillance

Coupled with Pyriproxyfen Autodissemination Targeting Cryptic Breeding Sites... **Dr. Neoh Kok Boon, Professor, Department of Entomology, National Chung Hsing University, Taiwan**

10:10 A.M. Break

Moderator: **DR. KENNETH LINTHICUM, ADJUNCT SENIOR VECTOR BIOLOGIST AT AMCD, RETIRED CENTER DIRECTOR, USDA/CMAVE, GAINESVILLE, FL**

10:30 A.M. The Impact of Permethrin Retreated Marine Corps Combat Utility Uniforms on Mosquito Host Seeking Behavior: **CDR James Harwood, Navy Entomology Liaison to the CDC, Entomology Branch, Atlanta, GA**

10:50 A.M. Overview of applied science technologies activities in Lee County Mosquito Control District ... **Dr. Jim Dunford, Research Director, Lee County Mosq Control District, Lehigh Acres, FL**

11:10 A.M. AI and citizen science solutions for next-generation mosquito surveillance ... **Dr. Ryan Carney, Associate Professor of Digital Science, National Geographic Explorer, Department of Integrative Biology, University of South Florida, Tampa, FL**

11:30 A.M. Update on the Gulf South V.E.C.T.O.R. program... **Dr. Claudia Riegel, Director, City of New Orleans Mosquito, Termite and Rodent Control Board, New Orleans, LA**

11:50 A.M. Update on programs of the Bureau of Entomology ... **Dr. Leroy Whilby, Bureau Chief, Dr. Bradley A. Danner (Presenter), Biological Administrator III/SES Coordinator, Division of Plant Industry, DACS, Gainesville, FL**

12:00 P.M. LUNCH BREAK (HELICOPTER HANGAR, *PROVIDED BY VESERIS & CENTRAL LIFE SCIENCE*)

PROGRAM SESSION:

MODERATOR: **Dr. Florence Fougue, Senior Scientist, Switzerland, Adjunct Entomologist, AMCD, St. Augustine, FL**

1:30 P.M. Enhancing arboviral Research and Surveillance Capability of West Africa countries to address growing arboviral disease threat: the role of West African *Aedes* Surveillance Network (WAASuN) ... **Dr. Samuel Dadzie, Associate Professor, Parasitology Department, Noguchi Memorial Institute for Med Res, University of Ghana, Accra, Ghana**

1:50 P.M. Characterizing Zoonotic Arbovirus Risk in Florida: An Integrated Analysis of Host-Feeding Patterns and Viral Circulation ... **Dr. Caleb Stica, Postdoctoral Associate, University of Florida, EPI, Gainesville, FL**

2:10 P.M. The Florida DACS mosquito control program update in 2025 ... **Ms. Marah Clark, Environmental Administrator, Entomology and Pest Control Section, DACS, Tallahassee, FL**

2:30 P.M. American Mosquito Control Association's update, 2025 ... **Mr. Robert Cartner, Director, Beaufort County Mosquito Control, Beaufort, SC. Regional Director, AMCA**

2:50 P.M. Evaluation of a new product of YEEO for control of mosquito larvae ... **Mr. Kevin Pope, CEO, YEEO Eco-Safe, Inc.**

3:10 P.M. Update on evaluation of CapGel arbovirus detection methods ... **Ms. Uvina Allen, Biotech, AMCD, St. Augustine, FL**

3:25 P.M. **Break**

Moderator: Dr. Uli Bernier, Adjunct Senior Chemist at AMCD, Retired National Program Leader from USDA/ARS

3:40 P.M. Evaluation of automated trapping tools to collect host-seeking Anopheline and Culicine mosquitoes as an alternative to human landing catch ... **Mr. Richard Paul B. Malijan, Department of Entomology, Faculty of Agriculture, Kasetsart University, Bangkok, Thailand**

4:00 P.M. Dispersal of *Aedes aegypti* in Urban Environments of Miami-Dade County, Florida ... **Dr. Hadian Sasmita, Postdoctoral Associate, University of Miami, FL**

4:20 P.M. The distribution of *Aedes aegypti* in Puerto Rico – 2025 update... **Jun Soo Bae, UF, Florida Medical Entomology Laboratory, Vero Beach, FL**

4:40 P.M. Developing a pipeline for novel mosquitocide discovery and development ... **Dr. Daniel R. Swale, Associate Professor, Department of Entomology, University of Florida, Gainesville, FL**

5:00 P.M. Nanoparticle formulations & mosquito control... **Mr. Kai Blore, AMCD Lab Manager/UF Ph.D. Student, St. Augustine, FL**

5:15 P.M. Overview of a naturcide for mosquito control ... **Mr. Greg Pettis, Vice President, Med-X, a leader in Green Solutions, Canoga Park, CA**

5:30 P.M. End of session

THURSDAY, MARCH 5, 2026

SURVEILLANCE OF DISEASE & VECTORS

Moderator: Dr. Michael Turell, Adjunct Senior Arbovirologist at AMCD. Retired Research Entomologist from the US Army Medical Research Institute of Infectious Diseases

8:30 A.M. 2025 Arbovirus activities in Florida ... **Dr. Rebecca Zimler, Vector-borne Disease Surveillance Coordinator, Bureau of Epidemiology, DOH, Tallahassee, FL**

8:50 A.M. *Aedes* Mosquito Dynamics Across Zika (2016) and Dengue (2020–2024) Outbreaks in Miami-Dade County. ... **Magic Vang, graduate student, University of Miami, FL**

9:10 A.M. How does concurrent ingestion of microfilariae and virus enhance virus transmission? ... **Dr. Michael Turell, Senior Arbovirologist (retired), US Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD**

9:30 A.M. Air, water and sediments: Detecting Florida's mosquitoes with environmental DNA surveillance, **Dr. Dave Duffy, UF/Whitney Laboratory, St. Augustine, FL**

9:50 A.M. Seasonal surveillance of Culicoides biting midges in Lee County ... **Ms. Barbie Bayer, Lee County Mosquito Control District, Lehigh Acres, FL**

10:10 A.M. BREAK

BIOLOGY & ECOLOGY SESSION:

Moderator: Dr. Yoosook Lee, Assistant Professor, University of Florida/FMEL, Vero Beach

10:30 A.M. Investigating *Anopheles squamosus*, an understudied malaria vector in sub-Saharan Africa ... **Valerie Nguyen, Postdoctoral Associate, UF, Florida Medical Entomology Laboratory, Vero Beach, FL**

10:50 A.M. The effect of artificial light on larvae and its carry-over in *Aedes aegypti* mosquitoes ... **Ms. Yi Ting Liu, Graduate Student, Department of Entomology, National Chung Hsing University, Taiwan**

11:10 A.M. Invasive mosquito surveillance in Lee County, Florida ... **Mr. Milton Sterling, Surveillance Manager, Lee County Mosquito Control District, Lehigh Acres, FL**

11:30 A.M. Toward Ecological Forecasting of Eastern Equine Encephalitis Virus ... **Dr. Lindsay Campbell, Assistant Professor, UF/IFAS/FMEL, Vero Beach, FL**

11:50 A.M. Surveillance of *Aedes* mosquito population in St. Johns County in 2025 ... **Mr. Steve Smoleroff, Field Biologist, AMCD, St. Augustine, FL**

12:05 P.M. LUNCH BREAK (HELICOPTER HANGAR, PROVIDED BY AMGUARD & AZELIS)

Moderator: Dr. Whitney Qualls, Assistant Director, AMCD, St. Augustine, FL

1:10 P.M. Dibrom C and Trumpet EC for aerial application efficacy ... **Mr. Derek Wright, Public Health, AMGUARD Environmental Technologies, Morrisville, NC**

1:20 P.M. Design, concept and preliminary evaluation of portable experiment hut tent (PEHT) for study of mosquito behavior ... **Dr. Louisa Messenger, Assistant Professor, University of Nevada, Las Vegas, NV**

1:40 P.M. Drone application for larvicides in St. Johns County, FL... **Mr. Morgan Duett, Assist Supervisor Anastasia Mosquito Control District, St. Augustine, FL**

1:55 P.M. Adoption of the agricultural used Drone for mosquito control application ... **Mr. Peter Brake, Sales Manager for Spray Drone/Ag Drone, South East, Frontier precision, Naples, FL**

2:15 P.M. 50 Gray of Rays: Optimizing Competitive *Aedes aegypti* for effective control ... **Ms. Oliva Sypes, AMCD Biotech & UF graduate student, St. Augustine, FL**

2:25 P.M. Arbovirus surveillance in St. Johns County in 2025 ... **Edwards Zeszutko, AMCD Biotech/UF graduate student, St. Augustine, FL**

2:35 P.M. Overview of AMCD applied research projects... **Dr. Joe DiClaro, Scientific Manager, AMCD, St. Augustine, FL**

2:45 P.M. Culex-driven outbreaks of WNV, re-emergent SLC Genotype 3, and avian malaria in SLC ... **Dr. Christopher S. Bibbs, Lab Manager & Dr. Nate Byers, Molecular Entomologist, Salt Lake City Mosquito Abatement, Salt Lake City, UT**

3:00 P.M. BREAK

Moderator: Dr. Barry Alto, Associate Professor, University of Florida/FMEL, Vero Beach, FL

- 3:20 P.M.** Variation in Larvicide Susceptibility and Emerging Methoprene Resistance in Florida Container *Aedes* Mosquitoes... **Dr. Vivek Pokhrel**¹, Postdoctoral Associate. Raquel Lima de Souza¹, Charlotte Addae¹, Sierra Schluep¹, Abigail Valentino, Chelsea Dorsainvil¹, Victoria Mills¹, Tianyun Su², Eric Caragata¹, Nathan Burkett-Cadena, and Eva Buckner¹. ¹**Florida Medical Entomology Laboratory, University of Florida, Vero Beach, FL.** ²Ecozone International LLC, Riverside, CA
- 3:35 P.M.** Lethal and nonlethal effects of *Bacillus velezensis* on *Culex quinquefasciatus* ... Abdullah Alomar¹, **Barry Alto**², ¹ Infectious Disease Vector Research Laboratory, Department of Plant Protection, College of Food and Agricultural Sciences, King Saud University, 11451, Riyadh, Saudi Arabia. ² (presenter) **Florida Medical Entomology Laboratory, University of Florida, 200 9th St. S.E. Vero Beach, FL**
- 3:55 P.M.** Sublethal deltamethrin exposure induces egg laying in surviving female *Aedes aegypti* and its offspring development... **Ms. Yi-Chieh Chang, Graduate student, Department of Entomology, National Chung Hsing University, Taiwan**
- 4:10 P.M.** Evaluation of essential oils against adult mosquitoes by wind tunnel ... **Dr. M. Farooq, AMCD, St. Augustine, FL**
- 4:30 P.M.** Spatial Distribution of *Aedes aegypti* and *Aedes albopictus* in Brevard County ... **Bridget Picco, Environmental Specialist II, Maxwell Reynolds, Jonathan Linder, and Joseph Faella, Brevard County Mosquito Control District, Titusville, FL**
- 4:50 P.M.** Anastasia Mosquito Control: Navigating the Notification List ... **Mrs. Dena Oliva, Operation Manager, AMCD, St. Augustine, FL**
- 5:05 P.M.** My experiences interning through a Mosquito-Borne Illness Alert ... **Patrick Sherrill, Eastern Florida State College Student Intern, Brevard County Mosquito Control District, Titusville, FL**
- 5:15 P.M.** Inhibition of ABC transporters as a novel mechanism to increase insecticide toxicity ... **Melody Kondoff, Edwin Burges IV, Troy D Anderson, Daniel R Swale, UF/Department of Entomology & Nematology, Gainesville, FL**
- 5:25 P.M.** End of the session & break
- 5:30 P.M.** **Dinner and Lecture: Mosquito control impacts on the economy of Florida: an important relationship** by **Mr. Phil Goodman, FMCA Commissioner Representative, Chair of Board of Commissioners, Florida Keys Mosq Control District, Key West, FL**

FRIDAY/MARCH 6, 2026

OTHER PROGRAM:

Moderator: Dr. David Hoel, Executive Director, Lee County Mosquito Control District, Lehigh Acres, FL

- 8:00 A.M.** Update on intern student training program in the past 10 years ... **Dr. Whitney Qualls, Assistant Director, AMCD, St. Augustine, FL**
- 8:15 A.M.** Overview of applied research programs at Salt Lake City Mosquito Abatement District ... **Dr. Christopher Bibbs, Lab Manager, Salt Lake City Mosquito Abatement, Salt Lake City, UT**

- 8:30 A.M.** An island as a unit for invasive insect control ... **Mr. Sangwoo Seok, Postdoctoral Associate, UF, Florida Medical Entomology Laboratory, Vero Beach, FL**
- 8:45 A.M.** Arbovirus surveillance in Beach Mosquito Control District, City of Panama, FL **Ms. Teahna Stephens, Entomologist, Beach Mosquito Control District, City of Panama, FL**
- 9:00 A.M.** Update on insecticide resistance detection in adult mosquitoes in St. Johns County, Florida... **Mr. Connor Kuppe, AMCD Biotech/UF graduate student, AMCD, St. Augustine, FL**
- 9:15 A.M.** Evaluating Resistance in *Culex quinquefasciatus* and *Cx. nigripalpus* to the most common larvicides used in Florida... **Ms. Sierra Schluep, LT, U.S. Navy & Ph.D. student, UF/FMEL, Vero Beach, FL**
- 9:30 A.M.** Excito-repellent activity of the medicinal plant *Amomum kravanh* (Zingiberaceae) against the mosquito vector, *Anopheles minimus*, *Aedes aegypti*, and *Culex quinquefasciatus* ... **Mr. Pithak Phonphai, Graduate Student, Department of Entomology, Kasetsart University, Bangkok, Thailand**
- 9:45 A.M.** Mode of toxicity of essential oils against *Aedes* mosquitoes ... **Dr. Sarah McComic, Molecular Entomologist, AMCD, St. Augustine, FL**
- 10:00 A.M.** Dorsal Tracheal Trunk, not a scuba tank and detailed exploration of its physiology and sequence of events during ecdysis and emergence ... **Herb Nyberg & Peter Winn, New Mountains, Inc.**

10:15 A.M. BREAK

SIT/IIT/OTHERS:

Moderator: Dr. Chris Bibbs, Lab Manager, Salt Lake City Mosquito and Vector Control Abatement

- 10:30 A.M.** Regulatory-Ready Next-Generation Mosquito Control Technologies ... **Dr. Nikolay Kandul, CEO, Synvect Inc., Dr. Michelle Bui (Presenter), San Diego, CA**
- 10:50 A.M.** An overview of *Wolbachia* male deployments in Florida and 2026 plans ... **Dr. Stephen Dobson, Professor, University of Kentucky, Lexington, KY**
- 11:10 A.M.** X-rays are just as good as gamma rays for sterilization and sterile male mating competitiveness in the mosquito *Aedes aegypti*, but are there source-based differences in cellular damage? **Dr. Dan Hahn, Professor & Vice Chair, Department of Entomology & Nematology, UF**
- 11:25 A.M.** Sterile insect technique using vendor facilitated irradiation to manage *Aedes aegypti* populations in Polk County... **Dr. Jackson Mosley, Director, Polk County Mosquito Control, Winter Haven, FL**
- 11:40 A.M.** Overview of SIT/IIT program & operation, AMCD ... **Dr. Vindhya Aryaprema, Biologist, AMCD, St. Augustine, FL**
- 11:55 A.M.** Talking *taeniorhynchus*: analyzing Brevard County Mosquito Control District's *Aedes taeniorhynchus* activity in 2025 ... **Maxwell Reynolds, Environmental Specialist II, Bridget Picco, Jonathan Linder, and Joseph Faella, Brevard County Mosquito Control District, Titusville, FL**

12:10 P.M. LUNCH BREAK (HELICOPTER HANGAR, PROVIDED BY TARGET) & END OF WORKSHOP

Welcome to join the 22nd workshop, St. Augustine, FL, March 23-25, 2027.