

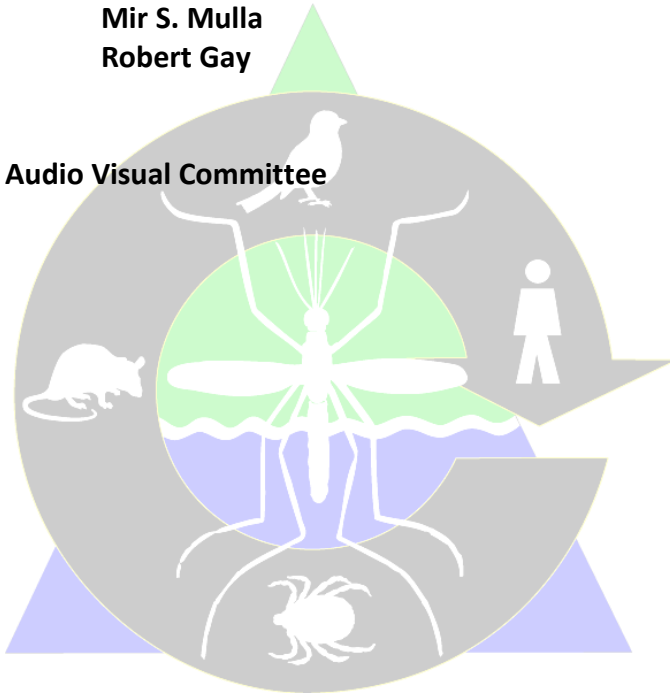
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**44TH ANNUAL CONFERENCE
SOCIETY FOR VECTOR ECOLOGY
SEPTEMBER 23-27, 2012
ST. AUGUSTINE, FLORIDA**

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PROGRAM

2012 SOVE Annual Conference

St. Augustine, Florida

September 23-27, 2012

**Program Chair: Douglas Norris, Johns Hopkins
Bloomberg School of Public Health, Baltimore, MD,
USA.**

dnorris@jhsph.edu

Sunday afternoon and evening – September 23, 2012

- Registration (2:00 – 6:00)
- Board Meeting (4:00 – 5:30)
- Reception (6:30 – 8:00)

Monday – September 24, 2012

8:00 – 8:05 Welcome – **President Kenneth
Linthicum** kenneth.linthicum@ars.usda.gov, CMAVE-
ARS-USDA, Gainesville, FL, USA.

8:05 – 8:15 Award Presentations – **Douglas Norris**
dnorris@jhsph.edu, Johns Hopkins Bloomberg School of
Public Health, Baltimore, MD, USA.

8:15 – 8:20 Announcements – **Secretary/Treasurer
Major S. Dhillon** mdhillon@northwestmvcd.org.

8:20 – 8:45 Presidential Address – **President
Kenneth Linthicum** kenneth.linthicum@ars.usda.gov,
CMAVE-ARS-USDA, Gainesville, FL, USA.

8:45 – 9:30 Keynote Speaker – A Tale of Two Organisms – *Aedes aegypti* Biocontrol with Mesocyclops and Wolbachia. **Brian Kay** brian.kay@qimr.edu.au, Deputy Director, Queensland Institute of Medical Research, Brisbane, QLD, Australia.

- 9:30 – 10:00 Break

- **Symposium 1** (10:00 – 12:00) – Phlebotomine Sand Flies. **Gunter Muller** guntercmuller@hotmail.com, and **Alon Warburg** alonw@ekmd.huji.ac.il, The Kuvim Center for the Study of Tropical and Infectious Diseases, The Hebrew University-Hadassah Medical School Jerusalem, Jerusalem, Israel.

10:00 – 10:20 Sand flies and vegetation. Yosef Schlein schlein@md.huji.ac.il, The Hebrew University of Jerusalem, Jerusalem, Israel.

10:20 – 10:40 Sugar feeding ecology of *Phlebotomus duboscqi* in Central Mali and a control experiment with attractive toxic sugar baits (ATSB) on bait stations. **John Beier** jbeier@med.miami.edu, University of Miami, Miami, FL, USA, and M. Traore.

10:40 – 11:00 Optimizing toxic sugar baits (TSB) for phlebotomine sand fly control. **Laor Orshan** laor.orshan@eliav.health.gov.il,

Ministry of Health, Jerusalem, Israel and
G. Zollner.

11:00 – 11:20 The impact of attractive
toxic sugar baits (ATSB) on sand flies
and non-targets in different types of
habitats in southern Israel. **Gunter
Muller** guntercmuller@hotmail.com,
The Hebrew University of Jerusalem,
Jerusalem, Israel.

11:20 – 11:40 Breeding and resting
habitats of phlebotomine sand flies in a
cutaneous leishmaniasis focus in the
Judean Desert. **Alon Warburg**
alonw@ekmd.huji.ac.il, The Kuvim
Center for the Study of Tropical and
Infectious Diseases, The Hebrew
University-Hadassah Medical School
Jerusalem, Jerusalem, Israel and A.
Moncaz.

11:40 – 12:00 cDNA characterization
of *Phlebotomus orientalis* salivary
antigens and antibody response of
domestic animals to bites. **Iva Kolárová
(Rohousová)** rohousova@seznam.cz,
Charles University in Prague, Czech
Republic, T. Kostálová, D. Talmi-Frank,
A. Kassahun, C. Maia, M. Vlková, M.
Síma, J. Votýpka, P. Volf and G. Baneth.

12:00 – 1:30 *Lunch – On your own*

- **Symposium 2** (1:30 – 3:30) – Student Presentations 1, Coordinator: **Mir Mulla** mir.mulla@ucr.edu, University of California, Riverside, CA, USA; Moderator: **Dagne Duguma** ddemi002@student.ucr.edu, University of California, Riverside, CA, USA.

1:30 – 1:45 Eilat virus, a newly identified, host restricted Alphavirus. **Farooq Nasar** fanasar@utmb.edu, R. V. Gorchakov, H. Guzman, A. P. Travassos Da Rosa, V. L. Popov, M. B. Sherman, W. I. Lipkin, R. B. Tesh and S. C. Weaver.

1:45 – 2:00 Acaricide resistance in *Rhipicephalus sanguineus*. **Amanda L. Eiden** aeiden@ufl.edu, P. E. Kaufman, F. M. Oi, M. J. Dark and R. Miller.

2:00 – 2:15 Pharmacological analysis of a putative receptor from the Southern Cattle Tick. **Aaron D. Gross** adgross@iastate.edu, Pesticide Toxicology Laboratory, Department of Entomology, Iowa State University of Science and Technology, Ames, IA, USA, M. Kimber and J. R. Coats.

2:15 – 2:30 Composition and spatial distribution of bed bug aggregations as sub-populations on a mattress landscape. **Margaret Lehnert** melehne@clemsun.edu, Clemson University, Clemson, SC, USA.

2:30 – 2:45 Influence of neighborhood structure and weather conditions on density of West Nile virus vectors in Illinois, USA. **Allison M. Gardner** amgardn2@illinois.edu, Department of Entomology, University of Illinois at Urbana-Champaign, IL, USA.

2:45 – 3:00 Genetic differentiation within yellow fever virus vectors of the *Aedes simpsoni* species complex. **Katharine Walter** katharine.walter@yale.edu, Department of Epidemiology of Microbial Diseases, Yale University, New Haven, CT, USA.

3:00 – 3:15 Vertical transmission of Key West dengue-1 virus by Florida's *Aedes* mosquito. **Eva Buckner** eva.buckner@ufl.edu, University of Florida, Department of Entomology and Nematology, Gainesville, FL, USA, P. Lounibos and B. Alto.

3:15 – 3:30 Container habitat characteristics: *Aedes* larval abundances and adult quality. **Katie Westby** kmwest2@ilstu.edu, Illinois State University, Normal, IL, USA, J. Williams and S. A. Juliano.

- 3:30 – 4:00 Break
- **Symposium 3** (4:00 – 6:00) – Student Presentations 2. Coordinator: **Mir Mulla** mir.mulla@ucr.edu, University of California Riverside, Riverside, CA, USA. Moderator: **Katharine Walter** katharine.walter@yale.edu, Department of Epidemiology of Microbial Diseases, Yale University, New Haven, CT, USA.

4:00 – 4:15 Metagenomic study of microbial communities associated with mosquito larvae and their habitats.

Dagne Duguma

ddemi002@student.ucr.edu, University of California Riverside, Riverside, CA, USA.

4:15 – 4:30 Larval development of *Anopheles gambiae* s.s. across gradients of elevation and canopy coverage in western Kenya. **Thomas M. Gilbreath III** gilbrea@uci.edu, Ecology and Evolutionary Biology, University of California, Irvine, CA, USA, G. Zhou, E. J. Kweka, A. K. Githeko and G. Yan.

4:30 – 4:45 Nitrogen dynamics in *Aedes triseriatus* and *Aedes japonicus* larval habitats and their relation to larval growth. **Matt Lundquist**

mattlundquist@gmail.com, Michigan State University, East Lansing, MI, USA.

4:45 – 5:00 *Aedes aegypti* pharate 1st instar quiescence and larval environmental stress alter life history traits with implications for vector capacity and vector control. **Mario Perez** perezmh@fiu.edu, Florida International University, Miami, FL, USA.

5:00 – 5:15 Mortality of larval *Aedes triseriatus* and *Aedes japonicus* associated with fungal strains in laboratory and natural environments.

Rebecca J. Morningstar rmorning@msu.edu, Comparative Medicine and Integrative Biology, Michigan State University, East Lansing, MI, USA, M. G. Kaufman and E.D. Walker.

5:15 – 5:30 The effects of larval habitat quality on *Aedes albopictus* (Skuse) installment egg laying over multiple ovisites. **Timothy Davis** tjdavis00@ufl.edu, University of Florida, Department of Entomology and Nematology, Gainesville, FL, USA, D.

Kline, P. Kaufman, J. Hogsette and A. Tatem.

5:30 – 5:45 Environmental impact and carry-over effects on complex life cycles; results from mosquito response to temperature variation. **Francis Ezeakacha** kakaluvs@yahoo.com, Department of Biological Sciences, University of Southern Mississippi, Hattiesburg, MS, USA.

5:45 – 6:00 Discussion

- 6:30 – 8:00 **Reception**

Tuesday – September 25, 2012 – Ecological Field Trip

Wednesday – September 26, 2012

- 8:00 – 10:00 **Poster Session and Continental Breakfast**

P-01 The Spread of *Culex coronator* into peninsular Florida: the extent, the impact and contributing factors. **George F. O'Meara** gfo@ufl.edu), Florida Medical Entomology Lab, IFAS, University of Florida, Vero Beach, FL, C.R. Connelly and B.W. Alto.

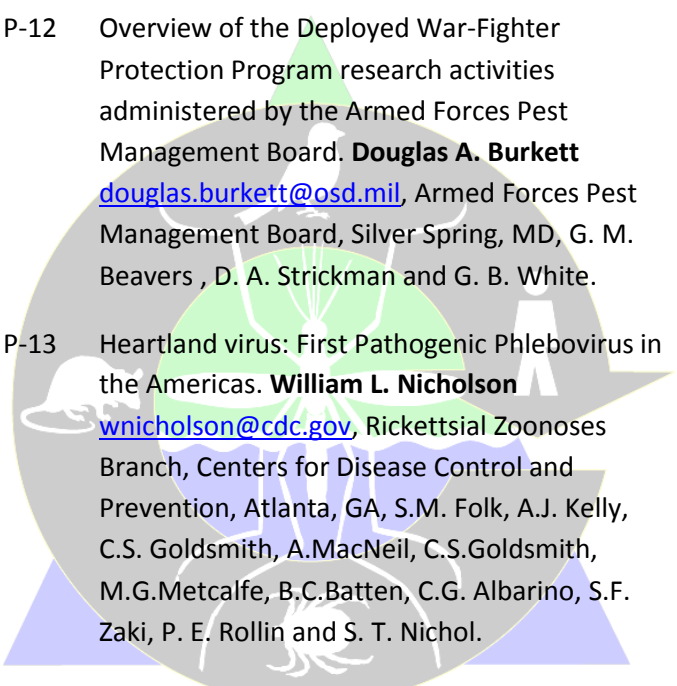
P-02 *Aedes aegypti* and *Aedes albopictus* surveillance: investigating environmental factors influencing shifts in *Aedes* species

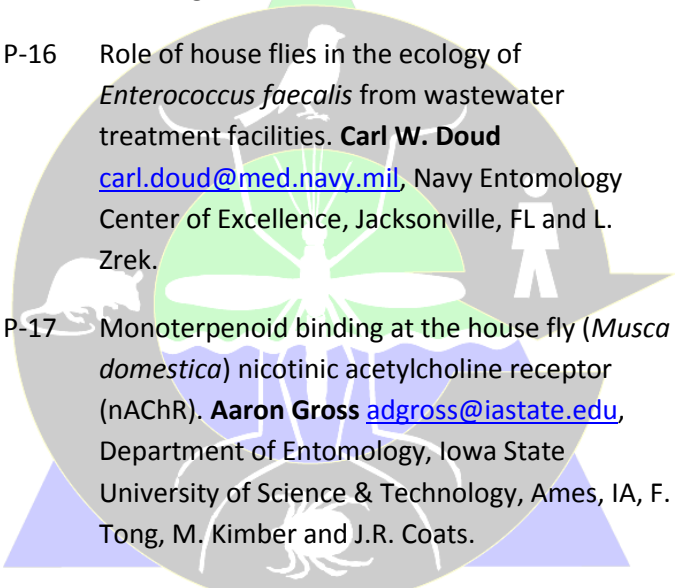
composition in Duval County, FL. **Jennifer Wright** jennifer.wright@med.navy.mil, Navy Entomology Center of Excellence, Jacksonville, FL, R. Larson, M. Clark and P. Obenauer.

- P-03 Temperature and dengue virus infection in mosquitoes: independent effects on the immature and adult stages. **Barry W. Alto** bwalto@ufl.edu, Florida Medical Entomology Lab, University of Florida, Vero Beach FL and D. Bettinardi.
- P-04 Comparative field evaluation of BG-Sentinel trap and CDC backpack aspirator for sampling of dengue vector, *Aedes aegypti* in Thailand. **Patcharee Khongtak** patchareek@afirms.org, Vector Biology and Control Section, Department of Entomology, Armed Forces Research Institute of Medical Sciences , Bangkok, Thailand, B. Jalchapor, B.P. Evans and A. Ponlawat.
- P-05 Field evaluation of surveillance devices for malaria vectors in Thailand. **Patcharee Khongtak** patchareek@afirms.org, Vector Biology and Control Section, Department of Entomology, Armed Forces Research Institute of Medical Sciences , Bangkok, Thailand, B. Jalchapor, B.P. Evans and A. Ponlawat.
- P-06 Vertical blood feeding and arbovirus persistence in mosquitoes. **Zoe L. Lyski** zoelyski@lyski.net, Department of Biology,

University of North Florida, Jacksonville, FL and
D. F. Bowers.

- P-07 Semi-field evaluation of the Off! Clip-on as a spatial repellent against *Aedes aegypti* (Diptera: Culicidae) in Thailand. **Arissara Pongsiri** arissarap@afirms.org, Vector Biology and Control Section, Department of Entomology, Armed Forces Research Institute of Medical Sciences, Bangkok, Thailand, C. Nitatsukprasert, W. Chittham and A. Ponlawat.
- P-08 Direct and vegetative contact of insect growth regulator fogging on the emergence of *Aedes albopictus*. **Jodi Scott** jodiamcd@bellsouth.net, Anastasia Mosquito Control District, St. Augustine, FL and R-D. Xue.
- P-09 Evolution of resistance to satyrization in Florida populations of *Aedes aegypti*. **Irka Bargielowski** irka@ufl.edu, University of Florida Florida Medical Entomology Laboratory, Vero Beach, FL, M. C. Carrasquilla and P. Lounibos.
- P-10 Monitoring of target site resistance in field population of *Aedes aegypti* in Thailand. **Uruyakorn Chansang** uruyakorn.c@dmsc.mail.go.th, NIH, Department of Medical Sciences, Ministry of Public Health, Nonthaburi, Thailand, E. Denchonchai, P. Karaom and S. Sangkitporn.

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- P-11 Development of a comprehensive framework for understanding heartworm transmission risk in the United States. **Nicholas Ledesma** nal24@cornell.edu, Biological and Biomedical Sciences, College of Veterinary Medicine, Cornell University, Ithaca, NY and L. Harrington.
- P-12 Overview of the Deployed War-Fighter Protection Program research activities administered by the Armed Forces Pest Management Board. **Douglas A. Burkett** douglas.burkett@osd.mil, Armed Forces Pest Management Board, Silver Spring, MD, G. M. Beavers , D. A. Strickman and G. B. White.
- P-13 Heartland virus: First Pathogenic Phlebovirus in the Americas. **William L. Nicholson** [wnicholson@cdc.gov](mailto:w Nicholson@cdc.gov), Rickettsial Zoonoses Branch, Centers for Disease Control and Prevention, Atlanta, GA, S.M. Folk, A.J. Kelly, C.S. Goldsmith, A.MacNeil, C.S.Goldsmith, M.G.Metcalf, B.C.Batten, C.G. Albarino, S.F. Zaki, P. E. Rollin and S. T. Nichol.
- P-14 DNA barcoding for identification of sand flies (Diptera, Psychodidae, Phlebotominae) from the Central Atlantic Forest Biodiversity Corridor, Southeastern Brazil - a preliminary analysis. **Israel de Souza Pinto** pintoisrael@gmail.com, Laboratory of Insect Molecular Biology, Fiocruz - Rio de Janeiro, Brazil.

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- P-15 *Phlebotomus orientalis* salivary antigens recognized by human and canine hosts. **Michal Šíma** michal-sima@seznam.cz, Charles University in Prague, Faculty of Science, Department of Parasitology, Vinicna Prague, Czech Republic, M. Vlková, T. Košťálová, A. Kassahun, C. Maia, R. C. Jochim, J. G. Valenzuela, T. Gebre-Michael, A. Hailu, A. Warburg, G. Baneth, I. Kolářová and P. Volf.
- P-16 Role of house flies in the ecology of *Enterococcus faecalis* from wastewater treatment facilities. **Carl W. Doud** carl.doud@med.navy.mil, Navy Entomology Center of Excellence, Jacksonville, FL and L. Zrek.
- P-17 Monoterpenoid binding at the house fly (*Musca domestica*) nicotinic acetylcholine receptor (nAChR). **Aaron Gross** adgross@iastate.edu, Department of Entomology, Iowa State University of Science & Technology, Ames, IA, F. Tong, M. Kimber and J.R. Coats.
- P-18 Distribution and abundance of *Dermacentor andersoni* in Alberta, Canada. **Shaun Dergousoff** shaun.dergousoff@agr.gc.ca, Lethbridge Research Center, Agriculture and Agri-Food Canada, Lethbridge, Alberta, Canada, K. Rochon and T. Lysyk.

- P-19 Presence and diversity of *Candidatus midichloria mitochondria* in Lone Star ticks. **Amanda Jo Williams-Newkirk** igy7@cdc.gov, Rickettsial Zoonoses Branch, Centers for Disease Control and Prevention, Atlanta, GA, L. Rowe, T. Mixon-Hayden and G.A. Dasch.
- P-20 Coinfection and population dynamics of *Borrelia bissettii* and *Borrelia burgdoerferi* in a Tick-Murine Borreliosis Model. **Brian Leydet Jr.** bleyde1@tigers.lsu.edu, Department of Pathobiological Sciences, Louisiana State University School of Veterinary Medicine, Baton Rouge LA, and F.-T. Liang.
- P-21 Detection of the Presence of *Borrelia burgdorferi* in East-Central Alabama via *Amblyomma americanum* and *Ixodes scapularis*. **Robert Carter** rcarter@jsu.edu, Department of Biology, Jacksonville State University, Jacksonville, AL, C. Murdock, B. Blair and B. Ayres.
- P-22 Detection of *Borelia burgdorferi* and *Rickettsia rickettsii* via canine blood throughout the state of Alabama. **Robert Carter** rcarter@jsu.edu, Department of Biology, Jacksonville State University, Jacksonville, AL, C. Murdock, B. Blair and A. Dotsun.

P-23 Preliminary results of a one year population survey of hard bodied ticks at Oak Mountain State Park, Alabama. **Andrew Dotson** adotson88@gmail.com, Department of Biology, Jacksonville State University, Jacksonville, AL, R. Carter, C. Murdock and B. Blair.

P-24 Efficacy of treated and untreated bed net material to protect from *Leishmania major* infected sand flies. Edgar Rowton, edgar.rowton@us.army.mil, Entomology Branch, Walter Reed Army Institute of Research, Silver Spring, MD, T. Rowland and K. Kobylinski.

P-25 Pyrosequencing based assessment of bacterial diversity in *Rhipicephalus annulatus* and *Dermacentor marginatus* collected from humans in Turkey. Saban Tekin sabant@yahoo.com, Gaziosmanpasa University, Faculty of Science & Art , Department of Biology, Tasliciftlik, Tokat, Turkey, S.E. Dowd, M. Davinic, A. Bursali and A. Keskin.

- **Symposium 4** (10:00 – 12:00) – Resistance and Resistance Management in Arthropods of Medical and Veterinary Importance. **Min-Lee Cheng** mcheng@wvmvcd.org and **T. Steven Su** tsu@wvmvcd.org, West Valley Mosquito and Vector Control District, Ontario, CA, USA.

10:00 – 10:15 An overall historical perspective. **Mir S. Mulla**

mir.mulla@ucr.edu, University of California Riverside, Riverside, CA, USA.

10:15 – 10:30 Mosquitoes I – Larvicides. **T. Steven Su**

tsu@wvmvcd.org, West Valley Mosquito and Vector Control District, Ontario, CA, USA and M.-L. Cheng.

10:30 – 10:45 Mosquitoes II – Adulticides. **Jack Petersen**

drjack3@hotmail.com, Rutgers University, New Brunswick, NJ, USA.

10:45 – 11:00 Flies. **Alec C. Gerry**
alec.gerry@ucr.edu, University of California, Riverside, CA, USA.

11:00 – 11:20 Bedbugs and lice. **Jung Wook Kim** jung.kim@ncagr.gov, Structural Pest Control & Pesticides Division, Raleigh, NC, USA.

11:20 – 11:40 Fleas and sand flies. **Nancy Hinkle** nhinkle@uga.edu, University of Georgia, Athens, GA, USA and E. Rowton.

11:40 – 11:55 Ticks. **Andrew Y. Li**
andrew.li@ars.usda.gov, United States Department of Agriculture – Agricultural Research Service (USDA-ARS), Kerrville, TX, USA.

11:55 – 12:00 Additional questions and answers. **All Speakers.**

12:00 – 1:30 *Lunch – On your own*

- **Symposium 5 (1:30 – 3:30)** – Nectars for Vectors. **Douglas Burkett** douglas.burkett@osd.mil, Research Liaison Officer, Armed Forces Pest Management Board, Silver Spring, MD, USA and **Graham White** gbwhite@ufl.edu, Department of Entomology and Nematology, University of Florida, Gainesville, FL, USA.

1:30 – 1:50 Nectar-feeding habits of haematophagous insects. **Woody Foster** foster.13@osu.edu, Ohio State University, Columbus, OH, USA.

1:50 – 2:10 Nectar feeding habits of mosquitoes and other flies in Florida. **Dan Kline** dan.kline@ars.usda.gov, Mosquito & Fly Research Unit, Center for Medical Agricultural & Veterinary Entomology, Agricultural Research Service, Gainesville, FL, USA.

2:10 – 2:30 Safeguarding bees against pesticides. **Jamie Ellis** jdellis@ufl.edu, Department of Entomology, University of Florida, Gainesville, FL, USA.

2:30 – 2:50 Relative potency of various insecticides for use in attractive toxic sugar baits (ATSBs) against mosquitoes and sandflies. **Sandra Allan** sandy.allan@ars.usda.gov, Mosquito & Fly Research Unit, Center for Medical Agricultural & Veterinary Entomology, Agricultural Research Service, Gainesville, FL, USA.

2:50 – 3:10 Efficacy of dry boric acid baits against mosquitoes in Florida. **Rudy Xue** xueamcd@gmail.com, Anastasia Mosquito Control District, Anastasia, FL, USA.

3:10 – 3:30 Mosquito ingestion of dsRNA to reduce vector competence. **James Becnel** james.becnel@ars.usda.gov, Mosquito & Fly Research Unit, Center for Medical Agricultural & Veterinary Entomology, Agricultural Research Service, Gainesville, FL, USA.

3:30 – 4:00 Break

- **Symposium 6** (4:00 – 6:00) – *Culicoides* Biting Midges (Diptera: Ceratopogonidae) as Arbovirus Vectors. **Eva Veronesi** eva.veronesi@iah.ac.uk, Institute for Animal Health, Pirbright-Woking, UK and **Gert J Venter** venterg@arc.agric.za,

Agricultural Research Council, Onderstepoort
Veterinary Institute, Onderstepoort, South
Africa.

4:00 – 4:05 Introduction and
welcome. **Eva Veronesi**,
eva.veronesi@iah.ac.uk, Institute for
Animal Health, Pirbright-Woking, UK
and **Gert J. Venter**,
venterg@arc.agric.za, Agricultural
Research Council, Onderstepoort
Veterinary Institute, Onderstepoort,
South Africa.

4:05 – 4:20 BTV and AHSV in South
Africa. **Gert J Venter**
venterg@arc.agric.za, Agricultural
Research Council, Onderstepoort
Veterinary Institute, Onderstepoort,
South Africa.

4:20 – 4:35 Phylogenetics of EHDV.
Simon Anthony
anthony@ecohealthalliance.org,
EcoHealth Alliance, New York, NY, USA.

4:35 – 4:50 *Culicoides* and vector
competence for Schmallenberg virus
(SBV). **Eva Veronesi**
eva.veronesi@iah.ac.uk, Institute for
Animal Health, Pirbright-Woking, UK.

4:50 – 5:05 Attraction of blood
feeding arthropods. **Lee W. Cohnstaedt**

lee.cohnstaedt@ars.usda.gov,

Arthropod-Borne Animal Diseases
Research Unit, Center for Grain and
Animal Health Research, Manhattan,
KS, USA.

5:05 – 5:20 Symbiont-based control
of *Culicoides* biting midges. **Yuval
Gottlieb** yuvalgd@yahoo.com, Koret
School of Veterinary Medicine, The
Hebrew University of Jerusalem,
Rehovot, Israel.

5:20 – 5:35 The influence of
Culicoides saliva proteins on Bluetongue
virus transmission. **Karin Darpel**
karin.darpel@iah.ac.uk, Institute for
Animal Health, Pirbright-Woking, UK.

5:35 – 5:50 Assessment of the
host/vector contact for Palaeartic
Culicoides biting midges (Diptera:
Ceratopogonidae). Implications for
Orbivirus transmission. **Claire Garros**
claire.garros@cirad.fr, CIRAD France.

5:50 – 6:00 Final discussion and
remarks. **Eva Veronesi**
eva.veronesi@iah.ac.uk, Institute for
Animal Health, Pirbright-Woking, UK
and **Gert J Venter** venterg@arc.agric.za,
Agricultural Research Council,
Onderstepoort Veterinary Institute,
Onderstepoort, South Africa.

- 6:00 Business Meeting

Thursday – September 27, 2012

- **Symposium 7** (8:00 – 9:30) – Military Entomology Research Symposium. **John Putnam** john.putnam@usafa.edu, U.S Air Force Academy, Colorado Springs, CO, USA; **Dan Szumlas** daniel.szumlas@med.navy.mil, Naval Medical Research Center, Silver Spring, MD, USA and **Jason Richardson** jason.h.richardson@us.army.mil, Walter Reed Army Institute of Research (WRAIR), Silver Spring, MD, USA.

8:00 – 8:15 U.S. Military entomology research – Past and Present. **Jason Richardson** jason.h.richardson@us.army.mil, Walter Reed Army Institute of Research (WRAIR), Silver Spring, MD, USA.

8:15 – 8:30 Future solutions to vector identification: the mosquito barcode initiative. **Yvonne Linton** linton.yvonne3@gmail.com, Walter Reed Biosystematics Unit, Entomology Branch, WRAIR, Silver Spring, MD, USA.

8:30 – 8:45 *Aedes aegypti* control studies in Thailand. **Alongkot Ponlawat** alongkotp@afirms.org, Armed Forces

Research Institute of Medical Sciences
(AFRIMS), Bangkok, Thailand.

8:45 – 9:00 Sand fly control studies
in Kenya. **Kenneth Linthicum**
kenneth.linthicum@ars.usda.gov,
United States Department of
Agriculture (USDA) - Center for Medical,
Agricultural, and Veterinary Entomology
(CMAVE), Gainesville, FL, USA.

9:00 – 9:15 Novel chemicals for
vector surveillance and control. **Uli
Bernier** uli.bernier@ars.usda.gov,
United States Department of
Agriculture (USDA) - Center for Medical,
Agricultural, and Veterinary Entomology
(CMAVE), Mosquito Fly Research Unit
(MFRU), Gainesville, FL, USA.

9:15 – 9:30 Ivermectin and malaria.
Kevin Kobylinski
kevin.c.kobylinski.ctr@us.army.mil,
Entomology Branch, Walter Reed Army
Institute of Research (WRAIR), National
Research Council, Silver Spring, MD,
USA.

9:30 – 9:45 Break

- **Symposium 8** (9:45 – 11:05) – Practical
Application of GIS/GPS in Vector Research and
Control. **Jodi Holeman**
cmadclovis@sbcglobal.net, Biologist/GIS

Specialist, Consolidated Mosquito Abatement District, Selma, CA, USA and **Steve Mulligan** smulligan@mosquitobuzz.net, District Manager, Consolidated Mosquito Abatement District, Selma, CA, USA.

9:45 – 10:05 Development of a GIS-based spatiotemporal model for short-term forecasts of mosquito abundance. **Chris Barker** cmbarker@ucdavis.edu, Center for Vector-borne Diseases, University of California Davis, Davis, CA, USA.

10:05 – 10:25 The use of GIS for mosquito control operations in the Florida Keys. **Ralph De Palma** rdepalma@keysmosquito.org, IT Coordinator, Florida Keys Mosquito Control District, Key West, FL, USA.

10:25 – 10:45 Mapping mosquito control – GIS utility and implementation. **Jodi Holeman** cmadclovis@sbcglobal.net, Biologist/GIS Specialist, Consolidated Mosquito Abatement District, Selma, CA, USA.

10:45 – 11:05 Climate effects on populations of potential North American mosquito vectors of Rift Valley fever. **Seth Britch** seth.britch@ars.usda.gov, United States Department of Agriculture –

Agricultural Research Service (USDA-ARS),
Gainesville, FL, USA, K. J. Linthicum, A.
Anyamba, E. W. Pak, J. Small, C. J. Tucker, J.
Chretien, H. B. Lewandowski.

11:05 – 11:20 Break

- **Symposium 9** (11:20 – 12:50) – And Now for Something Completely Different: Lesser-known Emerging Pathogens and Novel Transmission Cycles. **Jamesina J. Scott** jjscott@lcvcd.org, District Manager/Research Director, Lake County Vector Control District, Lakeport, CA, USA and **Andrew D. Haddow** adhaddow@gmail.com, University of Texas Medical Branch, Galveston, TX, USA.

11:20 – 11:25 Introduction, **Jamesina Scott** jjscott@mchsi.com, District Manager/Research Director, Lake County Vector Control District, Lakeport, CA, USA.

11:25 – 11:45 Zika Virus: 60 years of silent transmission? **Andrew D. Haddow** adhaddow@gmail.com, Center for Biodefense and Emerging Infectious Diseases, Department of Pathology, University of Texas Medical Branch, Galveston, TX, USA.

11:45 – 12:05 Competitive displacements of invasive arbovirus vectors. **L. Philip Lounibos** lounibos@ufl.edu, University of Florida,

Institute of Food and Agricultural
Sciences Florida Medical Entomology
Laboratory (FMEL), Vero Beach, FL,
USA, I. Bargielowski and M. C.
Carrasquilla.

12:05 – 12:25 New insights into over-
wintering and early season
amplification of EEEV. **Tom Unnasch**
tunnasch@health.usf.edu, University of
South Florida, Tampa, FL, USA.

12:25 – 12:45 *Rickettsia* 364D– an
emerging tick-borne rickettsiosis in
California. **Kerry Padgett**
kerry.padgett@cdph.ca.gov, California
Department of Public Health, Vector-borne
Disease Section (CDPH-VBDS), Richmond,
CA, USA; D. Bonilla, M. Eremeeva and J. J.
Scott.

12:45 – 12:50 Questions. **All
Speakers.**

12:50

Close Meeting.

