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SCIENTIFIC PROGRAM

47th ANNUAL CONFERENCE OF SOCIETY FOR VECTOR ECOLOGY
ANCHORAGE, ALASKA
SEPTEMBER 11 – 15, 2016

SUNDAY – SEPTEMBER 11, 2016

2:00 – 6:00 **REGISTRATION**

4:00 – 5:30 **BOARD MEETING**
YUKON ROOM

NO OTHER ACTIVITY

MONDAY – SEPTEMBER 12, 2016

8:00 – 8:05 **WELCOME**
Lal Mian lmian@csusb.edu
Vice President
Cal State University, San Bernardino, CA

8:05 – 8:15 **AWARD PRESENTATIONS**
Lal Mian lmian@csusb.edu
Vice President
Dan Kline dan.kline@ars.usda.gov
President
USDA-ARS, CMAVE, Gainesville, FL

8:15 – 8:25 **ANNOUNCEMENTS**
Major S. Dhillon mdhillon@northwestmvcd.org
Secretary-Treasurer, SOVE, Corona, CA

8:25 – 8:50 **PRESIDENTIAL ADDRESS**
Dan Kline dan.kline@ars.usda.gov
President

8:50 – 9:30 **KEYNOTE ADDRESS**
Mendel, Mosquitoes and Malaria: Applying Modern Genetics to Control an Ancient Disease
Gregory Lanzaro gclanzaro@ucdavis.edu
Vector Genetics Laboratory, Dept. of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis, CA

9:30 – 10:00 **REPORTS FROM OVERSEAS SOVE REGIONS:**

9:30 ***BRAZILIAN SOVE***
Paulo Pimenta pimenta@cpqrr.fiocruz.br
FIOCRUZ, Belo Horizonte, Minas Gerais, Brazil

9:40 ***ASIAN SOVE***
Rui-De Xue xueamcd@gmail.com
Anastasia Mosquito Control District, St. Augustine, FL

9:50 ***EURO SOVE***
Eva Veronesi eva.veronesi@uzh.ch
University of Zürich, Parasitology Dept., Zurich, Switzerland

10:00 – 10:30 **BREAK**

10:30 – 12:00 **SYMPOSIUM 1**: **MOSQUITO-BORNE ARBORVIRAL INFECTIOUS DISEASES**
Moderator: Ken Linthicum
kenneth.linthicum@ars.usda.gov
USDA CMAVE, Gainesville, FL

10:30 The risk of Zika virus transmission in the continental US, an historical perspective, and factors affecting vector competence of arboviruses
Mike Turell mturell@erols.com

Retired DoD, Frederick, MD

10:55 Environmental factors impacting chikungunya and Rift Valley fever transmission
Assaf Anyamba assaf.anyamba@nasa.gov
NASA, Goddard Space Flight Center, Greenbelt, MD

11:15 Zika and chikungunya viruses: an entomological perspective of the outbreak in Puerto Rico
Ryan Hemme wma0@cdc.gov, Roberto Barrera and Gilberto Felix
CDC, Dengue Branch, San Juan, PR

11:40 *Aedes aegypti* and *Aedes albopictus* surveillance and control techniques
Dan Kline dan.kline@ars.usda.gov
USDA CMAVE, Gainesville, FL

12:00 – 1:00 **LUNCH**

1:00 – 3:00 **SYMPOSIUM 2**: **ECOLOGY OF ZOONOTIC DISEASE VECTORS**
Moderators: Ben Beard cbb0@cdc.gov
CDC – Division of Vector-Borne Diseases, Fort Collins, CO

1:00 Zika Virus – An emerging exotic zoonotic pathogen: Outbreak status update in the U.S. and surrounding areas
Ben Beard cbb0@cdc.gov
CDC – Division of Vector-Borne Diseases, Fort Collins, CO

1:25 The emergence and re-emergence of plague over the last two millennia
Ken Gage klg0@cdc.gov
CDC – Division of Vector-Borne Diseases

1:50 Vector and clinical epidemiology of Chagas Disease in Texas
Melissa N. Garcia mnolan@bcm.edu
Baylor College of Medicine, Houston, TX

2:15 Vectors of spotted fever rickettsioses: changing paradigms
Michael L. Levin mlevin@cdc.gov
CDC – Division of Vector-Borne Diseases, Atlanta, GA

2:40 Trends and emergence of *Ixodes scapularis*-transmitted diseases in the U.S.
Ben Beard cbb0@cdc.gov
CDC – Division of Vector-Borne Diseases, Fort Collins, CO

3:00 – 3:30 **BREAK**

3:30 – 5:30 **SYMPOSIUM 3**: **INNOVATIONS IN VECTOR CONTROL**
Faculty Coordinator: William Walton
william.walton@ucr.edu
University of California, Riverside, CA
Student Moderators:
Kristen Hopperstad kahopper@ncsu.edu
North Carolina State University, Raleigh, NC
Steve Peper steve.peper@ttu.edu
Texas Tech University, Lubbock, TX

3:30 Ovipositional responses of *Culex tarsalis* to fish-associated semiochemicals in laboratory bioassays
Adena Why awhy001@ucr.edu and William Walton
University of California, Riverside, CA

3:45 Predictive modeling for West Nile virus and mosquito surveillance in Lubbock, Texas, United States
Steven T. Peper steve.peper@ttu.edu, Grant E. Sorensen, Daniel E. Dawson, Jordan Hunter, Francis Loko, Sadia Almas, Kevan Athanasiou, Anna G. Gibson and Steven M. Presley
Texas Tech University, Lubbock, TX

4:00 Using temperature-dependent metabolic rates of *Culex quinquefasciatus* and *Aedes albopictus* to model larval mortality from *Bacillus sphaericus* and spinosad
Emily Boothe emilyb@lsu.edu and Kristen Healy
Louisiana State University, Baton Rouge, LA

4:15 Understanding *Aedes japonicus japonicus* distribution in container habitats
Katherine Demeuse demeusek@msu.edu and Michael Kaufman
Michigan State University, East Lansing, MI

4:30 *Aedes aegypti* in Mississippi: Search for an old enemy
James Hunter Deerman james.deerman@eagles.usm.edu, Wendy Varnado, Jerome Goddard, Gail Moraru and Donald Yee
University of Southern Mississippi, Hattiesburg, MS; Mississippi State Department of Health, Jackson, MS; Mississippi State University, Starkville, MS

4:45 Genetic variation between geographically distant *Aedes aegypti* populations in the United States
Kristen Hopperstad kahopper@ncsu.edu and Michael Reiskind
North Carolina State University, Raleigh, NC

5:00 Laboratory evaluation of a novel lethal ovitrap for control of *Aedes aegypti* and *Aedes albopictus*
Casey Parker caseyparker@ufl.edu, Alexandra Chaskopoulou, Roberto Pereira, and Philip Koehler
University of Florida, Gainesville, FL; USDA - ARS, Thessaloniki, Greece

5:15 Host utilization by *Culicoides* biting midges at a captive deer preserve in Florida
Bethany McGregor bmcgreg@ufl.edu, Nathan Burkett-Cadena, Tanise Stenn, Samantha Wisely, Katherine Sayler and Jason Blackburn
Florida Medical Entomology Laboratory, University of Florida, Vero Beach, FL; University of Florida, Gainesville, FL

6:00 – 8:00 **RECEPTION: SUMMIT, 15th FLOOR**

TUESDAY – SEPTEMBER 13, 2016

8:30 – 5:00 ***FIELD ECOLOGY DAY:***
7 GLACIERS TOUR
LUNCH ON BOAT: HOSTED

7:00-9:00 ***DINNER AT SHERATON ANCHORAGE HOTEL: HOSTED***
SUMMIT, 15th FLOOR

WEDNESDAY – SEPTEMBER 14, 2016

7:30 – 9:30 ***POSTER SESSION AND HOSTED BREAKFAST***
HOWARD ROCK – LOBBY/FOYER

P-1: Distribution of *Aedes aegypti* and *Aedes albopictus* in Hawaii
Durrell Kapan dkapan@calacademy.org, Institute for Biodiversity Science and Sustainability, California Academy of Sciences, San Francisco, CA; Karl Lindberg, Jim Henderson and Jonathan Winchester

P-2: Altered vector competence profiles of *Culex pipiens* elicited by a single amino acid change (NS3-H249P) in Lineage 2 West Nile virus isolates
Hannah Romo vym8@cdc.gov, Division of Vector-Borne Diseases, Centers for Disease Control and Prevention, Ft. Collins, CO; Anna Papa, Michael Anishchenko, Greg D. Ebel and Aaron C. Brault

P-3: A case of specialism and synchrony: California's *Neoculex*
Jamesina J. Scott jjscott@lcvcd.org, Lake County Vector Control District, Lakeport, CA; Brittany M. Nelms and Danielle N. Bridges

P-4: Detection of novel and recognized mosquito-borne and mosquito-specific viruses in the Yucatan Peninsula of Mexico
Bradley J. Blitvich blitvich@iastate.edu, Department of Veterinary Microbiology and Preventive Medicine, College of Veterinary Medicine, Iowa State University, Ames IA; Einat Hovav, Victor Soto, Karin S. Dorman, Thomas Briese, W. Ian Lipkin, Jose A. Farfan-Ale, Julian E. Garcia-Rejon and Maria A. Loroño-Pino

P-5: Entomological cluster investigations during a dengue outbreak on the Big Island of Hawaii in 2015-2016
Jeomhee Hasty jeomhee.hasty@doh.hawaii.gov, State of Hawaii, Department of Health, Vector Control Program, Aiea, HI; Erick Honda, Steven Okoji, Lynn Nakasone, Roberto Barrera, Sarah Park, Gilberto Felix and Ryan Hemme

P-6: Network-based modeling for chikungunya spread in Dominica
Heidi E. Brown heidibrown@email.arizona.edu, Epidemiology and Biostatistics, University of Arizona, Tucson, AZ; Joceline Lega, Wangshu Mu and Daoqin Tong

P-7: Climate influences on *Aedes aegypti* survival and egg laying
Heidi E. Brown heidibrown@email.arizona.edu, Epidemiology and Biostatistics, University of Arizona, Tucson, AZ; Caitlin Smith and Stephanie Lashway

P-8: The heterogeneous and scale-dependent influence of wetlands on mosquito viral infection and abundance
Nicholas K Skaff skaffnic@msu.edu, Department of Fisheries and Wildlife, Michigan State University, East Lansing, MI; Philip M. Armstrong, Theodore G. Andreadis and Kendra S. Cheruvelil

P-9: The premonition trap: First field trials of a robotic smart trap for mosquitoes with species recognition
Douglas E Norris douglas.norris@jhu.edu, Molecular Microbiology and Immunology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD; Giovanna Carpi, Anadasankar Ray, Tom Guda, Eamonn Keogh, Shailendra Singh, Yan Zhu, Alex Ching, Patrick Therien and Ethan K. Jackson

P-10: City-wide residential Zika vector surveillance in large U.S. metropolitan area using CDC Autocidal Gravid Ovitraps
Megan Wise de Valdez mwisedev@tamusa.edu, Texas A&M University, San Antonio, TX; Michelle Ximenez and Joshua Darden

P-11: A comparison of carbon dioxide sources for mosquito capture in CDC light traps on the Florida Gulf Coast
David Hoel david.hoel@usuhs.edu, Uniformed Services University of the Health Sciences, Bethesda, MD; James C. Dunford, Daniel L. Kline, Seth R. Irish, Michael Weber, Alec G. Richardson, Carl W. Doud and Robert A. Wirtz

P-12: Efficacy of soap solutions for mosquito control
Jeomhee Hasty jeomhee.hasty@doh.hawaii.gov, State of Hawaii, Department of Health, Vector Control Program, Aiea, HI; Sarah Park, Ryan Hemme and Lynn Nakasone

P-13: Plant essential oils are capable of enhancing diverse synthetic insecticides against susceptible and resistant mosquito species
Edmund Norris ejnorris@iastate.edu, Department of Entomology, Iowa State University, Ames, IA; Maria Archevald, Aaron Gross, Lyric Bartholomay and Joel Coats

P-14: Efficacy of pyrethroid insecticide applied as barrier treatments for managing *Aedes albopictus* populations
Isik Unlu iunlu@mercercounty.org, Mercer County Mosquito Control, West Trenton, NJ; Devi Suman, Yi Wang, Kim Klingler, Nick Indelicato, Ary Faraji, Scott Crans, Greg Williams and Randy Gaugler

P-15: An island in peril: The status of insecticide resistance in *Aedes aegypti* in Puerto Rico
Gilberto Felix ckn5@cdc.gov, Entomology and Ecology Activity, CDC/ Dengue Branch, San Juan, PR; Roberto Barrera, Nicole Nazario and Ryan Hemme

P-16: Using the horizontal transfer capabilities of insect growth regulators to control population levels of the malaria mosquito, *Anopheles gambiae*
Daniel R. Swale dswale@agcenter.lsu.edu, Louisiana State University, Department of Entomology, Baton Rouge LA; Kristen Healy, Emily Boothe, Randy Vaeth and Todd Walker

P-17: Host movement, vector density and risk of epizootic hemorrhagic disease in northern Florida
Nathan Burkett-Cadena nburkettcadena@ufl.edu, University of Florida, IFAS, Florida Medical Entomology Laboratory, Vero Beach, FL; Jason Blackburn, Katherine Sayler, Erik Blosser, Bethany McGregor and Samantha Wisely

P-18: Preparing residents in Clovis, CA for the release of 640,000 male *Aedes aegypti* into their neighborhood
Jodi Holeman jholeman@mosquitobuzz.net, Consolidated Mosquito Abatement District, Selma, CA; Fred S. Mulligan III, Katherine Ramirez, Anthony J Cornel, Corey Brelsfoard, James Mains and Stephen Dobson

P-19: The implementation of Mosquito Forecast System through the Smart Mosquito Devices in the Seoul Metropolitan City of Korea
Hoonbok Yi yih@swu.ac.kr, Dept. Biology, Seoul Women's University, Nowongu, Seoul, Korea; Hyunjung Kim, Sun-Young Kim, Soo Hyun Lee, In Ok Han, Gyu Dae Kim, Hea Sook Hong, Chang Bo Kim, Jaeseung Yu and Rui-de Xue

P-20: Loss of species and urbanization favor disease vector species: an ecological study in urban parks
Mauro Toledo Marrelli mmarelli@usp.br, Department of Epidemiology, Public Health School, University of São Paulo, Brazil; Antonio Ralph Medeiros-Sousa, Walter Ceretti-Junior and André Barretto Bruno Wilke

P-21: Development and evaluation of sampling methods and equipment for Chironomid midges in urban groundwater recharge basins
Min-Lee Cheng mcheng@wvmvcd.org, West Valley Mosquito and Vector Control District, Ontario, CA; Jennifer Thieme, Tianyun Su, Alfonso Melgoza, Quan Vong, Sokanary Sun and Ramiro Salazar

P-22: Efficacy of methoprene formulation to control Chironomid midges in urban groundwater recharge basins
Tianyun Su tsu@wvmvcd.org, West Valley Mosquito and Vector Control District, Ontario, CA; Min-Lee Cheng, Jennifer Thieme, Alfonso Melgoza, Sokanary Sun and Quan Vong

P-23: DNA barcoding and host feeding preferences of Phlebotomine sand flies from an endemic focus of canine leishmaniasis in Northern Greece
Ioannis Giantsis igiant@afs.edu.gr, European Biological Control Laboratory, USDA-ARS, Thessaloniki, Greece; Alexandra Chaskopoulou and Marie Claude Bon

P-24: *Ixodes inopinatus* – not only in the Mediterranean region
Lidia Chitimia-Dobler lidychitimia@yahoo.com, Bundeswehr Institute of Microbiology, München, Germany; Jerome Moriniere, Ramona Rieb, Silke Wölfel, Gerhard Dobler and Santiago Nava

P-25: Spatial structure of tick-borne encephalitis natural foci in Germany
Gerhard Dobler gerharddobler@bundeswehr.org, Bundeswehr Institute of Microbiology, Dept. of Virology and Rickettsiology, München, Germany; and Lidia Chitimia-Dobler

P-26: Phenology of tick-borne encephalitis virus and of the tick species *Ixodes ricinus* in a natural focus in Germany over eight years
Gerhard Dobler gerharddobler@bundeswehr.org, Bundeswehr Institute of Microbiology, Dept. of Virology and Rickettsiology, München, Germany; and Lidia Chitimia-Dobler

9:30 – 10:00 **INVITED SPEAKER:** Research and Control of Malaria: Its socioeconomic impact on India
Ashwani Kumar ashwani07@gmail.com
National Institute of Malaria Research (Indian Council of Medical Research), Panaji, Goa, India-403001

10:00 – 12:00 **SYMPOSIUM 4**: **VECTOR ECOLOGY ACROSS BORDERS**
Moderator: Norbert Becker norbertfbecker@web.de
German Mosquito Control Association (KABS), Speyer, Germany; University of Heidelberg, Heidelberg, Germany

10:00 Vector competence of *Aedes* mosquitoes for dengue and Zika viruses in two Brazilian endemic-risk cities: Belo Horizonte (Southeast) and Manaus (North, Amazonas)
Paulo F. P. Pimenta pimenta@cpqrr.fiocruz.br
FIOCRUZ, Belo Horizonte, M.G. Brazil

10:20 Distribution of sand fly species (Diptera: Psychodidae), community analysis, and pathogen detection in the Balkan states – EU-ECDC/EFSA VectorNet Project
Bulent Alten kaynas@hacettepe.edu.tr, V. Dvorak, O.E. Kasap, G. Oguz, N. Ayhan, S. Vaselek, J. Omeragic, I. Pajovic, F. Martinkovic, O. Mikov, J. Stefanovska, D. Petric, D. Baymak, Y. Ozbel, J. Depaquit, V. Ivovic and P. Volf
Hacettepe University, Department of Biology, Ecology Division, Beytepe-Ankara-Turkey

10:40 Vector competence studies on invasive species in Switzerland
Eva Veronesi eva.veronesi@uzh.ch
University of Zürich, Parasitology Dept., Zurich, Switzerland

11:00 Exotic mosquito surveillance: an overview of three international projects
Darryl McGinn darryl.mcginn@mcspty.com, Mark Disbury and Megan Nilon
Mosquito Consulting Services Pty. Ltd. Australia and New Zealand; South Burnett Regional Council, Queensland Australia

11:20 Control of mosquitoes transmitting malaria and West Nile virus in Greece, 2010-2016
Spiros Mourelatos mourelatos@ecodev.gr
Ecodevelopment SA, Thessaloniki, Greece

11:40 The invasion of the Asian tiger mosquito in Germany
Norbert Becker norbertfbecker@web.de, Artur Jost, Bjorn Pluskota, Egbert Tannich and Carola Kuhn
German Mosquito Control Association (KABS), Speyer, Germany; University of Heidelberg, Heidelberg, Germany; Bernhard-Nocht-Institute, Hamburg, Germany; Federal Agency for Environment, Berlin, Germany

12:00 – 1:30 **LUNCH**

1:30 – 3:00 **SYMPOSIUM 5**: **NOVEL METHODS FOR VECTOR SURVEILLANCE AND CONTROL**

Moderators: Gregory Lanzaro gclanzaro@ucdavis.edu
Vector Genetics Laboratory, Dept. of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis, CA
Yoosook Lee yoslee@ucdavis.edu
Vector Genetics Laboratory, Dept. of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis, CA

1:30 Xenomonitoring for controlling *Aedes aegypti* populations: targeting competent vectors for Dengue and Zika
Paulo Pimenta pimento@cpqrr.fiocruz.br
FIOCRUZ, Belo Horizonte, Minas Gerais, Brazil

1:50 Round peg in a square hole: Field testing/implementation within the community
Steve Mulligan conmad@pacbell.net
Consolidated Mosquito Abatement District, Selma, CA

2:15 Gene Drive: Why it is essential and why it is controversial
Greg Lanzaro gclanzaro@ucdavis.edu
Vector Genetics Laboratory, Dept. of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis, CA

2:40 Search effort for suitable GMM field trial site: Comparison of Mali and Comoros
Yoosook Lee yoslee@ucdavis.edu
Vector Genetics Laboratory, Dept. of Pathology, Microbiology and Immunology, School of Veterinary Medicine, University of California, Davis, CA

3:00 – 3:30 **BREAK**

3:30 – 5:30 **SYMPOSIUM 6**: **DEVELOPMENT OF NOVEL INSECTICIDE USES AND RESISTANCE MECHANISMS**
Moderator: Ulrich R. Bernier uli.bernier@ars.usda.gov
Mosquito & Fly Research Unit, USDA-ARS-CMAVE, Gainesville, FL

3:30 Pyrethroid resistance and altered blood-feeding behavior in Puerto Rican *Aedes aegypti* exposed to treated fabric
Natasha M. Agramonte nme@ufl.edu
Department of Entomology and Nematology, Emerging Pathogens Institute, University of Florida, Gainesville, FL

3:50 Mosquito ABC transporters: a toxicological barrier to mosquitocide delivery
Troy D. Anderson anderst@vt.edu
Department of Entomology, Fralin Life Science Institute Virginia Tech, Blacksburg, VA

4:10 Synthesis of novel insecticides based upon structure-activity relationships
Ulrich R. Bernier uli.bernier@ars.usda.gov
Mosquito and Fly Research Unit, USDA-ARS-CMAVE, Gainesville, FL

4:30 Toxicology of flonicamid and flonicamid analogs in mosquitoes
Jeffrey R. Bloomquist jbquist@epi.ufl.edu
Department of Entomology and Nematology, Emerging Pathogens Institute, University of Florida, Gainesville, FL

4:50 Toxicological and molecular characterization of pyrethroid resistance in *Aedes aegypti* from the southern United States
Alden Estep alden.estep@ars.usda.gov and James Becnel
Navy Entomology Center of Excellence, CMAVE Detachment, Gainesville, FL; Mosquito & Fly Research Unit, USDA-ARS-CMAVE, Gainesville, FL

5:10 Exploring the physiological role and toxicological potential of insect potassium ion transport pathways
Daniel Swale dswale@agcenter.lsu.edu
Department of Entomology, Louisiana State University, Baton Rouge, LA

6:00 **BUSINESS MEETING:**
Dan Kline dan.kline@ars.usda.gov
President
Major S. Dhillon mdhillon@northwestmvcd.org
Secretary-Treasurer

THURSDAY – SEPTEMBER 15, 2016

8:00 – 10:00 **SYMPOSIUM 7**: **ARTHROPOD VECTOR REPELLENTS**
Moderators: Mustapha Debboun
mdebboun@hcphes.org
Harris County Public Health, Houston, TX
Kamal Chauhan kamal.chauhan@ars.usda.gov
Invasive Insects Biocontrol and Behavior Laboratory, USDA-ARS, BARC-West, Beltsville, MD

8:00 Bio-based attractant for container-breeding mosquitoes
Kamal Chauhan kamal.chauhan@ars.usda.gov
Invasive Insects Biocontrol & Behavior Laboratory, USDA-ARS, BARC-West, Beltsville, MD

8:20 Spatial Repellents are Special
Joel R. Coats jcoats@iastate.edu
Department of Entomology, Iowa State University, Ames, IA

8:40 Peripheral coding of feeding deterrents in mosquitoes
Joseph C. Dickens joseph.dickens@ars.usda.gov
Invasive Insects Biocontrol & Behavior Laboratory, USDA-ARS, Beltsville, MD

9:00 Semi-field evaluation of novel passive release device for volatile attractants, repellents, and insecticides
Jedidiah D. Kline jdkl81@gmail.com, Bradley Jay Willenberg, Christopher D. Batich, DL Kline and Joyce Urban
Materials Science and Engineering Department, University of Florida; Burnett School of Biosciences, University of Central Florida; Mosquito and Fly Research Unit, USDA-ARS-CMAVE, Gainesville, FL

9:20 Insect repellent mixtures and combinations
Mustapha Debboun mdebboun@hcphes.org
Harris County Public Health, Houston, TX

9:40 Semi-field and field evaluations of the ThermaCell's new 12 hour mat
Dan Kline dan.kline@ars.usda.gov and Joyce Urban
Mosquito and Fly Research Unit, USDA-ARS-CMAVE, Gainesville, FL

10:00 – 10:30 **BREAK**

10:30 – 1:00 **SYMPOSIUM 8: INTEGRATED VECTOR MANAGEMENT**
Moderator: Robert Novak rnovak@health.usf.edu
University of South Florida Dept. Global Health, Tampa, FL

10:30 Introduction and IVM structure
Robert Novak rnovak@health.usf.edu
University of South Florida Dept. Global Health, Tampa, FL

10:45 When it comes to vector control, Are we doing the right thing? Are we doing things right?
Manuel Lluberis lluberas@hdhudson.com
H. D. Hudson Manufacturing Company, Carolina, PR

11:00 Remote piloted aircraft for multispectral imagery, underwater larval surveillance and aerial larvicide applications
Bill Reynolds breynolds@leateam.com
Leading Edge Associates, Inc., Fletcher, NC

11:15 GIS and remote sensing within a IVM network
Ben Jacob bjacob1@health.usf.edu
University South Florida, Tampa, FL

11:30 Polk County mosquito control operations and IVM changes in the midst of Zika virus
Carl K. Boohene carlboohene@polk-county.net
Manager, Polk County Mosquito Control Program, Bartow, FL

11:45 Mosquitoes, plants and attractant toxic sugar baits
Rui-De Xue xueamcd@gmail.com and Gunter Muller guntercmuller@hotmail.com
Anastasia Mosquito Control District, St. Augustine, FL;
Kuvin Centre, Hebrew University, Jerusalem, Israel

12:00 Effects of shape, size and color on attraction of cloth targets to stable flies
Jerome Hogsette jerry.hogsette@ars.usda.gov
USDA-ARS-CMAVE, Gainesville, Florida

12:15 A New Age in Epidemiology - A Thermodynamic Paradigm for studying disease vector's habitats and life cycles using NASA's remote sensing data
Jeffrey C. Luvall jluvall@nasa.gov
NASA, Huntsville, AL

12:30 The Invasive Mosquito Project: The role of citizen scientists
Lee W. Cohnstaed lee.cohnstaedt@ars.usda.gov, Ashley Thackrah and Nolan Blankenau
USDA-Agricultural Research Service-Arthropod-Borne Animal Diseases Research Unit, Manhattan, KS

12:45 Ground ULV space spray applications for the control of wild sand fly populations
Alexandra Chaskopoulou achaskopoulou@ars-ebcl.org,
Javid Kashefi and Samiye Demir
USDA-ARS European Biological Control Laboratory, Thessaloniki, Greece

1:00 **CLOSING OF THE CONFERENCE**
President Dan Kline