

**THE 17TH ARBOVIRUS SURVEILLANCE
AND MOSQUITO CONTROL WORKSHOP IN CONJUNCTION WITH
EQUIPMENT / TECHNOLOGY DEMONSTRATION
AND THE FMCA'S NE REGIONAL MEETING**

Sponsored by AMCD, USDA/CMAVE & FMCA

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

MARCH 29-MARCH 31, 2022

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PROGRAM AGENDA

TUESDAY, MARCH 29, 2022

7:30am Registration ... **AMCD Staff**

PANEL SESSION:

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

8:05am Welcome & Introduction ... **Mrs. Jeanne Moeller, Chairperson, AMCD's Board of Commissioners; Dr. Daniel Kline and Dr. Ken Linthicum, Center Director, USDA/CMAVE, and Mr. Chris Lesser, President of the FMCA**

8:10am **KEYNOTE SPEAKER:** Update on mosquito-borne arbovirus diseases in the U.S.A. ... **Dr. Lyle Petersen, Director, Division of Vector-borne Diseases, CDC, Ft. Collins, CO**

8:40am **KEYNOTE SPEAKER:** New insecticides and repellents for mosquito control ... **Dr. Jeffrey R. Bloomquist, Term & UF Research Foundation Professor, Department of Entomology and Nematology, Emerging Pathogens Institute, University of Florida, Gainesville, FL**

9:10am **GUEST SPEAKER:** Overview of the IVCC for vector control product development ... **Mr. Mark Latham /Dr. Jason Richardson, Technical Manager, IVCC, Liverpool, UK**

9:40 A.M. - BREAK

GERNAL SESSION:

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

10:00am Prospect and challenge of attractive toxic/target sugar baits (ATSB) and bait stations against vector mosquitoes ... **Dr. Rui-De Xue, Executive Director, AMCD, St. Augustine, FL. Dr. Gunter Muller, Professor, Malaria Research & Training Center, University of Bamako, Mali**

10:20am Overview of USDA/CMAVE programs ... **Dr. Daniel Kline, Research Entomologist, USDA/CMAVE, Gainesville, FL**

10:40am Overview of vector-borne diseases in Texas... **Dr. Steven M Presley, Professor & Director. The Institute of Environmental and Human Health, Texas Tech University, Lubbock, TX**

- 11:00am Overview of the program of the University of Florida Emerging Pathogens Institute ... **Dr. J. Glenn Morris, Jr. Professor & Director, Emerging Pathogens Institute, UF, Gainesville, FL**
- 11:20am Charting a course for metagenomic xenosurveillance in vector-borne disease surveillance and control... **Dr. Rhoel R. Dinglasan, Professor and Director, CDC Southeastern Center of Excellence for Vector-borne Diseases, University of Florida, Gainesville, FL**
- 11:40am DoD pest management research and the Deployed Warfighter Protection Program (DWFP) programs ... **LTC Michelle Colacicco-Mayhugh and Dr. Gabriela Zollner, Armed Forces Pest Management Board, Silver Spring, MD (virtual)**
- 12:00pm New products from Vesperis for 2022 ... **Mr. Jason E. Conrad, Industry Specialist, Vesperis**

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

PROGRAMS & ASSOCIATIONS:

Moderator: Mr. Chris Lesser, President of the FMCA and Director, Manatee MCD, FL

- 1:10pm Knowledge, perceptions, and practices of mosquito larval source management in discarded vehicle tires among New Orleans residents... **Dr. Imelda K. Moise, Assistant Professor, University of Miami, Miami, FL and Dr. Claudia Riegel, Director, New Orleans Mosquito and Vector Control District, New Orleans, LA (Cancelled)**
- 1:30pm Overview of DACS/DPI Bureau of Entomological program ... **Dr. Leroy Whilby, Chief, Bureau of Entomology, Nematology, and Plant Pathology, DACS/DPI, Gainesville, FL**
- 1:50pm Overview of Lee County Mosquito Control District's programs ... **Dr. David Hoel, Executive Director, LMCD, Ft. Myers, FL**
- 2:10pm The Florida DACS mosquito control program update ... **Ms. Marah Clark, Environmental Administrator, Entomology and Pest Control Section, DACS, Tallahassee, FL**
- 2:30pm Update on the American Mosquito Control Association ... **Mr. Robert Cartner, Regional Director of the AMCA**
- 2:45pm Update on the Society of Vector Ecology ... **Dr. Michell Brown, Executive Director of the SOVE**
- 3:00pm Update on the Florida Mosquito Control Association ... **Mr. Chris Lesser, President of the FMCA**
- 3:15pm Wing Beats & the JFMCA update **Dr. Randy Gaugler, Distinguished Professor Emeritus, Rutgers University & Dr. Rui-De Xue, Executive Director, AMCD**
- 3:20pm The Northwest Florida mosquito control workshop... **Dr. John Smith, Public Health Entomological Service, LLC and Beach Mosquito Control District Commissioner, Panama City, FL**
- 3:40pm AMCD's sentinel chicken for arbovirus surveillance ... **Dr. Steven Peper, Molecular Entomologist, AMCD, St. Augustine, FL**

3:50 P.M. - BREAK

DISEASE SURVEILLANCE:

Moderator: Dr. Michael Turell, Senior Arbovirologist (retired), US Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD

- 4:00pm The Rift Valley fever virus, risks and dangers to Americas ... **Dr. Michael Turell, Senior Arbovirologist (retired), US Army Medical Research Institute of Infectious Diseases, Fort Detrick, MD**
- 4:20pm 2021 Arbovirus surveillance report in Florida ... **Dr. Andrea Morrison, Vector-borne Disease Surveillance Coordinator, Bureau of Epidemiology, DOH, Tallahassee, FL**
- 4:40pm Automated real time collection & high-fidelity identification of vectors ... **Dr. Dongmin Kim, Post doctor Associate, Dr. Nathan Burkett-Cadena, Association Professor, University of Florida, Florida Medical Entomology Laboratory, Vero Beach, FL**
- 5:00pm The importance of product rotation, a story about catch basins, bicycles, *pipiens*, and *sphaericus*...**Dr. Gregg White, Assistant Director/Vector Ecologist, Salt Lake City Mosquito Abatement, Salt Lake City, UT**
- 5:20pm End of the session
- 5:30pm **DINNER & LECTURE (HELICOPTER HANGAR) (ALL PARTICIPANTS):** Overview of AMCD aerial program & Clarke Mosquito Control new products ... **Mr. Dana Smith, Chief Pilot/Aviation Manager, AMCD, St. Augustine, FL. Mr. Frank Clarke, Vice President, Clarke Mosquito Control.**

WEDESDAY, MARCH 30, 2022

BIOLOGY & ECOLOGY:

Moderator: Dr. Jerry Hogsette, Lead Scientist & Research Entomologist, USDA/ARS/CMAVE, Gainesville, FL

- 8:20am Consumption of endemic arbovirus mosquito vectors by bats in the southeastern United States ... **Dr. Eva Buckner, Assistant Professor & State Extension Specialist, UF/IFAS Florida Medical Entomology Laboratory, Vero Beach, FL**
- 8:40am Insights on *Aedes aegypti* biology from comparative genomics ... **Dr. Derrick Mathias, Assistant Professor, University of Florida/IFAS/FMEL, Vero Beach, FL**
- 9:00am Surveillance and control efforts of *Aedes aegypti* in West Valley, California ... **Dr. Michelle Brown, General Manager, West Valley Mosquito and Vector Control District, CA.**
- 9:20am Spatial patterns of arbovirus transmission in Northeastern Florida ... **Dr. Lindsay O. Campbell, Assistant Professor, UF/IFAS/FMEL, Vero Beach, FL**
- 9:40am The re-emergence of *Ae. aegypti* in the North-Central Florida ... **Dr. Peter Jiang, Gainesville Mosquito Control, FL, George Deskins, Sandra Fisher-Grainger.**

10:00 A.M. - BREAK

ATTRACTANT / TRAP / REPELLENT:

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

- 10:20am Final testing of an attract and kill device for stable flies ... **Dr. Jerry Hogsette, Lead Scientist & Research Entomologist, USDA/ARS/CMAVE, Gainesville, FL**
- 10:40am Update on repellents for skin and clothing ... **Dr. Ulrich Bernier, Research Scientist (retired), USDA/ARS/CMAVE, Gainesville, FL**
- 11:00am A comparison of flying biting arthropod collections obtained from Dynatrap's DT160 traps equipped with regular and fine mesh catch baskets. **Dr. Daniel L. Kline, Research Entomologist, USDA/CMAVE, Gainesville, FL and Karen McKenzie**
- 11:20am Evaluation of spatial repellents against *Aedes aegypti* mosquitoes ... **Dr. M. Farooq, Field Biologist, AMCD, St. Augustine, FL**
- 11:40am Field evaluation of wind conditions and their effects on female mosquito flight activity. **Dr. Neil J. Vickers, Professor & Co-Director, School of Biological Sciences, University of Utah. Salt Lake City**
- 11:50am New products and technology from ADAPCO for 2022 ... **Mr. Chris Pederson, ADAPCO, Sanford, FL**

12:00 P.M. - LUNCH BREAK (provided by ADAPCO & AMVAC)

THE FMCA'S NORTHEAST REGIONAL ROUNDTABLE MEETING ... Mr. Alden Estep, FMCA's NE Regional Director (cancelled)

LARVAL & ADULT CONTROL:

Moderator: Dr. Whitney A. Qualls, Entomologist/Scientific Manager, AMCD, St. Augustine, FL

- 1:00pm Operational sterile male releases in St. Augustine ... **Dr. Ken Linthicum, Center Director, USDA/CMAVE, Gainesville, FL. Dr. Daniel A. Hahn, Professor, Department of Entomology & Nematology, University of Florida, Gainesville, FL, Chao Chen, Seth Britch, and Bob Aldridge, Vindhya Aryaprema, Rui-De Xue, Whitney Qualls**
- 1:20pm Control of *Aedes aegypti* by SIT technology on Captiva Island in Lee County... **Ms. Rachel Morreale, Lee County Mosquito Control District, Ft. Myers, FL**
- 1:40pm Automated sex sorter and mass release technology for SIT mosquitoes ... **Mr. Patricial Mr. Ralph Breslauer, CEO, Senecio, St. Augustine, FL**
- 2:00pm Aerial capability for mosquito control in Florida ... **Mr. Mark Latham, Retired Director, Manatee County Mosquito Control District, Palmetto, FL**
- 2:20pm Collier Mosquito Control District: UAS program overview ... **Mr. Peter Brake, Director of Technical Development, Collier Mosquito Control District, Naples, FL**
- 2:40pm Applying remote sensing techniques to advance mosquito control methods...**Dr. Kyndall Braumuller & Dr. Melissa Nolan, Assistant Professor, University of South Carolina, SC.**
- 3:00pm MGK's new products for mosquito control ... **Dr. Caleb Corona, Entomologist, MGK, MN**

3:10 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 Evaluation of nanoparticle formulation of mosquito adulticides ... **Mr. Kai Blore, UF/Ph.D. Student /Biological Technician, AMCD, St. Augustine, FL**

3:40pm The biologic interrogable tissue-engineered system (BITES): A new platform for study of arthropod bite site biology ... **Dr. Bradley Jay Willenberg, Assistant Professor of Medicine. Department of Internal Medicine, University of Central Florida College of Medicine, Orlando, FL**

4:00pm Differential toxicity of insecticides to *Apis mellifera* and *Aedes aegypti* ... **Dr. Roberto Pereira and Dr. Phil Koehler, UF/Dept. of Entomology, Gainesville, FL**

4:20pm Metabolic resistance in permethrin-resistant Florida *Aedes aegypti* ... **Ms. Sierra M. Schlupe, LTJG, Navy Entomology Center of Excellence, Jacksonville, FL.**

4:40pm Botanical insecticide update... **Dr. Ed. Norris, Research Chemist, USDA/CAMVE, Gainesville, FL (virtual).**

5:00pm Laboratory and semi-field evaluation of insecticide resistance in field collected *Culex quinquefasciatus* ... **Dr. Neil Sanscrainte, Molecular Biologist, & Alden Estep, Research Entomologist, USDA/CMAVE, Gainesville, FL (virtual).**

5:20pm Getting real with resistance: Applying lab testing results to field operations .. **Mr. Alden Estep, Research Entomologist, USDA/CMAVE, Gainesville, FL (virtual).**

5:40 P.M. END OF THE SESSION

THURSDAY, MARCH 31, 2022

OTHER PROGRAM:

Moderator: Dr. Ary Faraji, Director, Salt Lake City Mosquito Control Abatement, Salt Lake, UT

8:00am Good laboratory practice (GLP) in mosquito control product evaluations ... **Dr. Karl Malamud-Roam, Vector Control Consultants, CA**

8:20am Research program overview from Salt Lake City Mosquito Control Abatement ... **Dr. Ary Faraji, Director/ Entomologist, Salt Lake City Mosquito Control District, Salt Lake, UT**

8:40am Streamlining Brevard County Mosquito Control operations from the ground up ... **Mr. Joseph M. Faella, Director, Michael Buono, Steven Whitt, Jonathan Koagel and Jonathan Linder, Brevard Mosquito Control District, Titusville, FL**

9:00am Update about drone for mosquito control in Lee County MCD ... **Mr. Aaron Lloyd, Assistant Director, LMCD, Ft. Myers, FL**

9:20am Contradicting 355 years of mosquito larval physiology and respiratory dogma & a new type of control trap... **Mr. Herb Nyberg, New Mountain Innovation, Florida Keys, FL**

9:40am Sensory smart cages development for mosquito adulticide evaluation... **Dr. William Eisenstadt, Professor, Department of Electronic Engineer, University of Florida, Gainesville, FL**

10:00 A.M. - BREAK

- 10:20am Gizmos, gadgets and things that go at mosquito control: innovation in adverse times ... **Mr. Steven Whitt, North Area Supervisor, Jonathan Koagel, Michael Buono, Joseph M. Faella, Brevard Mosquito Control District, Titusville, FL**
- 10:35am AMCD collaboration project update ... **Dr. Whitney Qualls, Entomologist/Scientific Manager, AMCD, St. Augustine, FL**
- 10:50am Reassessing the host associations of the *Culex* flavivirus vectors ... **Dr. Lawrence E. Reeves, Assistant Professor, University of Florida/FMEL, Vero Beach, FL**
- 11:10am Survey report about decision-making action thresholds ... **Dr. Vindhya Aryaprema, Biologist, AMCD, St. Augustine, FL**
- 11:20am Arbovirus surveillance using mosquito pooling .. **Ms. Heather Ward, Biological Tech, AMCD, St. Augustine, FL**
- 11:30am Overview of UF/IFAS Extension projects about outreach ... **Dr. Rebeca Baldwin, Associate Professor Department of Entomology & Nematology, UF/IFAS, Gainesville, FL**
- 11:50pm New products from Central Life Sciences for 2022 ... **Mrs. Kelly Deutsch, Central Life Sciences**

12:00 P.M. - LUNCH BREAK (provided by CENTRAL LIFE SCIENCES)

- 1:00pm Industry equipment and drone demonstrations **Mr. Bill Reynolds, CEO, Leading Edge Associates, NC & Dr. James Cilek, NECE, Jacksonville, FL (cancelled)**
- 2:00pm New technological demonstration, smart cage & droplet analysis **Dr. M. Farooq, AMCD, St. Augustine, FL & Dr. William Eisenstadt, Professor of University of Florida**