

**THE 15<sup>TH</sup> ARBOVIRUS SURVEILLANCE  
AND MOSQUITO CONTROL WORKSHOP IN CONJUNCTION WITH THE  
NE 1443 REGIONAL PROJECT'S 4<sup>TH</sup> ANNUAL MEETING AND THE FMCA'S NE  
REGIONAL MEETING**  
*(20 CEU's)*

Sponsored by AMCD, USDA/CMAVE, & NE 1443 Regional Project Committee  
Being held at AMCD's New Base Station Complex at:  
120 EOC Drive, St. Augustine, Florida, 32092  
March 19-22, 2018  
[www.amcdsjc.org](http://www.amcdsjc.org)

**PROGRAM AGENDA**

**MONDAY, MARCH 19, 2018**

10:00am FLORIDA ENTOMOLOGY SOCIETY 'S EXECUTIVE BOARD MEETING IN AMCD'S CONFERENCE ROOM AND VISITING THE 2018'S ANNUAL MEETING FACILITY IN WORLD GOLF VILLAGE, ST. AUGUSTINE, FL, IN THE AFTERNOON.

**TUESDAY, MARCH 20, 2018**

7:30am Registration ... AMCD Staff

**PANEL SESSION:**

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

8:25am Welcome & Introduction ... Chairperson Mr. Gary Howell, AMCD's Board of Commissioners; Dr. Jerry Hogsette, Lead Scientist, USDA/CMAVE, and Mr. T. Wayne Gale, President of the FMCA

8:30am **KEYNOTE SPEAKER:** Reflections on the Ecology and Epidemiology of Mosquito-Borne Viruses in Connecticut: An Analysis from 20 Years of Research and Surveillance ... **Dr. Theodore G. Andreadis, Director, The Connecticut Agricultural Experiment Station, Center for Vector Biology & Zoonotic Diseases, New Haven, CT**

9:10am **GUEST SPEAKER:** Progress and achievements of the world insecticide resistance network (WIN project) ... **Dr. Vincent Corbel, Professor, Institute de Recherche pour le Developement, Montpellier, France**

9:30am **GUEST SPEAKER:** Vector surveillance and control at ports, airports, and ground crossings in India ... **Dr. Ashwani Kumar, Scientist & Officer-in-Charge, ICMR-National Institute of Malaria Research, Campal, Panaji, Goa-403.001, India**

**9:50 A.M. - BREAK**

**Moderator: Dr. John C. Beier, Professor & Section Chair, Department of Public Health & Environmental Sciences, University of Miami, Miami, FL**

10:10am Focus on the future of mosquito-borne illness: What is the next Zika ... **Dr. Stanton Cope, Past President of the American Mosquito Control Association and Vice President, Technical Products and Services, Atlantic Paste & Glue**

- 10:40am What makes a mosquito a vector, and why is that important? ... **Dr. Michael Turell, Senior Arbovirologist (retired), US Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD**
- 11:00am Frequent sugar feeding behavior by *Aedes aegypti* in Bamoke, Mali, makes them ideal candidates for control with ATSB ... **Dr. Gunter Muller, Visiting Professor, Hebrew University, Israel**
- 11:20am The Arabian Peninsula: epidemiology, challenges and opportunities for prevention and control of arbovirus diseases ... **Dr. Emad I.M. Khater, Hany A. Kamal, and Ernest Tambo, Public Health Pests Laboratory of Jeddah Governorate, Saudi Arabi**
- 11:40am Development sterile insect technique (SIT) as a tool for integrated *Aedes aegypti* control ... **Dr. Daniel A. Hahn, Associate Professor, Department of Entomology & Nematology, University of Florida, Gainesville, FL**
- 12:00pm New products from UNIVAR for 2018 ... **Mr. Jason E. Conrad, Industry Specialist, UNIVAR**

**12:10 PM - LUNCH BREAK** (provided by UNIVAR)

**PROGRAMS & ASSOCIATIONS:**

**Moderator: Dr. William Walton, President of the AMCA and Vice Chair, Dept. of Entomology, University of California, Riverside, CA**

- 1:00pm Overview of CDC's Northeast Regional Center for Excellence in Vector-borne Diseases ... **Dr. Laura C. Harrington, Center Director & Professor, Department of Entomology, Cornell University, Ithaca, NY**
- 1:20pm Overview of CDC's Southeast Regional Center of Excellence in Vector-borne Diseases, The Gateway Program ... **Dr. Rhoel R. Dinglasan, Center Director, Associate Professor, Emerging Pathogens Institute, University of Florida, Gainesville, FL**
- 1:40pm Update on the American Mosquito Control Association ... **Dr. William Walton, President of the AMCA and Vice Chair, Dept. of Entomology, University of California, Riverside, CA**
- 2:00pm Overview of Entomology program at the University of Florida ... **Dr. Blair D. Siegfried, Chair, Department of Entomology and Nematology, UF/IFAS, Gainesville, FL**
- 2:15pm Florida's DACS grant fund priority, process and schedule update ... **Dr. Caroline Efstathion, Environmental Specialist III, Entomology and Pest Control Section, DACS, Tallahassee, FL**
- 2:30pm Effects of climate change on vector population ..... **Dr. Robert Pereira, Research Scientist, Dr. Phil Koehler, Professor, Department of Entomology & Nematology, University of Florida, Gainesville, FL**
- 2:45pm Zika risk and related knowledge, attitudes, and practices during 2016 outbreak in Miami, Dade County, Florida ... **Dr. Imelda K. Moise, University of Miami, Miami, FL**

**3:00 P.M. - BREAK**

**DISEASE SURVEILLANCE:**

**Moderator: Dr. Laura C. Harrington, Center Director & Professor, Department of Entomology, Cornell University, Ithaca, NY**

- 3:20pm Arbovirus surveillance report in Florida, 2017 ... **Dr. Andrea Morrison, Arbovirus Surveillance Coordinator, Bureau of Epidemiology, DOH, Tallahassee, FL**

- 3:40pm An *Anopheles* surveillance system based on aquatic habitat spectral signatures using a hand-held spectrophotometer, UAV (drone) and sub-meter satellite imagery in Cambodia ... **Dr. Robert J. Novak, Professor, University of South Florida, Department of Global Health, Tampa, FL**
- 4:00pm How nutritional status of *Culex pipiens* affects vector competence for WNV ... **Dr. Rajeev Vaidyanathan, Director, Environmental Science, Clarke, St. Charles, IL**
- 4:15pm EEE human case and vector control response in Jacksonville MCD ... **Ms. Marah Clark, Entomologist, Jacksonville MCD, Jacksonville, FL**
- 4:25pm Inspection and quarantine of invasive vector mosquito species at Entry-Exit ports, Zhenjiang, China ... **Dr. Tian-Ci Yang, Senior Entomologist & Deputy Section Chief, Zhejiang Entry-Exit Inspection & Quarantine Bureau, Hangzhou, China**
- 4:40pm Mosquito control response after hurricane Irma in Volusia County ... **Mr. Tim MacHardy, Volusia Mosquito Control District, New Smyrna, FL**
- 5:05pm Zika and hurricane response in Texas, 2017... **Dr. Whitney Qualls, Medical Entomologist, Texas Department of Health Service/Zoonosis Control Branch, Austin, TX**
- 5:20pm Mosquito population outbreak and control efforts after hurricane Irma in St. Johns County, FL ... **Mrs. Kay Gaines, Operations Manager, AMCD, St. Augustine, FL**

**5:30 P.M. END OF THE SESSION**

- 6:00pm **DINNER & LECTURE AT MEETING SITE (ALL PARTICIPATES):** Public Health Service Excellence in St. Johns County ... **Dr. Dawn Allicock, Director, Department of Health of St. Johns County, St. Augustine, FL**

**WEDNESDAY, MARCH 21, 2018**

**BIOLOGY & ECOLOGY:**

**Moderator: Dr. Paul Linser, Professor, University of Florida/Whitney Laboratory, St. Augustine, FL**

- 8:30am Transcription profile for permethrin resistance *Aedes aegypti* from Florida in response to Zika virus ... **Dr. Liming Zhao, Research Assistant Professor, University of Florida/IFAS/FMEL, Vero Beach, FL**
- 8:45am Functional specialization and the development of cellular phenotypes in the larval mosquito midgut ... **Dr. Paul Linser, Professor, University of Florida, Whitney Laboratory, St. Augustine, FL**
- 9:00am A survey of *Wolbachia* infection in *Aedes aegypti* wild population in New Mexico ... **Dr. Jiannong Xu, Associate Professor, Department of Biological Sciences, New Mexico State University**
- 9:15am Ornamental Bromeliads of Miami-Dade County, Florida are important breeding sites for *Aedes aegypti* ... **Dr. Andre Wilke, Post Doctor Associate, University of Miami, Miami, FL**
- 9:30am Overview of Florida Bromeliads conservation project ... **Dr. Teresa Cooper, Manager, Save Florida's Bromeliads Conservation Project, Newberry, FL**
- 9:45am Climatic risk impact on *Aedes* vector seasonal fluctuation and persistent dengue public health burden in Saudi Arabia ... **Dr. Ernest Tambo, Public Health Pests Laboratory, Jeddah Governate, Jeddah, Kingdom of Saudi Arabia**

10:05am A community-wide trial of In2Care traps in Holly Hill, Florida ... **Drake Falcon, Miranda Tressler, Hong Chen, and James McNelly, Volusia Mosquito Control, New Smyrna Beach, FL**

**10:20 A.M. - BREAK**

**ATTRACTANT / TRAP / REPELLENT:**

**Moderator: Dr. Jiannong Xu, Associate Professor, Department of Biological Sciences, New Mexico State University**

10:40am Update on BG sentinel traps and new BG count traps ... **Dr. Martin Geier, CEO, BioGents, Germany**

10:55am Efficacy of Knight Stick stable fly traps increases when traps are protected by electric fence and placed close to host animals ... **Dr. Jerry Hogsette, Lead Scientist & Research Entomologist, USDA/ARS/CMAVE, Gainesville, FL**

11:10am Mosquito abundance and field trials of AGO traps against *Aedes aegypti* in the Texas-Mexico Border ... **Dr. Gabriel Hamer, Assistant Professor, Department of Entomology, Texas A & M University, TX**

11:25am An oviposition attractant and trap for mosquito surveillance and control ... **Dr. Matthew DeGennaro, Assistant Professor, Department of Biology, Florida International University, Miami, FL**

11:40am Evaluating Pyrethroid insecticides in a novel type of olfactometer ... **Dr. Christopher Batich, Professor, Department of Materials Science and Engineering, University of Florida, Gainesville, FL**

11:55am Summary of DeltaGard aerial application trials which led to EPA registration ... **Mr. John Paige III, Bayer Environmental Science, Vero Beach, FL and Mr. Chris Pederson, ADAPCO, Sanford, FL**

**12:10 P.M. - LUNCH BREAK** (provided by ADAPCO & FMCA)

**THE FMCA'S NORTHEAST REGIONAL ROUNDTABLE MEETING ... Dr. Peter Jiang, FMCA's NE Regional Director**

**LARVAL & ADULT CONTROL:**

**Moderator: Dr. Jerry Hogsette, Research Entomologist, USDA/ARS/CMAVE, Gainesville, FL**

1:00pm Update about acoustic larvicide against larval mosquitoes .... **Mr. Herbert Nyberg, CEO, New Mountain Innovations, Inc., Niantic, CT**

1:15pm Large-scale deployment of CDC/AGO traps for control of *Aedes* mosquitoes ... **Mrs. Dena Autry, Mosquito Control Technician, AMCD, St. Augustine, FL**

1:30pm Introduction to Nylar 0.5G: Seasonal-long larvicidal control in catch basins across three geographies in 2017 ... **Dr. Jennifer Williams, Entomologist, MGK, MN**

1:45pm Optimization of ULV space sprays for mosquito vector control ... **Dr. Peter Jiang, Entomologist & Director, Gainesville City Mosquito Control Division, Gainesville, FL & Dr. Muhammad Farooq, Navy Entomology Center of Excellence, Jacksonville, FL**

2:00pm Control efforts of *Aedes albopictus* in Jiangsu, China ... **Dr. Tian Ye, Department of Disinfections and Vector Control, Jiangsu Provincial CDC, Nanjing, China**

- 2:15pm ATSB successful field trial of bait stations for outdoor control of malaria parasite transmission in Mali ... **Dr. John Beier, Professor & Section Chair, Department of Public Health and Environmental Science, University of Miami, Miami, FL**
- 2:30pm Optimization of ATSB bait stations for a variety of mosquito vectors ... **Dr. Onie Tsabari, Director of Research and Development, Westham Co, Israel**
- 2:45pm Going for gold: Academia's relationship with operational vector control. ... **Dr. William Walton, President of the AMCA and Vice Chair, Dept. of Entomology, University of California, Riverside, CA**

**3:00 P.M. - BREAK**

**INSECTICIDES AND RESISTANCE:**

**Moderator: Dr. J.R. Bloomquist, Professor, Department of Entomology and Nematology, EPI, University of Florida, Gainesville, FL**

3:20pm Update on new insecticides research at UF/EPI ... **Dr. J. R. Bloomquist, Dept. of Entomology and Nematology, EPI, University of Florida, Gainesville, FL**

3:40pm Rapid determination of pyrethroid resistance without toxicology testing: Getting more from surveillance samples ... **Mr. Alden S. Estep, Ms. Christy Waits, and James J. Becnel, USDA/CMAVE & NECE-CMAVE Detachment, Gainesville, FL**

3:55pm Pyrethroid-resistance in *Aedes aegypti* from Puerto Rico and Miami Beach ... **Ms. Christy Waits, Mr. Alden S. Estep, and Dr. James J. Becnel, USDA/CMAVE & NECE-CMAVE Detachment, Gainesville, FL**

4:10pm Variation in resistance levels and *kdr* mutations in Florida *Aedes aegypti* ... **Ms. Sarah Bernard, Mr. Alden S. Estep, & Dr. James J. Becnel, USDA/CMAVE & NECE-CMAVE Detachment, Gainesville, FL**

4:25pm Can sublethal exposure to spatial repellents have an impact on oviposition behavior and fecundity? ... **Mr. Christopher Bibbs, Biologist and Ph.D. Candidate, Anastasia Mosquito Control District, St. Augustine, FL**

4:40pm Mosquito resistance to insecticides detected by CDC bottle bioassay in Volusia, FL ... **Dr. Hong Chen, Jesse Julien, and Mr. James McNelly, Volusia Mosquito Control District, New Smyrna, FL**

4:50pm Passive Tools, Aptamer-Based Diagnostics and Nanoparticles for Vector Surveillance and Control: An Update ... **Dr. Bradley Willenberg, Assistant Professor, Department of Intern Medicine, University of Central Florida, Orlando, FL.**

5:10pm Training opportunity and contribution by the Florida Mosquito Control Association (FMCA) ... **Mr. T. Wayne Gale, President of the FMCA, Immediate Past President of the AMCA, Executive Director of Lee County Mosquito Control District, Ft. Myers, FL**

**5:25 P.M. END OF THE SESSION**

**THURSDAY, MARCH 22, 2018**

**MODERATOR: Dr. Philip Armstrong, Connecticut Agricultural Experiment Station, Center for Vector Biology & Zoonotic Diseases, New Haven, CT**

**NE-1443: BIOLOGY, ECOLOGY & MANAGEMENT OF EMERGING DISEASE VECTORS (4th Annual Mtg.)**

- 8:30am: **KEYNOTE SPEAKER:** Overview of arbovirus surveillance and vector control in Harris County and the City of Houston ... **Dr. Mustapha Debboun, Retired Colonel, Current Director, Harris County Mosquito and Vector Control Division, Houston, TX**
- 9:00am: Sterile insect based approaches: the future of mosquito control? ... **Dr. Derric Nimmo, OXITEC, U.K.**
- 9:15am: Wide angle UV LEDs for use in mosquito light traps ... **Mr. Randy Buckley, Dr. Roberto Pereira, and Dr. Phil Koehler, Department of Entomology and Nematology, University of Florida, Gainesville, FL**
- 9:30am: Implementation and real impact of smart mosquito device system at the Metropolitan cities in South Korea ... **Dr. Hoonbok Yi, Professor, Seoul Women University, Seoul, Korea**
- 9:45am: Preliminary Business Meeting
  - Chair's Report
  - CSREES Representative's Report
  - Administrative Advisor's Comments
- 10:15 am: Introductions - Each participant briefly introduces themselves and their interests
- 10:25 am: **BREAK**
- 10:40 am: Prevalence and distribution of pathogen infection and permethrin resistance in tropical and temperate brown dog tick populations ... **Dr. Phillip E. Kaufman, Nicholas S. G. Tucker and Emma N. I. Weeks, Department of Entomology & Nematology, UF, Gainesville, FL**
- 10:55am: Review of Major Objectives and Goals
  - Objective 1: Development of parasitic arthropod catalogue/resources
  - Objective 2: Integrated tick management and community-centered approaches, including understanding the biology and ecology of novel and emerging tick-borne pathogens
- 11:50am: New products from Central Life Sciences for 2018 ... **Mr. Zane McCallister, Central Life Sciences**
- 12:00 pm: **LUNCH BREAK (provided by Central Life Sciences)**
- 1:00 pm: Field comparison of CDC's AGO traps and In2Care traps for control of *Aedes* mosquitoes in St. Augustine, FL ... **Dr. Daniel Dixon, Molecular Biologist, AMCD, St. Augustine, FL**
- 1:15 pm: Review of Major Objectives and Goals (*continued*)
  - Objective 3: *Ae. albopictus* and *Ae. aegypti*, with a focus on surveillance, range expansion, ecology, genetics, climate change and disease risk
  - Objective 4: New Control Tools, including socio-ecological approaches
  - Objective 5: Training and training tools
- 3:00 pm: **BREAK AND GROUP PHOTO**
- 3:30 pm: Group discussions on potential funding sources and development of prospective collaborative proposals
- 4:30 pm: Wrap-up including discussion of 2019 Annual Meeting site, dates, venue and agenda
- 5:00 pm: **ADJOURN AND WORKSHOP END**

For additional information about NE 1443 meeting, see the NE 1443 Website at:  
<http://www.nimss.org/projects/view/mrp/outline/16677>

Or contact Dr. Philip Armstrong <Philip.Armstrong@ct.gov>