

THE 21ST ARBOVIRUS SURVEILLANCE AND MOSQUITO CONTROL WORKSHOP

**Organized by AMCD and Sponsored by FMCA
& Gulf South VECTOR**

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

FMCA Fly In, M 2-3, 2026

21ST WORKSHOP, MARCH 4th – 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

MONDAY, MARCH 2-3, 2026

**FLORIDA MOSQUITO CONTROL ASSOCIATION'S AERIAL WORKSHOP (FLY IN CLASS),
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, BLD#100)

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. **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**

9:40 A.M. Navy operational forces support: pest management afloat and ashore ... **LTJG Brittani Ciomperlik, NECE, Jacksonville, FL**

10:00 A.M. DoW operational pest management materiel readiness ... **LT Corey Day, Entomologist, NECE, Jacksonville, FL**

10:20 A.M. **Break**

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

10:40 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**

11:00 A.M. Enhancing Vector Surveillance and Control: CDC's Strategic Priorities and Collaborations with New Control Technologies ... **Dr. Anna Drexler, Research Entomologist, Senior Service Fellow, DVBD/CDC, Fort Collins, CO**

11:20 A.M. Overview of activities and collaborative opportunities in public health entomology at CDC ... **Dr. Audrey E. Lenhart, Chief, DPDM/EB, NCEZID, CDC, Atlanta, GA**

11:40 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**

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

PROGRAM SESSION:

MODERATOR: **Dr. Claudia Riegel, Director, City of New Orleans Mosquito, Termite and Rodent Control Board, New Orleans, LA**

1:10P.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**

1:25 P.M. The Florida DACS mosquito control program update in 2025 ... **Mrs. Caitlin Gill and Ms. Marah Clark, Environmental Administrator, Entomology and Pest Control Section, DACS, Tallahassee, FL**

1:40 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**

1:55 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. AI and citizen science solutions for next-generation mosquito surveillance ... **Dr. Sriram Chellappan, Professor. The Bellini College of Artificial Intelligence, Cybersecurity and Computing, Dr. Ryan Carney, Associate Professor of Digital Science, National Geographic Explorer, Department of Integrative Biology, University of South Florida, Tampa, FL**

2:25 P.M. Advancing vector identification through machine learning and AI ... **Dr. Roy Faiman, VectTech Inc. Baltimore, MD**

2:40 P.M. American Mosquito Control Association's update, 2025 ... **Mr. Robert Cartner, Director, Beaufort County Mosquito Control, Beaufort, SC. Regional Director, AMCA**

- 2:55 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**
- 3:15 P.M.** **Break**
- Moderator: Dr. Uli Bernier, Adjunct Senior Chemist at AMCD, Retired National Program Leader from USDA/ARS**
- 3:40 P.M.** The resistance of *Aedes aegypti* to transfluthrin and metofluthrin in Thailand ... **Ms. Kanlayanee Powchai, Department of Entomology, Faculty of Agriculture, Kasetsart University, Bangkok, Thailand**
- 4:15 P.M.** Dispersal of *Aedes aegypti* in urban environments of Miami-Dade County, Florida ... **Dr. Hadian Sasmita, Postdoctoral Associate, University of Miami, FL**
- 4:30 P.M.** The distribution of *Aedes aegypti* in Puerto Rico – 2025 update... **Mr. Jun Soo Bae, Graduate Student, UF, Florida Medical Entomology Laboratory, Vero Beach, FL**
- 4:45 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.** Mosquito-Borne Disease Activity in Florida, 2025.... **Dr. Rebecca Zimler, Vector-borne Disease Surveillance Coordinator & Travel Epidemiologist, Bureau of Epidemiology, DOH, Tallahassee, FL**
- 8:50 A.M.** Arbovirus surveillance in St. Johns County in 2025 ...**Mr. Edwards Zeszutko, AMCD Biotech/UF Graduate Student, St. Augustine, FL**
- 9:00 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**
- 9:10 A.M.** Molecular arbovirus surveillance of mosquito pools in Sarasota County, FL ... **Mr. David Jayroe, Environmental Specialist, Sarasota Mosquito Management, FL**

9:20 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**

9:40 A.M. Seasonal surveillance of Culicoides biting midges in Lee County ... **Ms. Barbie Bayer, Lee County Mosquito Control District, Lehigh Acres, FL**

9:50 A.M. Spatiotemporal dynamics of *Aedes aegypti* during Zika (2016) and dengue (2022–2024) outbreaks in Miami-Dade County ... **Ms. Magic Vang, graduate student, University of Miami, FL**

10:00 A.M. BREAK

BIOLOGY & ECOLOGY SESSION:

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

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

10:45 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**

11:00 A.M. Invasive mosquito surveillance in Lee County, Florida ... **Mr. Milton Sterling, Surveillance Manager, Lee County Mosquito Control District, Lehigh Acres, FL**

11:15 A.M. Niche conservatism of invasive *Aedes japonicus* and *Aedes koreicus*: Implements for risk predication and management ... **Dr. Sangwoo Seok, Postdoctoral Associate, UF, Florida Medical Entomology Laboratory, Vero Beach, FL**

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

11:45 A.M. Predicting *Culex* vs. *Aedes* dominance: environmental triggers and operational forecasting ... **Dr. Alberto A. Condori, Professor, FGCU Boulevard South, Fort Myers, FL**

12:00 P.M. LUNCH BREAK (HELICOPTER HANGAR, PROVIDED BY AMGUARD, AZELIS, & MED-X)

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

1:00 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**

1:15 P.M. Talking *Aedes taeniorhynchus*: analyzing Brevard County Mosquito Control District's *Aedes taeniorhynchus* activity in 2025 ... **Mr. Maxwell Reynolds, Environmental Specialist II, Bridget Picco, Jonathan Linder, and Joseph Faella, Brevard County Mosquito Control District, Titusville, FL**

1:30 P.M. *Culex quinquefasciatus* and *Aedes aegypti* demonstrates oviposition performance depends on container size ... **Mrs. Kendra A. Dagg, Graduate Student, UF/Dept. of Entomology & Nematology, Gainesville, FL**

- 1:45 P.M.** Design, concept and preliminary evaluation of portable experiment hut tent (PEHT) for study of mosquito behavior ... **Dr. Richard Oxborough, Assistant Professor, University of Nevada, Las Vegas, NV**
- 2:00 P.M.** Tidal changes and its impact on salt marsh mosquito population ... **Ms. Lauren Van Rhee, Biotech, AMCD, St. Augustine, FL**
- 2:15 P.M.** Diel periods of sugar feeding and host seeking in *Culex nigripalpus* and *Anopheles crucians*... **Dr. Edwin R. Burgess, Assistant Professor, UF/Dept. of Entomology & Nematology, Gainesville, FL**
- 2:35 P.M.** Adoption of the agricultural used Drone for mosquito control application ... **Mr. Peter Brake, Sale Manger for Spray Drone/Ag Drone, South East, Frontier precision, Naples, FL**
- 2:50 P.M.** Dibrom C and Trumpet EC for aerial application efficacy ... **Mr. Derek Wright, Public Health, AMGUARD Environmental Technologies, Morrisville, NC**
- 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 Pokhrel¹**, Postdoctoral Associate. Raquel Lima de Souza¹, Charlotte Addae¹, Sierra Schlupe¹, 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 Alto²**, ¹Infectious 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**
- 3:50 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**
- 4:05 P.M.** Evaluation of essential oils against adult mosquitoes by wind tunnel ... **Dr. M. Farooq, AMCD, St. Augustine, FL**
- 4:20 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**
- 4:35 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.** Surveillance of *Aedes* mosquito population in St. Johns County in 2025 ... **Mr. Steve Smoleroff, Field Biologist, AMCD, St. Augustine, FL**
- 5:05 P.M.** Anastasia Mosquito Control: Navigating the Notification List ... **Mrs. Dena Oliva, Operation Manager, AMCD, St. Augustine, FL**
- 5:15 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**

5:25 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 PROGRAMS:

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. 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**

8:45 A.M. Overview of AMCD's applied research projects... **Dr. Joe DiClaro, Scientific Manager, AMCD, St. Augustine, 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 Schlupe, 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 the natural product leptospermone to 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 ... **Mr. 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 program & operation, AMCD ... **Dr. Vindhya Aryaprema, Biologist, AMCD, St. Augustine, FL**

11:55 A.M. 50 Gray of rays: Optimizing competitive *Aedes aegypti* for effective control ... **Ms. Oliva Sypes, AMCD Biotech & UF graduate student, St. Augustine, FL**

12:05 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.