

**THE 16TH ARBOVIRUS SURVEILLANCE
AND MOSQUITO CONTROL WORKSHOP**

**in CONJUNCTION with the NE 1443 REGIONAL PROJECT'S
5TH ANNUAL MEETING and the FMCA'S NE REGIONAL MEETING
(18 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 26-28, 2019

www.amcdsjc.org

to include:

AMCD's 70TH ANNIVERSARY CELEBRATION

PROGRAM AGENDA (tentative)

MONDAY, MARCH 25, 2019

1:00pm Tour of AMCD's new facility and laboratory

TUESDAY, MARCH 26, 2019

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. Ken Linthicum, Center Director, USDA/CMAVE, and Mr. Donald Powers, President-Elect of the FMCA

8:30am **KEYNOTE SPEAKER:** The trends in the mosquito-borne diseases and control technology ... **Dr. Stanton Cope, Vice President, Technical Products and Services, Atlantic Paste & Glue, Past President of the American Mosquito Control Association (AMCA)**

9:10am **GUEST SPEAKER:** Outbreak of dengue fever and its control effort in Sri Lanka **Dr. Vindhya S. Aryaprema, Medical Entomologist, Ministry of Health, Sri Lanka**

9:30 A.M. - BREAK (CUTTING of the CAKE for AMCD'S 70 ANNIVERSARY CELEBRATION)

INTERNATIONAL SESSION:

Moderator: Dr. Uli Bernier, National Program Leader, USDA/ARS, Washington DC

10:00am Outbreak of Dengue and its vector mosquito control in Saudi Arabia ... **Dr. Abdulaziz D.M. Althbyani, Professor & College Dean, University of Tabuk, Saudi Arabia**

10:20am The prevalence and diversity of autogenous *Culex pipiens molestus* in Taiwan ... **Dr. Kun-Hsien Tsai, Associate Professor, College of Public Health, National Taiwan University, Taipei, Taiwan**

- 10:40am Evaluation of spatial and contact repellents against vector mosquitoes ... **Dr. Hitoshi Kawada, Associate Professor, Institute of Tropical Medicine, Nagasaki University, Japan**
- 11:00am ATSB and bait stations for control of malaria vector mosquitoes in Mali ... **Dr. Sekou F. Traore, Director, Malaria Research & Training Center, University of Bamako, Mali**
- 11:20am ATSB and bait stations for control of *Aedes albopictus* in St. Augustine, FL ... **Dr. Gunter Muller, Professor, University of Bamako, Mali and Hebrew University, Israel**
- 11:40am Impact of 5 kinds of mosquito adulticides on non-target honey bees ... **Dr. Hussein Sanchez-Arroyo, Professor, Colegio de Postgraduados, Mexico**
- 12:00pm New products from UNIVAR for 2018 ... **Mr. Jason E. Conrad, Industry Specialist, UNIVAR**

12:10 PM - LUNCH BREAK (in the **Helicopter Hangar**) (provided by UNIVAR)

PROGRAMS & ASSOCIATIONS:

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

- 1:10pm The Florida DACS mosquito control program update ... **Mrs. Caitlin Gill, Environmental Specialist III, Entomology and Pest Control Section, DACS, Tallahassee, FL**
- 1:25pm Update on the American Mosquito Control Association ... **Mr. Christopher Lesser, SE Regional Director, Assistant Director, Manatee County Mosquito Control District**
- 1:40pm Update on the SOVE ... **Dr. Uli Bernier, President of the SOVE & National Program Leader, USDA/ARS, Washington, DC**
- 1:55pm Exotic insects and its surveillance and control efforts ... **Dr. Leroy Whilby, Chief, Bureau of Entomology, Nematology, and Plant Pathology, DACS/DPI, Gainesville, FL**
- 2:10pm Update on the FMCA ... **Mr. Donald Powers, President-Elect of the FMCA, and Sale Representative, FMC**
- 2:25pm Program overview of the Tangipahoa Mosquito Abatement District, LA ... **Mr. Dennis Walette, Director, TMAO, Hammond, LA**
- 2:40am Brevard County's unique local partnership between UF's extension office and Mosquito Control ... **Mr. Joe Walter, Agricultural Agent, UF/IFAS and Joseph M. Faella, Department Director, Brevard County Mosquito Control**

3:00 P.M. - BREAK

DISEASE SURVEILLANCE:

Moderator: Dr. Nathan Burkett-Cadena, Assistant Professor, University of Florida, Florida Medical Entomology Laboratory, Vero Beach, FL

- 3:20pm Biology of EEE ... **Dr. Michael Turell, Senior Arbovirologist (retired), US Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD**

- 3:40pm The host interactions and ecological niches of *Culex melanura* and the wintertime transmission risk potential of EEE ... **Ms. Kristi Miley & Dr. Tom Unnasch, Department Director, University of South Florida, Tampa, FL**
- 3:50pm Is real-time arbovirus surveillance a dream or a reality? ... **Dr. Nathan Burkett-Cadena, Assistant Professor, University of Florida, Florida Medical Entomology Laboratory, Vero Beach, FL**
- 4:10pm New viruses of concern and their vectors, with a focus on Keystone virus ... **Dr. J. Glenn Morris, Jr. Professor & Director, Emerging Pathogens Institute, UF, Gainesville, FL**
- 4:20pm Arbovirus surveillance report in Florida, 2018 ... **Dr. Andrea Morrison, Arbovirus Surveillance Coordinator, Bureau of Epidemiology, DOH, Tallahassee, FL**
- 4:40pm Mosquito-borne disease surveillance in Texas, 2018 ... **Dr. Whitney Qualls, Medical Entomologist, Texas Department of Health Services, Zoonosis Control Branch, Austin, TX**
- 5:00pm Arbovirus and mosquito population surveillance in San Gabriel Valley, California ... **Ms. Melissa Doyle, Scientific Program Manager, San Gabriel Valley Mosquito & Vector Control District, West Covina, CA**
- 5:20pm Overview of research on surveillance and adulticiding in Manatee County Mosquito Control District ... **Mr. Chris Lesser, Assistant Director & Entomologist, Manatee County Mosquito Control District, FL**
- 5:40pm Simultaneous detection of CHIKV, DENV and ZIKV in mosquitoes by RT-PCR ... **Dr. Steven Su, Scientific Director, West Valley Mosquito & Vector Control District, Ontario, CA**
- 6:00pm **DINNER & LECTURE (HELICOPTER HANGAR) (ALL PARTICIPANTS):** Overview of the National Estuarine Research Reserve, GTM program ... **Dr. Michael Shirley, Director, Guana, Tolomato, Matanzas Estuarine Research Reserve, Florida DEP, St. Augustine, FL**

WEDNESDAY, MARCH 27, 2019

BIOLOGY & ECOLOGY:

Moderator: Dr. Dan Kline, Research Entomologist, USDA/CMAVE, Gainesville, FL

- 8:25am Transcriptional profile of *Aedes aegypti* Leucine-rich repeat proteins in response to arbovirus ... **Dr. Liming Zhao, Research Assistant Professor, University of Florida, IFAS/FMEL, Vero Beach, FL**
- 8:40am Mosquito colonies maintained at USDA-ARS, CMAVE, Gainesville, FL ... **Dr. Dan Kline, Research Entomologist, Matthew (Haze) Brown and Tyler Carney, USDA/CMAVE, Gainesville FL**
- 9:05am Does smoke equal fire? Investigating natural *Wolbachia* infections in an *Aedes aegypti* population from Florida ... **Dr. Derrick Mathias, Assistant Professor, University of Florida, FMEL, Vero Beach, FL**
- 9:20am Community composition and year-round abundance of vector species of mosquitoes make Miami-Dade County, Florida, a receptive gateway for arbovirus entry into the United States ... **Dr. Andre Wilke, Post Doctorate Associate, University of Miami, Miami, FL**
- 9:35am Impacts of water level in the bromeliad plant packets on oviposition and egg hatching of *Aedes aegypti* ... **Dr. Christopher Bibbs, Entomologist, AMCD, Mr. Parker Brown, Intern, and Dr. Rui-De Xue, Director, AMCD, St. Augustine, FL**

- 9:50am DENV4 infection of local *Aedes aegypti* in the absence of a human index case ... Mr. Sean Boyles and Dr. Rhoel D.R. Dinglasan, Center Director, CDC Southeastern Center for Excellence in Vector-borne Diseases, UF/EPI, Gainesville, FL
- 10:00am What's happening in Volusia County ... Mrs. Sue Bartlett, Director, Volusia Mosquito Control District, New Smyrna, FL
- 10:10am Florida mosquito resistance and its impact on vector competence ... Dr. Chelsea T. Smartt, Associate Professor, UF/IFAS/FMEL, Vero Beach, FL

10:20 A.M. - BREAK

ATTRACTANT / TRAP / REPELLENT:

Moderator: Dr. Carolina Efstathion, Molecular Entomologist, AMCD, St. Augustine, FL

- 10:35am Update on fly traps against biting and filth flies ... Dr. Jerry Hogsette, Lead Scientist & Research Entomologist, USDA/ARS/CMAVE, Gainesville, FL
- 10:50am Summary report on the AGO studies against *Aedes aegypti* in the past several years ... Dr. Noel Hahn, Entomologist, Department of R & D, SpringStar Inc., WA
- 11:05am Prototype for evaluation of Dynatrap for mosquito control ... Dr. Karen E. McKenzie, Director of Entomology, Dynamic Solutions Worldwide, LLC
- 11:15am Semi-field evaluation of three light traps against *Aedes aegypti* ... Mr. Nicholas Acevedo, Dr. Christopher Bibbs, & Dr. Rui-De Xue, AMCD, St. Augustine, FL
- 11:25am Evaluation of a novel rotated trap, modifying AGO trap with a suction fan, and modifying 00ZZZero trap ... Dr. Rui-De Xue, AMCD, Dr. Shawn Shi & Dr. Judy Zhu, Wuxi CDC, Dr. Emad Khater, Ain Shams University, Egypt, Dr. Christopher Bibbs, Dr. Daniel Dixon, AMCD, St. Augustine, FL
- 11:45am Large-scale deployment of CDC/AGO traps for control of *Aedes* mosquitoes in 2018 ... Mrs. Dena Autry, Assistant Supervisor, AMCD, St. Augustine, FL
- 11:55pm New products and technology from ADAPCO for 2018 ... Mr. Chris Pederson, ADAPCO, Sanford, FL

12:05 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. J.R. Bloomquist, Professor, Department of Entomology and Nematology, EPI, University of Florida, Gainesville, FL

- 1:10pm Update on sterile insect technique (SIT) for control of *Aedes aegypti* ... Dr. Daniel A. Hahn, Professor, Department of Entomology & Nematology, University of Florida, Gainesville, FL
- 1:30pm Field evaluation of *Wolbachia*-infected male mosquitoes against natural populations of *Aedes albopictus* and *Ae. aegypti* ... Dr. Stephen Dobson, Professor, Department of Entomology, University of Kentucky & MosquitoMate, Inc.

- 1:50pm Evaluation of residual larvicide treated plant saucers against *Aedes albopictus* larvae in semi and field conditions ... **Dr. Peter Jiang, Entomologist & Director, Gainesville City Mosquito Control Division, Gainesville, FL**
- 2:00pm Evaluation of CocoBear and Aquatain AMF to control larval *Culex quinquefasciatus* in organically enriched aquatic habitats ... **Dr. James Cilek, Entomologist and Department Head Testing and Evaluation Department, Navy Entomology Center of Excellence, Jacksonville, FL. Mr. R. Aldridge, Mr. J. Fajardo, Dr. S. Britch, Dr. K. Linthicum, USDA/CMAVE, Gainesville, FL**
- 2:15pm Public Health Practice: Vector-borne disease preparedness in Miami-Dade County, Florida ... **Dr. John Beier, Professor & Section Chair, Department of Public Health and Environmental Science, University of Miami, Miami, FL**
- 2:35pm Evaluation of pyrethroid and botanical barrier insecticides against *Aedes albopictus* in the laboratory and field ... **Mr. Steven T. Smoleroff, Biotech, Dr. Christopher Bibbs, Entomologist, and Dr. Rui-De Xue, Director, AMCD, St. Augustine, FL**
- 2:45pm Update on Nanoceria-based pesticides ... **Dr. Mona Mathew, Postdoctoral Scholar and Dr. Bradley Willenberg, Assistant Professor, Department of Internal Medicine, University of Central Florida, Orlando, FL.**

3:00 P.M. - BREAK

INSECTICIDES AND RESISTANCE:

Moderator: Dr. Christopher Bibbs, Entomologist, AMCD, St. Augustine, FL

- 3:20pm Resistance to repellents and pyrethroids in the Puerto Rico strain of *Aedes aegypti* ... **Dr. J. R. Bloomquist, Professor, Dept. of Entomology and Nematology, EPI, University of Florida, Dr. K. Linthicum, Center Director, USDA/CMAVE, Dr. L. Yang, UF, Dept. of Entomology & Nematology, Gainesville, FL, Uli Bernier, National Program Leader, USDA/ARS**
- 3:40pm New products and formulations of larviciding and adulticiding from MGK for public health pest control in 2019 ... **Dr. Jennifer Williams, Entomologist, MGK, MN**
- 3:55pm Bifenthrin resistance and *Culex* vectors in Beach Mosquito Control District ... **Mr. Michael Riles, Entomologist, Beach Mosquito Control District, Panama, FL**
- 4:10pm Insecticide resistance evaluation using the CDC bottle bioassay with spatial repellent compound-metofluthrin against susceptible and resistant strains of *Aedes aegypti* ... **Dr. Christopher Bibbs, Entomologist, AMCD, Dr. Emad Khater, Ain Shams Univ. of Egypt, Dr. Judy Zhu, Wuxi CDC, and Dr. Rui-De Xue, AMCD, St. Augustine, FL**
- 4:25pm Update on artificial blood meal for mosquito feeding ... **Dr. Christopher Batich, Professor, Department of Materials Science and Engineering, University of Florida, Gainesville, FL**
- 4:40pm Fir needle plant essential oil significantly increases knockdown, but not toxicity, of diverse public health insecticides against *Aedes aegypti* ... **Dr. Ed Norris, Post Doctorate, Dr. J. R. Bloomquist, Professor, University of Florida, EPI, Gainesville, FL**
- 5:00pm Advances in olfactometry ... **Mr. James Estaver, Director, Sigma Scientific LLC, Micanopy, FL**

5:15 P.M. END OF THE SESSION

THURSDAY, MARCH 28, 2019

Moderator: Dr. Paul T. Leisnham, Associate Professor, University of Maryland, College Park, Maryland

NE-1443: BIOLOGY, ECOLOGY & MANAGEMENT OF EMERGING DISEASE VECTORS (5th Annual Mtg.)

- 8:30am: **KEYNOTE SPEAKER:** Overview of USDA/ARS, Medical, Veterinary, and Urban Entomology Programs ... **Dr. Uli Bernier, National Program Leader, USDA/ARS, Washington DC**
- 9:00am The efficacy of UV LED mosquito and fly traps ... **Dr. Phil Koehler, Professor, Department of Entomology & Nematology, University of Florida, Gainesville, FL**
- 9:20am: Parameter estimation for modeling *Rhipicephalus sanguineus* L. residential infestations ... **Ms. Yuexun Tian, Ph.D. Student, Dr. Cynthia Lord, Associate Professor, Dr. Phillip Kaufman, Professor, Dept. of Entomology & Nematology, University of Florida, Gainesville, FL**
- 9:30am: Overview of the AMCD intern and visiting scientist program ... **Ms. Molly Clark, Education Specialist, AMCD, St. Augustine, FL**
- 9:50am: Preliminary Business Meeting
- Chairperson's Report
 - CSREES Representative's Report
 - Administrative Advisor's Comments
- 10:20 am: Introductions – Each participant briefly introduces themselves and their interests
- 10:30 am: BREAK**
- 11:00 am: A new software for mobile phone application to improve customer service ... **Mr. Richard Weaver, Business Manager, AMCD, St. Augustine, FL**
- 11:20am: 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 ... **Mrs. Kelly Deutsch, Central Life Sciences**
- 12:00 pm: LUNCH BREAK (provided by Central Life Sciences)**
- 1:00 pm: The mosquito tracheal system: structure/function analyses of carbon dioxide handling and larval development ... **Dr. Paul Linser, Professor, University of Florida, Whitney Laboratory, 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 2020 Annual Meeting site, dates, venue and agenda
- 5:00 pm: 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. Paul T. Leisnham at leisnham@umd.edu