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SCIENTIFIC PROGRAM

45th ANNUAL CONFERENCE OF SOCIETY FOR VECTOR ECOLOGY
SAN ANTONIO, TEXAS
SEPTEMBER 28 – OCTOBER 2, 2014

SUNDAY – SEPTEMBER 28, 2014

2:00 – 6:00  REGISTRATION

4:00 – 5:30  BOARD MEETING
RENAISSANCE ROOM

*NO OTHER ACTIVITY*

MONDAY – SEPTEMBER 29, 2014

8:00 – 8:05  WELCOME

8:05 – 8:10  AWARD PRESENTATIONS
Daniel Kline and Douglas Norris

8:10 – 8:15  ANNOUNCEMENTS
Major S. Dhillon

8:15 – 8:45  PRESIDENTIAL ADDRESS
Douglas Norris

8:45 – 9:20  KEYNOTE SPEAKER
Rough Riders against Vector-Borne Diseases
Speaker: Theodore Roosevelt
26th President of the United States
9:20 – 9:35 REPORTS FROM OVERSEAS SOVE REGIONS:
EURO SOVE
BRAZILIAN SOVE
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9:35 – 10:00 BREAK

10:00 – 12:00 SYMPOSIUM 1: FEATURED YOUNG STARS IN VECTOR ECOLOGY
Moderators: Daniel L. Kline dan.kline@ars.usda.gov
Center for Medical, Agricultural, and Veterinary Entomology, USDA-ARS, Gainesville, FL

10:00 The sensory ecology of frog-biting midges, acoustically oriented vectors of anuran diseases
Ximena Bernal xbernal@purdue.edu
Dept of Biological Sciences, Purdue Univ, W. Lafayette, IN; USA
Smithsonian Tropical Research Inst., Balboa, Republic of Panama

10:40 Vector Ecology in Tennessee: From molecule to ecosystem
Rebecca Trout Fryxell rfryxell@utk.edu; rttrout@gmail.com
Univ of Tennessee, Institute of Agriculture, TN

11:20 Culicoides dispersal: predicting arbovirus incursion and spread
Christopher Sanders christopher.sanders@pirbright.ac.uk
Entomology Group, Vector-borne Viral Diseases programme, The Pirbright Institute, Woking, Surrey, UK

12:00 – 1:30 LUNCH

1:30 – 3:30 SYMPOSIUM 2: STUDIES OF THE CHEMICALS AND PROCESSES THAT MITIGATE VECTOR-HOST CONTACT
Moderators: Ulrich R. Bernier uli.bernier@ars.usda.gov
Center for Medical, Agricultural, and Veterinary Entomology, USDA-ARS, Gainesville, FL

1:30 Mosquito ABC transporters: a pharmacological barrier to insecticide delivery
Troy D. Anderson anderst@vt.edu
Dept of Entomology, Fralin Life Science Institute, Virginia Tech, Blacksburg, VA

1:50 Novel mosquito repellents and insecticides
Ulrich R. Bernier uli.bernier@ars.usda.gov, Maia Tsikolia and Natasha M. Agramonte
Center for Medical, Agricultural, and Veterinary Entomology, USDA-ARS, Gainesville, FL; Emerging Pathogens Institute, Dept of Entomology and Nematology, Univ of Florida, Gainesville, FL

2:15 Anticholinesterase action of insecticides and repellents
Jeffrey R. Bloomquist jbquist@epi.ufl.edu
Emerging Pathogens Institute, Dept of Entomology and Nematology, Univ of Florida, Gainesville, FL

2:40 Utilizing nature’s chemistry to repel insects and ticks
Joel R. Coats jcoats@iastate.edu
Dept of Entomology, Iowa State Univ, Ames, IA

3:05 Evaluation of power breeze with citronella oil against Aedes albopictus
Rui-de Xue xueamcd@gmail.com, Jodi Scott, Mike Smith and Alie Fulcher
Anastasia Mosquito Control District, St. Augustine, FL

3:30 – 4:00 BREAK

4:00 – 6:10 SYMPOSIUM 3: DoD ROUGH RIDERS OF THE VECTOR RANGE
Moderators: LTC Jason H. Richardson
jason.h.richardson.mil@mail.mil
Armed Forces Pest Management Board
Graham White graham.white@ars.usda.gov
Deployed Warfighter Protection Program

4:00 Military Entomology Research Overview
LTC Jason H. Richardson jason.h.richardson.mil@mail.mil
Armed Forces Pest Management Board

4:20 WRBU Tools for Biosurveillance: Interactive Keys, DNA Barcoding and VectorMap
Yvonne Linton linton.yvonne3@gmail.com and
Doug Burkett douglas_burkett@yahoo.com
Walter Reed Biosystematics Unit, Walter Reed Army Institute of Research
4:50 Field studies of Aedes aegypti control in Thailand
Alongkot Ponlawat alongkotp@afrims.org
Armed Forces Research Institute of Medical Sciences, Bangkok, Thailand
5:10 New application strategies
Kenneth Linthicum kenneth.linthicum@ars.usda.gov
Center for Medical, Agricultural, and Veterinary Entomology, USDA-ARS, Gainesville, FL
5:30 NECE vector control activities
CDR Peter Obenauer peter.obenauer@med.navy.mil
Navy Entomology Center of Excellence, Jacksonville, FL
5:50 Sand fly control
Graham White graham.white@ars.usda.gov
Deployed Warfighter Protection Program

6:30 – 8:30 RECEPTION

TUESDAY – SEPTEMBER 30, 2014

9:00 – 4:00 ECOLOGICAL FIELD EXCURSION: NATURAL BRIDGE CAVERNS AND MISSION SAN JOSE
Box Lunch Included

6:00 – 8:00 DINNER AT THE HARD ROCK CAFÉ: HOSTED

WEDNESDAY – OCTOBER 1, 2014

8:00 – 10:00 CONTINENTAL BREAKFAST & POSTER SESSION: HOSTED
**P1:** Instantaneous internet-based submission of biosurveillance data  
**Luke Mitchell** lukemitchell315@gmail.com, Walter Reed Biosystematics Unit, Museum Support Center, Smithsonian Institution, Suitland, MD; B. Alten, K. Ergunay, N. Hijjawi, J. Richardson, and Y-M. Linton  

**P2:** VectorMap: An online repository for biosurveillance data and risk assessment tools  
**David Pecor** pecord@si.edu, Walter Reed Biosystematics Unit, Museum Support Center, Smithsonian Institution, Suitland, MD; D. Murkett, D. Foley, and J. Richardson  

**P3:** Incriminating a dengue virus vector by mean of antibody response to mosquito saliva  
**Ryan R Hemme** wma0@cdc.gov, Centers for Disease Control and Prevention, Dengue Branch, San Juan, PR; E. Hunsperger, and R. Barrera  

**P4:** Standard methods underestimate foraging behavior of vectors  
**Douglas Norris** douglas.norris@jhu.edu, Smita Das, T. Henning, and J. Stevenson, The W. Harry Feinstone Dept of Molecular Microbiology and Immunology, The Johns Hopkins Malaria Research Institute, Johns Hopkins Univ, Bloomberg School of Public Health, Baltimore, MD  

**P5:** Olfaction genes expression in *Aedes aegypti* in relation to host seeking  
**Luciano Cosme** cosme@tamu.edu, Dept of Entomology, Texas A & M Univ, College Station, TX; C. Coates, and M. Slotman  

**P6:** The use of CDC autocidal gravid oviposition traps to control *Aedes aegypti* in an urban residential community in Clovis, CA  
**Jodi Holeman** jholeman@mosquitobuzz.net, Consolidated Mosquito Abatement Dist., Selma, CA; F. S. Mulligan, C. Smith, and A. Cornel  

**P7:** The effect of botanical extracts on ovipositing *Aedes aegypti*  
**William H. Dees** wdees@mcneese.edu, Dept of Biology and Health Sciences, McNeese State Univ, Lake Charles, LA; J. Dupre, A. Richard, S. McMicken, C. Ardizzone, O. Christian, C. Richmond, J. Hightower, and J. Woolman
**P8:** The effect of botanical components on *Aedes aegypti*: An investigation of 17 plant species

**William H. Dees** [wdees@mcneese.edu](mailto:wdees@mcneese.edu), Dept of Biology and Health Sciences, McNeese State Univ, Lake Charles, LA; J. Theriot, K. Leonards, J. Byrne, C. Ardizzone, A. Richard, J. Dupre, T. Estrada, A. Fusilier, O. Christian, C. Richmond, J. Hightower, A. Daugereaux, S. Mopper, and J. Woolman

**P9:** Effectiveness of silicone-based monomolecular film (MMF) against *Aedes aegypti*

**Chutipong Sukkanon** [e_mc_square@hotmail.com](mailto:e_mc_square@hotmail.com), Dept of Parasitology and Community Health, Mahidol Univ, Nakhon Phathom, Thailand; R. Yaicharoen, C. Lamom, T. Chareonviriyaphap, and W. Ngren-Ngarm-Lert

**P10:** Evaluation of spatial repellent, irritant and toxic properties of plant essential oils against dengue vector *Aedes aegypti*

**Sunaiyana Sathantriphap** [sunaiyana@yahoo.com](mailto:sunaiyana@yahoo.com), Dept of Entomology, Faculty of Agriculture, Kasetsart Univ, Bangkok, Thailand: T. Chareonviriyaphap, N. Achee, and U. Sanguanpong

**P11:** A comparison of four anti-coagulants for developing of Bancroftian microfilaria infected in *Aedes aegypti*

**Jinrapa Phothikasikorn** [jinrapa.pho@mahidol.ac.th](mailto:jinrapa.pho@mahidol.ac.th), Dept of Microbiology, Faculty of Science, Mahidol Univ, Bangkok, Thailand; R. Boonplueang, W. Noonpakdee, and T. Chareonviriyaphap

**P12:** A comparison of field and laboratory tests of escape response in *Aedes aegypti* dengue mosquito

**Monthathip Kongmee** [fagrmtk@ku.ac.th](mailto:fagrmtk@ku.ac.th), Dept of Entomology, Faculty of Agriculture at Kamphaeng Saen Campus, Kasetsart Univ, Nakhon Pathom, Thailand; S. Santhantriphop, M. Bangs, and T. Chareonviriyaphap

**P13:** Population effects of sub-lethal malathion exposure to larvae of the yellow-fever mosquito, *Aedes aegypti*: influence of chemical concentration, temperature, and age at exposure

**Daniel Dawson** [dan.dawson@ttu.edu](mailto:dan.dawson@ttu.edu), Dept of Environmental Toxicology, The Institute of Environmental and Human Health, Texas Tech Univ, Lubbock, TX; S. Weir, A. Olson, and T. Bilbo
**P14:** Interaction of Dengue and Sindbis viruses in *Aedes albopictus* (Diptera: Culicidae)

**Ephantus Muturi** ephajumu@yahoo.com, Illinois Natural History Survey, Univ of Illinois, Champaign, IL; and J. Bara

**P15:** Activity patterns of *Aedes albopictus* within a diverse environment of residential and agricultural activity and introduction of a new lethal ovitrap for controlling wild vector populations in Thessaloniki, Greece, 2014

**Casey Parker** caseyparker@ufl.edu, Entomology & Nematology Dept, Univ of Florida, Gainesville, FL; A. Chaskopoulou, M. Fotakis, R. Pereira, and P. Koehler

**P16:** Current status of the Aedini subgenus *Protoculex* in the Continental United States

**Brian Byrd** bdbyrd@wcu.edu, College of Health and Human Sciences, Western Carolina Univ, Cullowhee, NC; B. Harrison, D. Shroyer, and C. Sither

**P17:** Differential effects of sugar type on the longevity and fertility of *Anopheles dirus* adults in AFRIMS Laboratory

**Siriporn Phasomkusolsil** siripornp@afrims.org, Dept of Entomology, US Army Medical Component, Armed Forces Research Institute of Medical Sciences, Bangkok, Thailand; A. Schuster, P. McCardle, K. Pantuwwattana, J. Tawong, N. Monkanna, W. Khongtak, Y. Kertmanee, and S. Khaosanorh

**P18:** Species-specific chemosensory gene expression in the olfactory organs of the malaria vector, *Anopheles gambiae*

**Giridhar Athrey** giri.athrey@tamu.edu, Dept of Entomology, Texas A & M Univ, College Station, TX; T. Hodg, L. Cosme, S. Pathikonda, W. Takken, and M. Slotman

**P19:** The scent of African malaria mosquito breeding sites: Odors influence but do not dictate oviposition decision making in *Anopheles gambiae* s.l.

**Dirk Schorkopf** dirk.Louis.schorkopf@slu.se, Dept of Plant Protection Biology, Alnarp, Sweden; E. Kweka, E. Elieza, L. Mboera, M. Shayo, A. Mafra-Neto, W. Takken, G. Birgersson, R. Ignell, and T. Dekker
P20: Genetic basis of insensitivity to DEET in *Anopheles gambiae*
James Ricci jricc001@ucr.edu, Dept of Entomology, Univ of Calif, Riverside, CA; D. Turissini, R. Gree, and B. White

P21: Field occurrence and laboratory selection of resistance to methoprene in *Culex quinquefasciatus* (Diptera: Culicidae)
Tianyun Su tsuu@wvmvcd.otg, West Valley Mosquito and Vector Control Dist, Ontario, CA; M-L. Cheng and J. Thieme

P22: Influence of a mosquito control treatment on bacterial communities associated with *Culex tarsalis* larvae
Dagne Duguma duguma@ufl.edu, Florida Medical Entomology Lab, Univ of Florida, Vero Beach, FL; M. Hall, P. Rugman-Jones, R. Stouthamer, J. Neufeld, and W. Walton

P23: Black fly (Simuliidae) surveillance in San Gabriel Valley, Los Angeles County, CA and mention of novel human pathogens
Kimberly Nelson Knelson@sgvmosquito.org, San Gabriel Valley Mosquito and Vector Control Dist, Surveillance Dept, West Covina, CA; W. Wekesa and K. Fujioka

P24: Insecticidal sugar bait station for biting midges
Lee Cohnstaedt Lee.Cohnstaedt@ars.usda.gov, U.S. Dept of Agriculture - Agricultural Research Service, Manhattan, KS; and D. Snyder

P25: The use of systemic insecticides to control *Phlebotomus* spp. sand flies in Southern Kazakhstan
David Poche davidp@genesislabs.com, Genesis Laboratories, Wellington, CO; A. Gendernalik, L. Polyakova, R. Poché, M. Kozhahmetova, B. Aimakhanov, Z. Abdeliyev, and B. Atshabar

P26: Expression and biochemical properties of a recombinant acetylcholinesterase 1 of the sand fly, *Phlebotomus papatasi* (Scopoli) insensitive to organophosphate inhibition
Kevin Temeyer kevin.temeyer@ars.usda.gov, Agricultural Research Service, U.S. Dept of Agriculture, Kerrville, TX; A. Tuckow, J. Bloomquist, and A. Pérez de León

P27: Target-site insensitivity and metabolic detoxification mechanisms of insecticide resistance in *Phlebotomus papatasi* and *Lutzomyia longipalpis* sand flies (Diptera: Psychodidae)
Scott Bernhardt scott.bernhardt@usu.edu, Dept of Biology,
Utah State Univ, Logan, UT; D. Denlinger, P. Lawyer, K. Saavedra-Rodriguez, S. Lozano-Fuentes, and W. Black IV

P28: Local dispersal of *Salmonella* by *Alphitobius diaperinus*

Tawni Crippen tc.crippen@ars.usda.gov, Agricultural Research Service, U.S. Dept of Agriculture, College Station, TX; C. Sheffield and R. Beier

P29: A dynamic regression model to predict the number of larval *Amblyomma americanum* with environmental factors

Liza Mann enm4644@truman.edu, Dept of Biology, Truman State Univ, Kirkville, MO; S. Fore, K. Mao, and H-J Kim

P30: Distribution and Abundance of *Dermacentor andersoni* and *D. variabilis* in Western Canada

Shaun Dergousoff shaun.dergousoff@agr.gc.ca, Lethbridge Research Centre, Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada; T. Lysyk, N. Chilton, and K. Rochon

P31: Plastron respiration and underwater survival in ixodid ticks

Laura Fielden lfielden@truman.edu, Dept of Biology, Truman State Univ, Kirkville, MO; A. Belzer, A. Stoudacher, and D. Garth

P32: Evaluation of candidate repellents against *Leptotrombidium chiangraiensis* (Acari: Trombiculidae) chiggers, the vector of scrub typhus

Surachai Leepitakrat surachail@afrims.org, Dept of Entomology, US Army Medical Component, Armed Forces Research Institute of Medical Sciences, Bangkok, Thailand; T. Monkanna, O. Thachin, A. Ponlawat, P. McCardle, and A. Schuster

P33: A semi-field tent-tunnel for evaluation of mosquito trap attractants and spatial repellents

A. Ponlawat alongkotp@afrims.org, George Peck, E. Lindroth, and R. Lowen, Walter Reed Army Institute of Research, Silver Spring, MD

P34: The unique, non-swarming mating behaviors of *Uranotaenia lowii*, a frog-biting mosquito

Bianca Rendon bianca.rendon@ttu.edu, Priyanka De Silva and Ximena Bernal, Dept. of Natural Resources, Texas Tech Univ, Texas
10:00 – 12:00  SYMPOSIUM 4: HIGHER DIPTERA: FROM THE LABORATORY TO THE FIELD
Moderators: Jerry Hogsette jerry.hogsette@ars.usda.gov
USDA-ARS-CMAVE, Gainesville, FL

10:00  Horn Fly Genome Research
Felix Guerrero felix.guerrero@ars.usda.gov
USDA-ARS-KBUSLIRL

10:20  Insights Into Stable Fly Olfaction
Pia Untalan Olafson pia.olafson@ars.usda.gov
USDA-ARS, KBUSLIRL

10:40  Screwworm Male Only Strain
Steve Skoda steve.skoda@ars.usda.gov
USDA-ARS, KBUSLIRL

11:00  Traps and Attractants Affect Stable Fly Behavior
Jerry Hogsette jerry.hogsette@ars.usda.gov
USDA-ARS-CMAVE, Gainesville, FL

11:20  Traps and Attractants Affect Tabanid Behavior
Daniel L. Kline dan.kline@ars.usda.gov
Center for Medical, Agricultural, and Veterinary Entomology,
USDA-ARS, Gainesville, FL

11:40  Parlance of Mosquito Systematics: From Classical to Molecular, A Long Journey
Jagbir Singh Kirti prjagbir2005@gmail.com
Punjabi Univ, Punjab, India

12:00 – 1:30  LUNCH

1:30 – 3:30  SYMPOSIUM 5: STUDENT ORAL PRESENTATIONS
Moderators: James Ricci jricc001@ucr.edu
Francis Loko francis.loko@ttu.edu and
Dan Dawson dan.dawson@ttu.edu
Dept of Entomology, Univ of Calif, Riverside, CA;
Dept of Envir Toxicology, Texas Tech Univ, Lubbock, TX
1:30 Kissing bugs, citizen science, and Chagas disease: A comprehensive ecological research approach to studying the disease system in Texas and the southern U.S.  
Rachel Curtis rcurtis@cvm.tamu.edu, G. Hamer, E. Wozniak and S. Hamer  
Dept of Veterinary Integrative Biosciences, College of Veterinary Medicine, Texas A&M Univ; Zoonosis Control Branch, Tx Dept of State Health Services; Dept of Entomology, College of Agriculture and Life Science  

1:45 Anuran skin secretions, natural frog-biting midge repellents?  
Bianca Rendon bianca.rendon@ttu.edu and Ximena E. Bernal  
Dept of Natural Resources, Texas Tech Univ, Lubbock, TX  
Dept of Biological Sciences, Purdue Univ, W. Lafayette, IN; USA  
Smithsonian Tropical Research Inst., Balboa, Republic of Panama  

2:00 Lyme Disease in Texas? Enhancing Prevention Through the Identification of Areas of Risk  
Susan Swinson-Williams stw143@psu.edu  
Pennsylvania State Univ, University Park, PA  

2:15 Evaluation of integrated vector management tools to halt the development of Aedes aegypti (Skuse) mosquito in a coastal town of Ecuador  
Diana Naranjo dnaranjo@med.miami.edu; Whitney Qualls w.qualls@med.miami.edu, John Beier jbeier@med.miami.edu and Hugo Jurado dr_hugojurado@hotmail.com  
Univ of Miami Dept of Public Health Sciences, Miami, FL; Ministerio de Salud Pública del Ecuador  

2:30 It’s the time of the season: Effects of seasonal photoperiods and fluctuating temperatures on bloodmeals and reproductive investment of Aedes triseriatus  
Katie Westby kmwest2@illinoisstate.edu and Steven A. Juliano  
School of Biological Sciences, Illinois State Univ, Normal, IL  

2:45 Exploitation of ecological traps for mosquito control  
Allison M. Gardner amgarden2@illinois.edu; B. F. Allan, E. J. Muturi  
Entomology Dept, Univ of Illinois, Champaign, IL  

3:00 Novel field-based carbon dioxide supplementation for mosquito sampling in limited resource areas
3:15  Genomic analysis of divergence within the malaria vector *Anopheles melas*

**Kevin C. Deitz** kcdeitz@tamu.edu  
Giri Athrey, Michael C. Fontaine, Nora J. Besansky, Daniel E. Neafsey and Michel A. Slotman  
Dept of Entomology, Texas A&M Univ, College Station, TX; Dept of Biology, Univ of Notre Dame, Notre Dame, IN; Broad Institute of MIT and Harvard Univ, Boston, MA

3:30 – 4:00  **BREAK**

4:00 – 6:00  **SYMPOSIUM 6: BEHAVIORAL ECOLOGY**  
**Moderators:** Rui-De Xue xueamcd@gmail.com  
and Gunter Muller guntercmuller@hotmail.com  
Anastasia Mosquito Control District, St. Augustine, FL;  
Kuvin Centre, Hebrew Univ, Jerusalem, Israel

4:00  Sugar-seeking and feeding behavior by *Anopheles gambiae*  
**Woodbridge Foster** foster.13@osu.edu  
Ohio State Univ, Columbus, Ohio

4:20  Host seeking attractants  
**Daniel L. Kline** dan.kline@ars.usda.gov  
Center for Medical, Agricultural, and Veterinary Entomology, USDA-ARS, Gainesville, FL

4:35  Response of Culex mosquitoes to animals/people  
**T.Y. Zhao** tongyanzhao@126.com  
Beijing Institute of Microbiology and Epidemiology, Beijing, China

4:50  Blood feeding activity of *Aedes* mosquitoes  
**A. Althbyani** aalthbyani@ut.edu.sa  
Univ of Tabuk, Tabuk, Saudi Arabia

5:05  Blood feeding behavior of large *Psorophora* mosquitoes  
**Rui-De Xue** xueamcd@gmail.com  
Anastasia Mosquito Control District, St. Augustine, FL
5:15 Resting behavior and daily movement of *Anopheles gambiae*
*Gunter Muller* guntercmuller@hotmail.com
Kuvin Centre, Hebrew Univ, Jerusalem, Israel

5:35 A screen of native plants potentially used for mosquito repellent
*Theeraphap Chareonviriyaphap* faasthc@ku.ac.th
Dept of Entomology, Kasettsart Univ, Bangkok, Thailand

5:50 Development and introduction of deltamethrin for ULV application to control adult mosquitoes in the United States
*Gordon Morrison* gordon.morrison@bayer.com, *Kurt Vandock, Britt Baker and Byron Reid*
Bayer CropScience LP, Research Triangle Park, NC, US

6:00 **BUSINESS MEETING:**
*Douglas Norris* dnorris3@jhu.edu
President of SOVE
Johns Hopkins Bloomberg School of Public Health Dept of Molecular; Microbiology and Immunology Johns Hopkins Malaria Research Institute, Baltimore, MD

*Major S. Dhillon* mdhillon@northwestmvcd.org
SOVE Secretary-Treasurer
Corona, CA

**THURSDAY – OCTOBER 2, 2014**

8:00 – 9:30 **SYMPOSIUM 7: OPERATIONAL SURVEILLANCE AND CONTROL FOR DENGUE/CHIKUNGUNYA VECTORS**
*Moderators: James E. Cilek* james.cilek@med.navy.mil
Navy Entomology Center of Excellence, Jacksonville, FL

8:00 *Aedes aegypti* surveillance and control in an epicenter of dengue transmission
*Roberto Barrera* amz9@cdc.gov and *Ryan Hemme* wma0@cdc.gov
CDC/OID/NCEZID, San Juan, Puerto Rico
8:15  *Aedes albopictus* surveillance and control: Lessons learned from the area-wide management project

Ary Faraji ary@slcmad.org  
Salt Lake City Mosquito Abatement Dist., Salt Lake City, UT

8:30  Operational control of *Aedes aegypti* from the perspective of a mosquito control district

Chris Lesser christopher.less@manateemosquito.com  
and Mark Latham marklatham@manateemosquito.com  
Manatee Mosquito Control Dist., Palmetto, FL

8:45  Status of chikungunya in the Americas: Where do we stand today?

Roger Nasci rnasci@cdc.gov  
Division of Vector-Borne Diseases Centers for Disease Control and Prevention, Fort Collins, CO

9:00  US Department of Defense surveillance recommendations on management of chikungunya and dengue vectors

James E. Cilek james.cilek@med.navy.mil  
Navy Entomology Center of Excellence, Jacksonville, FL

9:15  Discussion  
Led by James E. Cilek james.cilek@med.navy.mil  
Navy Entomology Center of Excellence, Jacksonville, FL

9:30 – 11:00  **SYMPOSIUM 8: ECOLOGY AND PREVENTION OF TICK-BORNE DISEASES**  
Moderator: Laura E. Hayes laura.hayes@ct.gov  
Dept of Entomology, The Connecticut Agricultural Experiment Station, New Haven, CT

9:30  Blacklegged tick abundance and behavior as key determinants of Lyme disease risk in the eastern United States

Graham J. Hickling ghicklin@utk.edu  
and Jean I. Tsao tsao@msu.edu  
The Center for Wildlife Health, Dept Forestry, Wildlife and Fisheries; The Univ of Tennessee Institute of Agriculture, Knoxville, TN; Depts of Fisheries & Wildlife and Large Animal Clinical Sciences, Michigan State Univ, East Lansing, MI
9:45  Host-targeted measures and biopesticides for the integrated management of blacklegged ticks  
Laura E. Hayes laura.hayes@ct.gov, Scott C. Williams, Goudarz Molaei and Kirby C. Stafford, III  
Dept of Entomology, The Connecticut Agricultural Experiment Station, New Haven, CT; Dept of Forestry and Horticulture, CAES, New Haven, CT; Dept of Environmental Sciences after Dept of Forestry and Horticulture

10:00  Current status of the cattle fever tick eradication program: Challenges and successes  
K.H. Lohmeyer kim.lohmeyer@ars.usda.gov, D.B. Thomas, R.J. Miller and A.A. Perez de Leon  
US Dept of Agriculture, Agricultural Research Service, Knipling Bushland U.S Livestock Insects Research Lab, Kerrville, TX; USDA-ARS Cattle Fever Tick Research Lab, Mission, TX

10:15  The pathogenic landscape: exotic weeds facilitate the invasion and survival of livestock disease vectors in the Cattle Fever Tick permanent quarantine zone along the Rio Grande in Texas  
J. Goolsby john.goolsby@ars.usda.gov, D. Thomas, R. Miller, W. Osbrink, G. Schuster, D. Hewitt, R. DeYoung, P. Ortega, P. Teel, A. Racelis, M. Messenger, D. Strickman and A. Perez de Leon  
US Dept of Agriculture, Agricultural Research Service, Cattle Fever Tick Research Laboratory, Mission, TX; USDA-ARS Knipling Bushland U.S Livestock Insects Research Laboratory, Kerrville, TX; Texas A&M Univ – Kingsville, Caesar Kleberg Wildlife Research Institute; Texas A&M Univ, Dept of Entomology, College Station, TX; Univ of Texas – Rio Grande Valley, Edinburg, TX; USDA-APHIS-VS, Beltsville, MD; USDA-ARS, National Program Staff, Beltsville, MD

10:30  Emergence of Babesiosis in the northeastern United States  
Maria A. Diuk-Wasser maria.diuk@yale.edu, Jessica M. Dunn, Sarah L. States, Stephen Davis, Edouard G. Vannier and Peter J. Krause  
Dept. of Ecology, Evolution and Environmental Biology, Columbia Univ; Dept of Epidemiology of Microbial Diseases at
Yale School of Public Health; RMIT; Div of Geographic Medicine and Infectious Diseases, Tufts Medical Center, Boston, MA

10:45 Why do cattle fever ticks have multiple acetylcholinesterases?

**K.B. Temeyer** kevin.temeyer@ars.usda.gov
USDA-ARS Knipling Bushland U.S Livestock Insects Research Laboratory, Kerrville, TX

11:00 – 11:20 BREAK


**Moderator:** Piper Kimball piper@leateam.com
Leading Edge Associates, Inc.

11:20 The Worminator for Quantitative Worm Assays

**Judy Sakanari** judy.sakanari@ucsf.edu, Jiri Gut and Chris Marcellino
Center for Parasitic Diseases, Univ of Calif, San Francisco, CA

11:40 Foldscopes

**Manu Prakash** manup@stanford.edu
Dept of Bioengineering, Stanford Univ, Stanford, CA

12:00 Mosquitoes meet Microfluidics: Molecular Surveillance for Arthropod Borne Diseases

**Haripriya Mukundarajan** haripria@stanford.edu
Dept of Mechanical Engineering, Stanford Univ, Stanford, CA

12:20 Challenges and Opportunities in Development of the Kite Patch

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12:35 Unmanned Aerial System Integration in Vector Control – Performance, Payload, Efficacy. How close are we to taking flight?

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12:50 CLOSING OF THE CONFERENCE