



Exotic Species:
A Shared Experience

2011
ESA-SEB & APS-CD
Joint Annual Meeting

March 19-22, Caribe Hilton Hotel, San Juan, Puerto Rico



**Frank Hale, Ph.D., President, 2010-2011, 85th
Annual Meeting of the Southeastern Branch,
Entomological Society of America, University of
Tennessee**



**Lydia I. Rivera Vargas, Ph.D., President, 2010-
2011, XXI Annual Meeting of the American
Phytopathological Society - Caribbean Division,
University of Puerto Rico**

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**PROGRAM SUMMARY
FRIDAY, 18 MARCH**

8:00 - 5:00 **SAC-12 and NCAC-15 Meeting -Conference**
3-6

**PROGRAM SUMMARY
Saturday, 19 MARCH**

8:00 - 12:00 **SAC-12 and NCAC-15 Meeting -Conference**
3- 6

11:00 - 12:00 **Local Arrangements Committee Meeting –**
Boardroom 2

1:00 - 5:00 **SEB Executive Committee Meeting -**
Conference 3- 6

1:00 - 5:00 **APS Executive Committee Meeting -**
Ceiba

1:00 - 5:00 **S-1034 Regional Project Meeting –** Las Olas

3:00 - 5:00 **Student Affairs Committee Meeting -**
Conference 7

3:00 - 7:00 **Registration –** Main Lobby

3:00 - 7:00 **Audiovisual and Job Placement –**Boardroom
2

5:00 - 8:00 **Display Set-Up -** San Geronimo Foyer

8:00 - 7:00 **Office –** Board Room 2

**PROGRAM SUMMARY
Sunday, 20 MARCH**

7:00 - 8:00 **Continental Breakfast –** San Gerónimo
Foyer

7:00 - 5:00 **Registration and ESA Certification Board**
Information – Main Lobby

7:00 - 7:00 **Audiovisual, Job Placement, Local**
Arrangements, and Public Relations –
Boardroom 2

7:00 - 7:00 **Office –** Board Room 2

7:00 - 8:00 **Display Presentation Set Up –** San Geronimo
Foyer

7:00 - 6:00 **Commercial Exhibits -** San Geromino Foyer

- 8:00 - 5:00** **Display Presentations Session 1 (MS and PhD Competitions; Structural, Veterinary, Public Health Systems, Urban Symposium; Systematics, Evolution, and Biodiversity; Integrative Physiological and Molecular Insect** - San Geronimo Foyer
- 8:00 - 9:40** **Opening Session and SEB and CD Joint Business Meeting** – San Gerónimo B
- 9:40 - 10:30** **Plenary Presentation** - San Gerónimo B
- 10:30 - 11:00** **Break** – San Geronimo Foyer
- 11:00 – 5:00** **Ph.D. Paper Competition** –San Gerónimo B
- 11:00 – 5:00** **M.S. Paper Competition** San Gerónimo A
- 11:00 - 2:00** **APS Student Competition** - San Gerónimo C
- 11:00 - 5:00** **Turf & Ornamental Entomology** - Tropical
- 11:00 - 5:00** **Vegetable Entomology** - Guayacán
- 11:00 - 5:00** **Urban Entomology**- Salon Condado
- 12:00 - 1:00** **Lunch on Your Own**
- 1:00 - 4:00** **Whitefly-Transmitted Geminiviruses: A Caribbean Legacy In Honor And Appreciation Of Julio Bird** - Salon del Mar
- 1:00 - 5:00** **S-1034 Symposium – Weed Biological Control Projects In The Region** - Auditorium
- 1:30 - 2:30** **Presenters of displays at Display Presentations** – San Geronimo Foyer
- 2:30 - 3:00** **Break** – San Geronimo Foyer
- 4:00 - 6:00** **Black Sigatoka (*Mycosphaerella fijiensis*) Symposium** – Salon del Mar
- 5:00 - 7:30** **Linnaean Games** – Las Olas
- 7:30 - 10:00** **Welcome Reception** – Atlantico Redondel

PROGRAM SUMMARY

Monday, 21 MARCH

All Day: Tours

El Yunque Rain Forest (9:00 – 3:00)

Tropical Fruit Production

Crop Production Sites in South

TUESDAY, 22 MARCH

- 7:00 - 8:00** Past SEB Presidents Breakfast – Palmeras Restaurant
- 7:00 - 3:00** Registration and ESA Certification Board Information – San Geronimo Foyer
- 7:00 - 5:00** Audiovisual, Job Placement, Local Arrangements, and Public Relations – Boardroom 2
- 7:00 - 7:00** Office – Boardroom 2
- 7:00 - 5:00** Display Presentations Session- San Geromino Foyer
- 7:00 - 6:00** Commercial Exhibits - San Geromino Foyer
- 8:00 - 10:30** Current Status And Pest Potential Of *Megacopta cribraria* (F.) (Heteroptera: Plataspidae) In Its Expanded New World Range - Conference 3 -7
- 8:00 - 12:00** Student Symposium: CSI Puerto Rico: Adventures In Forensic Entomology - Auditorium
- 8:00 - 10:30** Invasive Pests and Diseases of Palm- Salon del Mar
- 8:00 - 10:30** Acarology in Post-Genomics Era- Ceiba
- 8:00 - 11:00** Behavioral Plasticity From Neural To Evolutionary Scale Behavior- Flamboyan
- 8:00 - 11:45** New Generation Diagnostics For Pathogens And Their Management- Tropical
- 8:00 - 12:00** PIE- Las Olas
- 8:00 - 9:00** IPTMIS- Conference 10
- 9:00 - 10:00** SVPHS- Conference 10
- 10:00 - 10:30** SMEB- Conference 10
- 10:30 - 11:00** Break- San Geronimo Foyer
- 11:00 - 5:00** Entomologists As Educators – Using Traditional And Non-Traditional Tools To Reach Young To Old Audiences- Salon del Mar
- 11:00 - 5:00** Phyto-Arboviruses In Agroecosystems Symposium- Conference 3-7
- 12:00 - 1:30** Award Luncheon- San Gerónimo B

- 1:30 - 4:25** **Invasive Alien Species In The Caribbean Basin Of Concern To The U.S.A - Auditorium**
- 1:30 - 5:00** **Invasive Forest Insects And Diseases Symposium - Ceiba**
- 1:30 - 5:00** **Disease Detection and Management-Tropical**
- 1:30 - 5:00** **Sustainable Orchards: Towards Pest And Pollinator Management In Temperate And Tropical Perennial Cropping Systems - Flamboyant**
- 1:30 - 5:00** **PIE - Las Olas**
- 1:30 - 4:00** **Arthropod Host-Pathogen Interactions - Conference 10**
- 2:45 - 3:00** **Break- San Cristobal Foyer**
- 5:00 - 6:30** **SEB-ESA Final Business Meeting - Auditorium**
- 5:00 - 6:30** **APS-CD Final Business Meeting - Tropical**
- 6:30 - 10:00** **Closing Reception – San Juan Museum**
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MEETING NOTICES AND POLICIES

REGISTRATION: Everyone attending the SEB-ESA meeting. On-site registration fees include a luncheon ticket, and are: Active Members – \$350; Student Members – \$200; Guests – \$50; and Non-members – \$375. Honorary or Emeritus Member (Including Awards Luncheon AND one Tour): \$90.00; Honorary or Emeritus Member (Including Awards Luncheon, No Tour): \$40.00; Honorary or Emeritus Members (Including one Tour, No Awards Luncheon): \$50.00; Honorary or Emeritus Member (No Awards Luncheon or Tour): No Charge. Registration Booth is located in the San Geronimo Foyer and will be open on Saturday (3:00 – 7:00 pm), Sunday (7:00 am – 5:00 pm) and Sunday (7:00 am – 5:00 pm).

ESA CERTIFICATION BOARD INFORMATION DESK: Information on the Certification Board of the Entomological Society of America will be offered in the Registration area during Registration periods. Please contact the Certification Board Manager at the National Office to make arrangements to take the Certification Board Examination at the meeting.

PROGRAM SCHEDULE: Sessions must adhere to the printed schedule. It is the moderators' responsibility to keep speakers on schedule. If a scheduled presentation is not given, the moderator should ensure that the next speaker does not begin until his/her scheduled time. Timing devices will be provided.

AUDIOVISUAL: Digital projectors will be provided in each meeting room, along with pointing devices. Please design your material so that it can be read easily by the audience when it is projected. Presentations may be previewed in the Board Room 2 from 5:00 to 9:00 pm on Sunday, and 7:00 am to 9:00 pm on Tuesday.

JOB PLACEMENT CENTER: The Student Affairs Committee will sponsor a job placement center (in the Board Room) for all interested employers and prospective employees during regular meeting hours. If you have either a job vacancy or are seeking employment, please bring an announcement or resume to the Board Room 2.

DISPLAY PRESENTATIONS: Poster boards measuring 3 ft. wide x 4 ft. tall will be provided for each display presentation (posters should be no larger than 36x44"). Displays for Sunday exhibition should be set up on Saturday 6:00—8:00 pm or Tuesday morning from 7:00 - 8:00 AM in the designated area, and must be removed by 7 pm on Sunday evening. Displays for Tuesday exhibition should be set up on Monday 7:00—9:00 pm or Tuesday morning from 7:00 - 8:00 AM in the designated area. Displays should be mounted on the boards (assigned by the number of the presentation) with Velcro fasteners (hook side). Authors are asked to bring their own stick-on Velcro fasteners (preferred) or push pins for mounting

their posters. All prints, figures, tables, etc. should be large enough to be read easily from a distance of at least 3 feet. Presentations in Session 1 will be displayed from 8:00 AM until 5 PM on Sunday, 20 March, and Session 2 for the same period on Tuesday, 22 March. Presenters are encouraged to remain with their displays between 1:30 to 2:30 PM on the respective day of their poster presentations. Be sure to remove displays by 5:30 PM on Tuesday, 22 March.

PUBLIC RELATIONS: The Public Relations Committee will sponsor a Press Release area in the Board Room 2 during regular meeting hours. Press releases and public relations information may be brought to this area.

SEB – ESA 2010-2011 OFFICERS AND COMMITTEES

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Gary Leibee, FL
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MEETING LOCATION/TIME: Arkansas (2012)

Rob Wiedenmann, AR, Chair
David Hall, FL, *Ex-officio*

Meeting Location/Time: Louisiana (2013)

Mike Stout, LA, Chair
Jeff Davis, LA
Natalie Hummel, LA
Dennis Ring, LA
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AUDITING COMMITTEE

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Jeff Gore, MS
Will Hudson, GA
Mark Abney, NC
David Schuster, FL
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Dan Suiter, GA
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Joe Culin, SC
Gary Mullen, AL
Randy Luttrell, MS
Joe Eger, FL

**AMERICAN PHYTOPATHOLOGICAL
SOCIETY - CARIBBEAN DIVISION BOARD &
APS-CD COMMITTEES
2010-2011**

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Arrangements Committee Puerto Rico Meeting 2011

Lydia I. Rivera Vargas – President, Chair
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Judith K. Brown
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Registration

Ronald D. French-Monar

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María Mercedes Roca

Ronald D. French-Monar

José Amador

Judith Brown

Lydia I. Rivera Vargas

Judging Panel for Students Presentations

Roberto Vargas

Myrna Alameda

Marisol Dávila

Ronald D. French-Monar

María Mercedes Roca

George Wall

Audiovisuals and Art

Wanda Almodóvar

Ada Alvarado

Federico Estrada

Víctor González

Rubén Quiñones

Hospitality – Tours

Consuelo Estévez

Rosa Franqui

David Jenkins

Fernando Gallardo

Angel L. González

Fatima Ortiz

Alejandro Segarra

Donations

Myrna Alameda

Julia S. Mignucci

Aixa Ramírez

Exhibits

Evelyn Rosa

Edna Pérez

Promotion

Wanda Almodovar

Ada Alvarado

David Jenkins

Rosa Franqui

Decoration

Edna Pérez

Evelyn Rosa

Luis R. Santiago

Mildred Sosa

**AWARDS 2011 –
ESA DISTINGUISHED ACHIEVEMENT
AWARD IN EXTENSION**



Dr. Keith S. Delaplane is the recipient of the Southeastern Branch's ESA Distinguished Achievement Award in Extension. After completing graduate school at LSU, Dr. Delaplane joined the faculty of the University of Georgia in 1990 where today he holds appointments in extension, research, and teaching, working in honey bee IPM and pollination ecology. Early in his career Keith produced an 8-episode TV series on beginning beekeeping, *A Year in the Life of an Apiary*, which has aired continuously on public education channels across the country. The series still sells briskly in its DVD format, and lately it has been posted to the YouTube channel via the eXtension.org Community of Practice at http://www.extension.org/bee_health. In 2006, Dr. Delaplane was asked by the publishing company Dadant & Sons to re-write a classic book, *First Lessons in Beekeeping*, first published in 1917 and continuously updated until its 1992 edition. The new *First Lessons* has sold over 40,000 copies since Delaplane's 2007 release. It serves as the standard text for the Georgia Master Beekeeper program and the Young Harris College / UGA Beekeeping Institute – two extension programs Delaplane co-founded and sustains with an expanding pool of cooperators, county agents, and inter-institutional colleagues. Since its inception in 2002, over 220 individuals, representing eight states and two countries, have been certified in the Master Beekeeper program. A serendipitous international linkage led Delaplane to introduce a certification program for honey judges from the Welsh (UK) Beekeepers Association. Today the honey judge certification program has been expanded to the University of Florida, and a growing pool of Welsh-certified judges is promoting improved standards of honey quality across the Southeastern USA and beyond.

Beginning in the mid-2000s, growing awareness of the global scale of the problems affecting honey bee health began pushing Dr. Delaplane's extension and research agenda into a broadening sphere nationally and internationally. In 2008 he became National Director of the \$4.1 million Managed Pollinator CAP – a USDA-funded consortium of extension and research scientists dedicated to reversing honey bee decline through knowledge acquisition and delivery. In the two years since its inception the group has made important discoveries in honey bee pathology and toxicology and spearheaded the Bee Health Community of Practice at eXtension.org. As a spokesman for his American colleagues in honey bee science and extension, Keith serves on advisory boards for peer consortia and grant teams in the United Kingdom and across the European Union.

With a program expressly dedicated to “research, teaching and extension initiatives that are locally responsive while globally-relevant,” Delaplane sees honey bees as a great integrator of human interests across broad geographies, demographics, and scholarly disciplines. His students, in class and out, are urged to consider honey bees as engines of agricultural productivity, indicators of environmental health, models of sociobiology and evolution, and inspiration for the arts and humanities. Aside from this present honor, Delaplane holds the 2011 Award of Excellence by the American Association of Professional Apiculturists, the 2009 Walter B. Hill Distinguished Public Service Fellow by the University of Georgia, the 2006 James I. Hambleton Award for Research by the Eastern Apicultural Society, the 2002 Exceptional Service Award by the Apiary Inspectors of America, and the 1998 D.W. Brooks Faculty Award for Excellence in Extension by the UGA College of Agricultural and Environmental Sciences.

**AWARDS 2011 –
Recognition Award in Urban Entomology**



Dr. Claudia Husseneder received her M.S. degree in Biology (1994) and her PhD in Natural Sciences (1998) at the Department of Animal Physiology at the University of Bayreuth in Germany.

During her undergraduate studies, Dr. Husseneder worked mainly on population ecology of deer, rodents, endangered birds and other vertebrates. However, she soon was captured by the colorful world of insects while surveying carabid beetles for the Department of Nature Conservation at the Government of Upper Franconia (Bavaria, Germany) during her time as a master's student. For her Ph.D. she worked on the molecular genetics of subterranean termites in East Africa. Ever since she followed the "termite trail" to all the nice and warm places around the world, from Honolulu, Hawaii, where she worked as a Research Scientist, to Baton Rouge, Louisiana, where she is currently employed as Associate Professor in the Department of Entomology at the LSU Agricultural Center.

Dr. Husseneder utilizes molecular methods (gene sequencing and expression studies, microsatellite genotyping, and genetic engineering) to provide knowledge about the biology of insect pests with the main focus on termites and their symbiotic gut flora. Dr. Husseneder routinely identifies colonies of subterranean termites via genetic profiling to assess treatment success, identify residual termite activity after treatment, sources of re-infestation as well as sources of new introductions and ways of spread of invasive termites around the world. She also uses molecular markers to trace the origin of alates and monitor how many colonies contribute to swarms and whether treatments have area-wide effects. Dr. Husseneder's research provides information for the legislature, the pest control industry and

homeowners on issues, such as prevention of termite spread, success of area-wide treatment, and re-infestation potential. Dr. Husseneder also develops novel approaches to termite control, e.g., by using genetically engineered microorganisms and nanoparticles as Trojan Horses to deliver toxins into termite colonies. To date, Dr. Husseneder has published 36 peer-reviewed and 22 other articles, four book chapters and holds a patent for the use of recombinant bacteria in insect control. Apart from science, Dr. Husseneder is passionate about wildlife photography and exploring nature around the planet.

**AWARDS 2011 –
DISTINGUISHED ACHIEVEMENT
AWARD IN TEACHING**



Dr. Tanja McKay is an Associate Professor of Entomology in the Department of Biological Sciences at Arkansas State University where she teaches and does most of her research in the field of veterinary entomology. She is also the Assistant Director of the Environmental Science Program. She is originally from Nova Scotia, Canada where she received her B.S. degree from Acadia University, Wolfville, Nova Scotia. She moved to Winnipeg, Manitoba in 1995 to pursue a MS degree in Entomology where she studied the biological control of house flies in dairy operations. In 2002, she received her Ph.D. in Entomology from Kansas State University, where she studied the behavior of house fly parasitoids. In the same year, she joined the staff in the Department of Entomology at the University of Arkansas as a Research Associate in Veterinary Entomology where she conducted research in broiler-breeder egg production and turkey finishing facilities. In August 2004, she joined the faculty at Arkansas State University. She also holds a partial appointment with the University of Arkansas Experimental Station. She currently teaches 11 lecture and laboratory courses at ASU, including General Entomology, Medical/Veterinary Entomology and Insect Taxonomy. She has received over \$2,000,000 in competitive funding, including a grant from the National Science Foundation to improve science pedagogy employed by 7 -12 grade teachers and to improve science and technology learning by students. She has also received funding from the Arkansas Department of Higher Education to provide educators a professional development opportunity to acquire knowledge of life system concepts using aquatic and terrestrial macroinvertebrates. She has actively collaborated with other entomologists, microbiologists, and education specialists in many of her research projects. She has produced more than 15 refereed journal articles and a book chapter. She has also produced several short Entomology articles for the Jonesboro Sun newspaper and given interviews for the local TV channel KAIT8 on insect related questions. She has mentored 6 Masters and 3 Ph.D students. Her current research interests include examining dog heartworm-mosquito

associations using molecular diagnostics; examining nematode and fungal associations in mosquito larvae as potential biological control; studying dung beetle ecology in Arkansas; examining the spatial and temporal distribution of stored-product insects of stored rice. Tanja has been an active member of the Entomological Society of America since 1998. She has served on the ESA Standing Committee on Membership (Chair 2010); moderator of ESA presentations; and has judged many ESA student presentations. She is currently a subject editor for the Journal of Economic Entomology.

**AWARDS 2011 –
ESA RECOGNITION AWARD IN
INSECT PHYSIOLOGY,
BIOCHEMISTRY, AND TOXICOLOGY**



Dr. Dov Borovsky, Professor of Entomology and Insect Biochemistry at the University of Florida, Florida Medical Entomology Laboratory at Vero Beach, has been selected as the Southern Branch recipient for the ESA Recognition Award in Insect Physiology, Biochemistry and Toxicology. He is currently recognized as a University of Florida Research Foundation Professor and a Professor of Insect Biochemistry Molecular Biology and Microbiology. Dr. Borovsky attended the University of California in Los Angeles California and received a B.A. in Microbiology in 1967 and a Ph.D. degree in Biochemistry from the University of Miami, Florida in 1972. He did a postdoctoral stint at the University of California Davis at the department of Biochemistry and Molecular Biology (1972-1973) and moved to the University Of Miami School Of Medicine as a research assistant professor. In 1975 he moved to the University of Florida, Florida Medical Entomology Laboratory in Vero Beach and became a full professor in 1990. He is currently also an adjunct Professor of Biochemistry and Molecular Biology at the University of Miami, School of Medicine Department of Biochemistry and Molecular Biology and a visiting Professor at the Zoological Institute of the Katolieke University of Belgium in which he lectures and hosts several visiting Belgian students in his laboratory. Professor Borovsky has received several awards and recognition for his scientific work: NIH career development award (1979-83), Lady Davis visiting Professorship award to the Hebrew University of Jerusalem (1986), Katolieke University visiting professorship award in Biochemistry and Molecular Biology (1995), Florida Entomology Society Award for Research Achievement (1998) and the Secretary of Agriculture Silver Plow Medal (1999) and Secretary of Agriculture Honor Award (1999). Professor Borovsky has authored over 120 publications edited 3 books and holds 16 USA patents. He directed 60

graduate students, visiting scientists and post-doctoral trainees and currently has 2 Ph.D. students a MS student and a visiting student from the Katolieke University of Leuven in his laboratory.

His early work elucidated the mechanisms that are important in the pathway that controls vitellogenesis in mosquitoes. He demonstrated that ecdysone by itself does not influence egg development in mosquitoes and developed a novel technique to study juvenile hormone (JH) biosynthesis by the corpora allata without allatectomy. This innovative approach was successfully used with smaller insects like *Lutzomyia anthophora* for which such studies were previously impossible.

He has cloned and sequenced the genes that encode several key enzymes in the JH biosynthetic pathway, and developed RNAi technology to control JH biosynthesis in insects for future biological control of insects. His work on the physiology of mosquito neurosecretory hormones led to the discovery that the ovary releases a hormone that he named Trypsin Modulating Oostatic Factor (TMOF) that regulates the biosynthesis of trypsin in the midgut of female mosquitos. TMOF was shown to have a potential control of important agricultural pest insects such as *Heliothis virescens*, the citrus psyllids and the citrus weevil *Diaprepes abbreviates*.

**AWARDS 2011 –
ESA AWARD FOR EXCELLENCE IN
INTEGRATED PEST MANAGEMENT**



Dr. Henry Y. Fadamiro is an Associate Professor of Entomology at Auburn University, Alabama. He is also the Integrated Pest Management (IPM) Coordinator and State Contact for Alabama. Dr. Fadamiro is a Fellow of the Royal Entomological Society and Editor for *Physiological Entomology*. He received his B.S. and M.S. degrees in Biology and Pest Management from the Federal University of Technology, Akure, Nigeria, and later taught at the same institution for a few years. In 1991, he was awarded a Rhodes scholarship to study at Oxford University, England, where he obtained his Ph.D. degree in Zoology (Entomology option) in 1995. Dr. Fadamiro's research interests are in insect behavior, chemical ecology, biological control, IPM and sustainable/organic agriculture. After earning his PhD, Dr. Fadamiro moved to Iowa State University in 1996 where he worked with their corn IPM program and led projects looking at pheromone mating disruption to control the European corn borer and other pests. He joined the University of Minnesota in 1998 as a Research Associate in Entomology researching ways to biologically control pests in corn and cabbage. Shortly after, he transferred to the Minnesota Department of Agriculture (MDA) where he led the state's apple and strawberry IPM and biological control programs. Dr. Fadamiro joined Auburn University in 2003. His specific expertise in recent years is in IPM of fruit and vegetable crops. Dr. Fadamiro has published over 60 research journal papers, one book chapter, four IPM manuals/guides, two crop profiles and more than 100 extension articles. He has been invited to present his research globally and has received about \$4.5 million in grants. He has advised 21 graduate students and trained several undergraduate students, postdoctoral researchers, and visiting scholars from different parts of the world. In addition, Dr. Fadamiro teaches three IPM intensive courses at Auburn including Economic Entomology, Integrated Pest Management, and Insect Behavior and Chemical Ecology. Dr. Fadamiro's extension program aims to promote and facilitate the adoption of IPM in all commodities/settings in Alabama through research, training, and outreach. As the IPM Coordinator for

Alabama, he works cooperatively with research and extension specialists and other stakeholders in the state to set IPM priorities for Alabama, and to coordinate and promote existing and new IPM programs in the state. Dr. Fadamiro has served the southern region IPM community in many capacities including Secretary (2007) and Chair (2008) of the Southern Region IPM Coordinators (SERA 3) working group (2007-2008), and Member (2005-2008) and Chair (2008) of the Advisory Board of the Southern Region IPM Center. Dr. Fadamiro has received several distinguished awards including the Alabama Agricultural Experiment Station Director's Award for Research in 2005, and the Alabama Cooperative Extension System Extramural Competitive Funding award in 2009. He has served on numerous grant panels and his research has been highlighted in several news journals and media outlets. Dr. Fadamiro is an active member of the Entomological Society of America and has served on the Student Awards Committee (2002-2006) and Membership Committee (2006-Present) of the SEB-ESA.

**AWARDS 2011 –
ESA AWARD FOR EXCELLENCE IN
INTEGRATED PEST MANAGEMENT**



Dr. Alvin M. Simmons is a Research Entomologist at the USDA-ARS, US Vegetable Laboratory (USVL) in Charleston, SC, and is the Southeastern Branch co-recipient of the ESA Award for Excellence in Integrated Pest Management. Dr. Simmons received his B.S. in Biology in 1980 from East Carolina University. He received both his M.S. (1983) and Ph.D. (1987) in Entomology from the University of Kentucky. His primary research concerns reducing insecticide usage through the development of alternatives to traditional management, under the broad areas of host plant resistance, cultural control, biological control, and other control methods. Secondly, he conducts research to support the registration of chemicals against insects, mites, weeds and plant pathogens in food and ornamental specialty crops in cooperation with the national IR-4 program.

Dr. Simmons began his career at the USDA-ARS, Insect Biology and Population Management Research Laboratory (now called Crop Protection and Management Research Unit) with research on a newly-discovered ectoparasitic nematode, the first known to attack adult Lepidoptera. This work provided information on distribution, dispersal, host range, and ability to infest hosts. His demonstration that the nematode was transmitted during host sexual activity was unique in that sexually-transmitted diseases had rarely been reported for insects and other invertebrates. In 1992, he transferred to the USVL to fill a congressional mandated position to address concerns about the B-biotype sweetpotato whitefly in vegetables. He has conducted extensive research on whiteflies and other insects, providing information on IPM including host plant resistance, biocontrol with predators and parasitoids, sources of biopesticides, trapping, insect bionomics, and insect-virus associations. He was the first to document feeding duration

of a stink bug species, and made the first comparison of feeding behavior among various immatures and the adult green stink bug, which were important to an understanding of the mechanical and pathological damage to seeds by this pest. He was one of the first to study injuries due to an insect pest complex through his evaluations of the combined effects of a fluid feeder and a defoliator on plant growth, yield, and seed quality. Dr. Simmons' research is internationally recognized. His IR-4 research (over 150 reports) provided data necessary for the registration of numerous pesticides for use on specialty crops. This helped fill a need by growers who otherwise had little or no viable control options; Dr. Simmons received an IR-4 Meritorious Award for his work.

Excluding abstracts, he has authored/co-authored over 100 scientific publications; 76 are refereed journal articles, and 5 are releases of breeding lines of sweetpotato and watermelon. He provides leadership in entomology by taking a very active role in scientific societies, research conferences, and workshops, and in representing ARS. This includes serving as Chair for Regional Project S-319, Biological Control of Arthropod Pests & Weeds, 2005-2006. He is active in providing consultation to the agricultural community and in mentoring graduate and undergraduate students. He serves as Adjunct Professor, Department of Entomology, Soils and Plant Science, Clemson University. Among his recognitions and honors, he has served as an Entomological Foundation Counselor since 2005; he served as President of SEB-ESA (2008-2009); he was the first recipient of the Distinguished Alumni Award, Department of Entomology, University of Kentucky (2006); he received a Community Service Award in Agricultural Research & Education, Gamma Zeta Chapter of Zeta Phi Beta Sorority, Inc (2010); and he was appointed in 2010, by ESA, to co-lead a team to develop a proposal to host the International Congress of Entomology in North America in 2016.

**AWARDS 2011 –
ESA RECOGNITION AWARD IN
URBAN ENTOMOLOGY**



Dr. Brian T. Forschler is a Professor of Entomology at the University of Georgia (UGA) in Athens, GA. He has been Principle Investigator for the Household and Structural Entomology Research Program (H&SERP) since 1991. The UGA H&SERP has emphasized development of decision criteria based on an understanding of pest biology that provide for efficacious, cost effective, and environmentally sound management of subterranean termites, as well as, other cryptic urban arthropods. Brian obtained three degrees in Entomology with a major emphasis in Insect Pathology. His undergraduate and graduate work included studies involving insect pathogenic virus, fungi, bacteria and insect parasitic nematodes. The insect systems included forest, turf grass and row crop insect pests for his Masters, Ph.D., and Post Doctoral appointments, respectively. He received both his B.S. and M.S. from the University of Kentucky, his Ph.D. from the University of Georgia and did Post Doctoral work at the University of Arkansas. He has taught courses on Urban Entomology at the undergraduate and graduate level for over 13 years and acted as major advisor to 9 post-doctoral associates, 4 PhD, 8 Masters and directed studies for 13 undergraduates in addition to sitting on 9 student advisory and/or reading committees. In addition to serving on numerous College and University Committees Forschler is Chairperson for the Termiticide Scientific Review Panel formed in an MOU between US EPA, ASPCRO, NPMA and RISE, a member of the UNEP and FAO Termite Expert Group serving as spokesperson for the *Reticulitermes* Working Group as part of the UN POP's treaty, a member of the ASPCRO Termiticide Label Review Committee, a member of the Georgia Department of Agriculture Structural Pest Control Commission, a member of the Kyoto University RISH advisory committee on wood destroying organisms, and oversees cooperative agreements with Mahidol University in Bangkok, Thailand and the Vietnam Academy for Water Resources in Hanoi, Vietnam.

He has also organized numerous national and international symposia on termite biology and management and authored over 100 scientific and popular press articles on termites and other household and structural insect pests and conducts training sessions for industry and regulatory officials in the United States, Europe, Australia, and Asia.

**AWARDS 2011 –
ESA RECOGNITION AWARD IN
ENTOMOLOGY**



Dr. Steven M. Valles, Research Entomologist with the USDA-ARS, is the Southeastern Branch's co-recipient of the ESA Recognition Award in Entomology. Valles enlisted in the U.S. Army, 82nd Airborne Division, as a means of acquiring funds (Veteran's Educational Assistance Program) to pursue an undergraduate degree. After completion of his military service, he earned a B.S. in Biology, minor in Chemistry from Georgia State University. Valles was awarded the Gahan Research Assistantship in Entomology at the University of Florida in August 1989, where he completed M.S. and Ph.D. degrees in Entomology in 1991 and 1995, respectively. In 1997, Dr. Valles accepted a Research Entomologist position with the United States Department of Agriculture in the Imported Fire Ant and Household Insects Research Unit at the Center for Medical, Agricultural and Veterinary Entomology, Gainesville, Florida, where he is still employed. Dr. Valles has authored or co-authored 78 peer-reviewed publications, 1 popular article, 6 proceedings, 3 book chapters, 3 extension circulars, 2 newsletter articles, 1 patent (2 additional patent applications are in submission), and made 36 invited presentations at scientific meetings.

Using a metagenomics approach, Valles and collaborators discovered the first viruses (named *Solenopsis invicta* virus 1 [SINV-1], SINV-2, and SINV-3) known to infect the red imported fire ant. These are the first viruses ever shown to infect an ant species. Valles has since characterized these viruses (genome sequencing, colony effects, host specificity, and biology) and has begun developing them as potential microbial control agents against the ants. Although the discovery of the viruses is significant, their potential use as microbial control agents is more important to agriculture

because they represent a new approach to fire ant control. Valles is currently developing an expression system capable of producing large quantities of the virus to facilitate further evaluation (host specificity, efficacy, safety) and to gain commercial interest in the virus for use as a microbial control pesticide. Valles has completed and published studies on all three viruses including genotyping, phenology, distribution, host specificity, tissue tropism, transmission, genome sequencing, stability, capsid protein characterization, vectoring, detection, and population genetics. These discoveries have not only opened new and exciting avenues of entomological research, but, more importantly, provided a potentially novel species-specific, low-toxic control method for fire ants to benefit agriculture.

**AWARDS 2011 –
ESA RECOGNITION AWARD IN
ENTOMOLOGY**



Dr. Wayne Hunter, Research Entomologist at the USDA, ARS, Subtropical Insects Research Unit, U.S. Horticultural Research Lab, Fort Pierce, FL is the Southeastern Branch’s co-recipient of the ESA Recognition Award in Entomology. He received his A.S from Casper College, WY in 1983, his B.S. from Central Missouri State University, in 1985, his M.S. from the University of Missouri-Columbia, 1987, and his Ph.D. from the University of Hawaii at Manoa, in 1992. He has maintained a diverse research program with the USDA, ARS since 1997, and also serves as adjunct with the University of Florida. Dr. Hunter has over 17 years active research and is a recognized leading authority on insect vectors of plant diseases, insect genomics, and pathology, with over 140 publications, obtaining grant support exceeding \$2.7 million.

Dr. Hunter’s early efforts to apply genomics to address insect pest problems lead to his involvement in many genome projects, where he serves as the lead researcher on the “Asian Citrus Psyllid Genome Consortium”, and co-lead on the “Potato Psyllid Genome”, he also served on genomics steering committees for: “International Whitefly Genome Initiative”; the “*Nasonia*, Parasitoid Genome Consortium”; the “Native North American Grape Genome Database”; and working groups for “International Pea Aphid Genome Consortium”, and “*Diaphorina Wolbachia* Genome”.

Dr. Hunter’s has obtained both international and national recognition and is sought as a consultant on scientific and biotechnology problems in research areas beyond his immediate research field. His genomics research has advanced studies on non-model insects specifically those which transmit plant pathogens. Dr. Hunter’s efforts include studies on the genetic basis for insect pathogen transmission, interactions, insect development and the discovery of insect viruses. Dr. Hunter’s contributions include discovery of 11 insect viruses, including a

patent on the first virus to infect fire ants, the pea aphid genome 2009, the *Nasonia* parasitoid genome, 2010, and the Asian citrus psyllid and potato psyllid genomes (in progress). Dr. Hunter's efforts cover a diverse range of insects within the Hemiptera (ten species), Hymenoptera (three species), and Coleoptera (two species), with focus on disease vector species: Leafhoppers which transmit Pierce's disease of grapes; Aphids which transmit Citrus Tristeza and other crop viruses; Psyllids which transmit bacterial pathogens linked to Huanglongbing (Citrus Greening Disease and Zebra Chip of potato); Begomovirus transmission by whiteflies, and Tospovirus transmission by thrips.

Dr. Hunter continues to provide outreach and forums on the genomics of arthropods, he founded and organizes the annual, 'Arthropods Genomics Workshop' at the International Plant & Animal Genomes Conference (2005-2011), which resulted in being invited to co-author the first volume on 'Genome Mapping and Genomics in Arthropods, 2008'. Dr. Hunter's rapid assimilation of emerging technologies also resulted in his invitation to participate in the first RNAi field trial aimed at improving the health of beneficial insects, resulting in lead authorship on the first field trial of an RNAi based product shown to reduce viral disease and improve the health of honey bees (PloS Pathogens, Dec. 2010). He has organized or co-organized several RNAi symposia at international and national meetings, including the 2010 ESA annual meeting. In addition to Dr. Hunter's extensive research program, he is committed to increasing awareness of science. Dr. Hunter was awarded national recognition 2006 for exemplary achievements to promote EEO/Civil Rights of minorities and women in science. He continues to mentor high school, undergraduate, and graduate students, and provides guidance to post doctoral researchers in professional development.

AWARDS –
JOHN HENRY COMSTOCK – 2011
Outstanding Ph.D. Student



Rebecca Trout Fryxell (Becky) obtained her B.A. in biology from Transylvania University and her M.S. in entomology from University of Kentucky. Her research with Dr. Grayson Brown focused on reducing mosquito populations in the peridomestic environment. After completing her M.S. research, Becky started a Ph.D. at the University of Arkansas under the advisement of Dr. Dayton Steelman and Dr. Allen Szalanski. Her dissertation provided information on the distribution and occurrence of ticks in Arkansas, as well as information on tick and host pathogen interactions. She has given several presentations as an invited speaker and has 11 refereed publications. Becky's awards include runner-up for ESA's President Prize, the Isely-Dupont Entomology Scholarship, the Joseph H. Camin Fellowship, and Linnaean game national champions. She is currently a post doctoral fellow at UC Davis.

AWARDS –
KIRBY L. HAYS – 2011
Outstanding M.S. Student



Ankit Kumar received his undergraduate degree from VIT, India in Biotechnology. He received his MS in entomology from Mississippi State University under Dr. Fred Musser's supervision in May 2010. His master's research was looking at the intra and inter crop (corn & cotton) movement dynamics of tarnished plant bug. His research also looked at the effects of Sorbitol on the longevity of egg albumin protein markers in the summer field conditions. His research has shown that tarnished plant bugs have variable movement dynamics temporally and spatially depending on the relative maturity of adjacent corn and cotton. His research has also shown that Sorbitol help insects pick up mark quicker and it also helps a little in increasing the longevity of the egg albumin protein. Currently he is employed by Monsanto Corn Breeding (Flora, MS) as a research assistant. His current responsibilities include designing the field trials and analyzing the field data to assist corn breeders make hybrid selections.

AWARDS –
ROBERT T. GAST – 2010
Best Ph.D. Paper, Annual SEB Meeting



Waseem Akbar, Louisiana State University was the recipient of the Robert T. Gast Award for the best Ph.D. paper presentation at the 2010 meeting for “Host plant nutritional components impacting sugarcane aphid feeding behavior and performance.” Waseem is a Ph.D. candidate working under Dr. T.E. (Gene) Reagan at Louisiana State University, received the 2010 John Henry Comstock Award for the Southeastern Branch of the Entomological Society of America. His dissertation research focuses on resistance to the sugarcane aphid, including feeding behavior and identification of free amino acids with differential susceptibility among sugarcane cultivars. Mr. Akbar has 13 peer-reviewed publications, including seven as senior author. Additional studies have involved tebufenozide resistance in the sugarcane borer, biological control of the sugarcane aphid, cultural practices and invasive species, and stored grain insects IPM. Awards include the LSU Department of Entomology L.D. Newsom Outstanding Ph.D. Student, ESA President’s Prize (2nd place in oral session), and the R.H. Painter M.S. Student at Kansas State University.

**AWARDS –
SOUTHEASTERN BRANCH STUDENT
AWARD – 2010**

Best M.S. Paper, Annual SEB Meeting

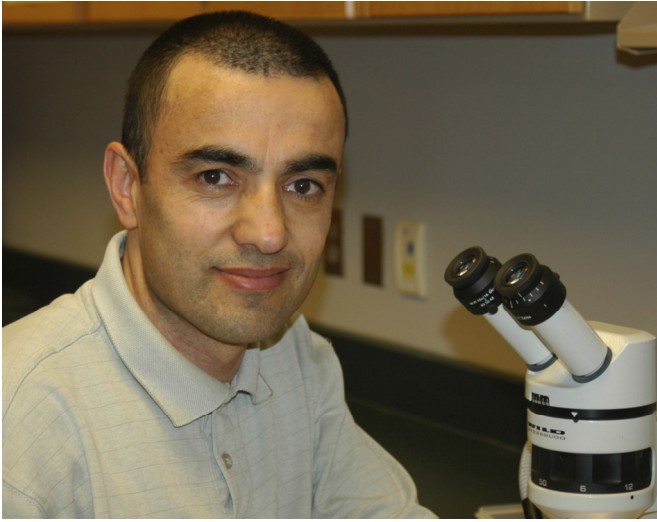


Sarah Wong from North Carolina State University won the Best M.S. Paper presentation titled, “The success and reproduction of *Orius insidiosus* on thrips (*Frankliniella occidentalis*) using the ornamental black pearl pepper: banker plants as a means of biological control in greenhouses.”

Sarah earned a B.S. degree in Biological Sciences from NCSU in May, 2009. Prior to graduation she worked as a research technician in the Fred Gould entomology laboratory at NCSU. During her time in the Gould lab she assisted Ph.D. student Jennifer Petzold in researching plant-herbivore interactions between *Physalis angulata* and *Heliothis subflexa*. This experiment focused on the plant response to eggs being laid on the foliage and how a variety of plant responses affected the survival of *H. subflexa* eggs. Sarah also assisted in other graduate student research with Ph.D. candidate Rachael Walsh.

In August, 2009 Sarah started a Masters program in Entomology at NCSU under adviser Steve Frank whose lab primarily works in ornamental pest management and biological control. Her research focuses on developing a ‘banker plant’ system to suppress thrips populations in commercial greenhouses. This system specifically uses the Black Pearl pepper, an ornamental pepper plant, as a banker plant to provide pollen to the omnivorous *Orius insidiosus*. The objective of the Black Pearl pepper banker plant is to provide pollen, an alternative source of food, to *O. insidiosus* when thrips pest populations are low or absent in a commercial greenhouse. The goal of this project is to improve the efficacy of biological control of thrips with *O. insidiosus* by maintaining a reproducing population of the natural enemy within a commercial greenhouse throughout the growing season.

AWARDS – OUTSTANDING PH.D. DISPLAY – 2010



Abdul Hakeem was the recipient of the 2010 Outstanding Ph.D. Student Display Award for “Establishment of Predatory Beetles against Hemlock Woolly Adelgid: It Just Takes Time.” He grew up in the Hunza Valley of Gilgit District, Pakistan. He received his B.S. and M.S. in Entomology from Azad Jammu and Kashmir University and North West Frontier Province Agricultural University Peshawar, respectively. Upon graduation, he was employed by the Department of Agriculture, Gilgit-Baltistan, in Pakistan. He held this position for several years until he began a study leave to pursue his advanced degrees in the U.S. He received a M.S. in Entomology and Plant Pathology, funded by a Fulbright Scholarship, at the University of Tennessee, Knoxville, in 2008. His M.S. program focused on the temporal and spatial impacts of insecticides on non-target organisms on eastern hemlock. Hakeem is currently a Ph.D. candidate in the laboratory of Jerome Grant at the University of Tennessee, where he is developing more efficient and effective tools to assess efficacy and impact of exotic biological control agents introduced against hemlock woolly adelgid.

Before beginning his studies in the U.S., Hakeem received a Netherlands Fellowship (NFP/TP-Fellowship) to enable him to investigate seed potato development. Hakeem also received the Outstanding M.S Student Display Award in 2008 (SEB-ESA) and was the recipient of the 2010 Tennessee Entomological Society Best Student Paper. He is a member of the Entomological Society of America, the Tennessee Entomological Society and Gamma Sigma Delta Agricultural Honor Society. Hakeem has presented his research, in both oral and display formats, at various state, regional, and national professional conferences. He also has been active in numerous entomological outreach programs.

SEB-ESA AWARDS –
OUTSTANDING M.S. DISPLAY – 2010



Jamie Dinkins from the University of Georgia as the recipient of the 2010 Outstanding M.S. Student Display titled “Behavioral and antennal responses of the European Woodwasp (*Sirex noctilio*) to southern pine species.”

Jamie is a second year Masters student from Powell, TN. She is studying the preference of *Sirex noctilio* to southeastern US pines, and is also working on the the chemical and physical mechanisms of this attraction. She works under Kamal Gandhi at the University of Georgia. In her spare time she enjoys racing road and mountain bikes and traveling.

APS-CD AWARDS –

Frederick L. Wellman Award of Merit



Dr. Brlansky received his B.S. degree in Zoology from Texas A&M University in 1970 and then his M.S. in Plant Pathology (Plant Virology) in 1973. He then went to Louisiana State University where he received his Ph.D. in Plant Pathology (Plant Virology) on serologically specific electron microscopy under the direction of Dr. Ken Derrick in 1977. After a postdoctoral position at Montana State University working on barley and wheat viruses, he then went to Florida. Since 1979 he has been at the University of Florida, Citrus Research and Education Center, Lake Alfred working on systemic diseases of citrus. These include both endemic as well as exotic diseases and the pathogens (or suspected pathogens) that cause them. This work has concentrated mainly on those diseases that currently cause or could cause major economic problems for citrus industries in Florida and the Caribbean area. These include citrus blight, citrus tristeza (caused by various strains of citrus tristeza virus), citrus leprosis (caused by two different viruses), citrus variegated chlorosis (caused by *Xylella fastidiosa*) and citrus huanglongbing (citrus greening) (putatively caused by the fastidious prokaryote *Candidatus Liberibacter asiaticus*). His research projects have centered on the characterization, detection and identification of the causal agents, insect transmission and host susceptibility. Dr. Brlansky is an expert in electron microscopy of systemic plant pathogens; however, his research listed above has also focused on serological and molecular tools for solving these disease problems. In addition, he has done extensive work on the insect transmission of exotic and endemic citrus pathogens. Much of this research has been in collaboration with scientists from South and Central America and has been supported by grants from the Florida citrus industry and from the USDA.

Dr. Brlansky has published over 127 articles in a variety of high impact journals that include *Phytopathology*, *Plant Disease*, *Virus Research*, *Archives of Virology*, *Plant Pathology*, *Journal of Microbiological Methods* and the *Journal of Virological Methods*, while attracting over \$2 million dollars in grant

support.

Dr. Brlansky has been active in his scientific society as a chair/member of a number of important committees. Dr. Brlansky has been a long time member of the American Phytopathological Society (APS) and a member of the APS-Caribbean Division (CD). He has served the APS-CD as Secretary/Treasurer from 2005-2009 and as President from 2009-2010. He is currently serving as Past President, 08/28/2010 - 03/22/2011. In addition, he has served on and been chairman of the APS Tropical Plant Pathology committee, The Virology Committee, and is currently serving on the Office of Public Relations and Outreach Board, and as a Senior Editor of the journal Plant Disease (2010-2013).

SATURDAY, 19 MARCH

- 8:00 - 12:00** SAC-12 and NCAC-15 Meeting -Conference 3-6
- 11:00 - 12:00** Local Arrangements Committee Meeting – Boardroom 2
- 1:00 - 5:00** SEB Executive Committee Meeting - Conference 3-6
- 1:00 - 5:00** APS Executive Committee Meeting - Ceiba
- 1:00 - 5:00** S-1034 Regional Project Meeting – Las Olas
- 3:00 - 5:00** Student Affairs Committee Meeting - Conference 7
- 3:00 - 7:00** Registration – San Geromino Foyer
- 3:00 - 7:00** Audiovisual and Job Placement –Boardroom 2
- 5:00-8:00** Display Set-Up- San Geronimo Foyer
- 8:00 - 7:00** Office - Business Office

SUNDAY, 20 MARCH

- 7:00 - 8:00** Continental Breakfast – San Gerónimo Foyer
- 7:00 - 5:00** Registration and ESA Certification Board Information – San Gerónimo Foyer
- 7:00 - 7:00** Audiovisual, Job Placement, Local Arrangements, and Public Relations – Boardroom 2
- 7:00 - 7:00** Office – Board Room 2
- 7:00 - 8:00** Display Presentation Set Up – San Geronimo Foyer
- 7:00 - 7:00** Commercial Exhibits - San Geromino Foyer
- 8:00 - 5:00** Display Presentations Session 1 (MS and PhD Competitions; Structural, Veterinary, Public Health Systems, Urban Symposium; Systematics, Evolution, and Biodiversity; Integrative Physiological and Molecular Insect - San Geronimo Foyer
- 8:00 - 9:40** Opening Session and Joint SEB and CD Business Meeting – San Gerónimo B

- 9:40 - 10:30** **Plenary Presentation** - San Gerónimo B
- 10:30 - 11:00** **Break** – San Geronimo Foyer
- 11:00 – 5:00** **Ph.D. Paper Competition** – San Gerónimo B
- 11:00 – 5:00** **M.S. Paper Competition** - San Gerónimo A
- 11:00 - 2:00** **APS Student Competition** - San Gerónimo C
- 11:00 - 5:00** **Turf & Ornamental Entomology-** Tropical
- 11:00 - 5:00** **Vegetable Entomology-** Guayacan
- 11:00 - 5:00** **Urban Entomology-** Salon Condado
- 12:00 - 1:00** **Lunch on Your Own**
- 1:00 - 4:00** **Whitefly-Transmitted Geminiviruses: A Caribbean Legacy In Honor And Appreciation Of Julio Bird** - Salon del Mar
- 1:00 - 5:00** **S-1034 Symposium – Weed Biological Control Projects In The Region** - Auditorium
- 2:00 – 5:00** **Advances in Acarology** – San Geromino C
- 2:30 - 3:00** **Presenters of displays at Display Presentations** – San Geronimo Foyer
- 2:30 - 3:00** **Break** – San Cristobal Foyer
- 4:00 - 6:00** **Black Sigatoka (*Mycosphaerella fijiensis*) Symposium** – Salon del Mar
- 5:00 - 7:30** **Linnaean Games** – Las Olas
- 7:30 - 10:00** **Welcome Reception** – Atlantico Redondel

SUNDAY MORNING, MARCH 20

**8:00 - 10:30 BUSINESS MEETING AND
PLENARY SESSION**

San Gerónimo B

- 8:00 - 9:40 SEB and CD Business Meetings - San Gerónimo B**
Presiding: Frank Hale and Lydia Rivera Vargas
- 8:00 Call to order:** Frank Hale, SEB President and Lydia Rivera Vargas, CD President
- Welcome:** Hon. Jorge Santini-Padilla, Mayor, San Juan
- Welcome:** Dr. Miguel Munoz, Acting President, Univ. of Puerto Rico
- Welcome:** Dr. Jorge Rivera Santos, Acting Chancellor, Univ. of Puerto Rico
- 8:15 Preliminary Business Meeting**
Announcements
Committee Reports
Local Arrangements, Alvin Simmons
Program, J.C. Chong & Raymond Hix
Nominations, Rob Meagher
Resolution, Dakshina Seal
Meeting Location/Time 2012,
Rob Wiedenmann, U. of Arkansas
- 8:50 Message from APS President,** John Sherwood
- 8:57 Message from ESA President,** E. Delfosse
- 9:04 Message from ESA Executive Director,** David Gammel
- 9:11 Message from SEB Rep to ESA Governing Board,** Nancy Hinkle, UGA
- 9:16 Message from Entomological Foundation,** Nick Toscano, UC- Riverside
- 9:20 Remarks from SEB President,** Frank Hale, Univ. of Tennessee
- 9:30 Remarks from CD President,** Lydia Rivera Vargas, University of Puerto Rico
- 9:40 - 10:30 PLENARY PRESENTATION:**
(1) Dr. Judith Brown: *“From biotypes and phylogenetic biology, to newgeneration sequencing technologies to unravel the mysteries of the Bemisia tabaci sibling species complex.*

SUNDAY MORNING, 20 MARCH

APS-CD STUDENT PAPER COMPETITION

11:00 am – 1:36 pm

San Gerónimo C

Moderators: Ronald French-Monar, Texas A & M
Marisol Davila-Negron UPR-Utuado, Puerto Rico

11:00 Moderator's instructions

11:03 (2) Detection of citrus greening with high-fidelity PCR. **Romero, G.**, C. Estévez de Jensen, and A. Palmateer. Univ. of Puerto Rico, Mayagüez, PR [1, 2]; Univ. of Florida, Tropical Research and Education Center, Homestead, FL [3].

11:15 (3) Identification of powdery mildews affecting ornamentals and herbs in Puerto Rico. **Bonilla, L.**, C. Estévez de Jensen, and L. Rivera. U. of Puerto Rico, Mayagüez, PR [1-3].

11:27 (4) Identification of anamorphic powdery mildews on fruits and vegetables in Puerto Rico. **Latoni-Brailowsky, E. I.**, L. I. Rivera-Vargas, C. Estévez de Jensen, and M. J. Cafaro. Dept. of Crops and Agroenvironmental Sciences [1-3]; Dept. of Biology, University of Puerto Rico, Mayagüez, PR [4].

11:39 (5) Identification of possible random amplified polymorphic DNA (RAPD) markers for resistance to *Fusarium oxysporum* f. sp. *dianthi* in carnation by using segregating populations. **Fernandez, G.** and J. J. Filgueira. Dept. of Biotechnology, Military U. of Colombia, Bogota, Colombia [1, 2].

11:51 (6) Phenotypic evaluation of the tolerance to vascular wilt caused by *Fusarium oxysporum* in carnation populations. **Soto, J. C.**, M. J. Clavijo, and J. J. Filgueira. Dept. of Biotechnology, Military Univ. of Colombia, Bogota, Colombia [1-3].

12:03 Lunch (on your own)

1:00 (7) Evaluation of biocontrols, coffee compost and *Arachis glabrata* on *Phytophthora* root rot in avocado. **Torres, J.**, C. Estévez de Jensen, and D. Sotomayor. Univ. of Puerto Rico, Mayagüez, PR [1-3].

1:12 (8) Phytopathogenic fungi as an alternative for the biological control of the invasive weed, *Hyparrhenia rufa*. **Rivera, V. L.**, L. Rivera, and A. Rodriguez. Dept. of Crop and Agro-Environmental Sciences, Mayagüez, PR [1, 2]; Dept. of Animal Industry, Univ. of Puerto Rico, Mayagüez, PR [3].

1:24 (9) Sorghum as a barrier and intercrop option against non-persistently transmitted viruses. **Acevedo, V.**, C. Estévez de Jensen, J. C. Rodrigues, and L. Beaver. Univ. of Puerto Rico, Mayagüez, PR [1-4].

1:36 Close

SUNDAY MORNING, 20 MARCH

11:00 – 4:36 M.S. PAPER COMPETITION

San Gerónimo A

Moderators: Andrew Rasmussen, FAMU

Afternoon moderator to be announced

11:00 (11) Diversity of the *Diachlorine* grade (Diptera: Tabanidae: Tabaninae). **Bayless, K. M.**, S. I. Morita, and B. M. Wiegmann. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1, 3]; Dept. of Entomology, Smithsonian Institution, Washington, DC [2].

11:12 (12) Revision of the subfamily Megaspilinae (Hymenoptera: Ceraphronoidea) using molecular data. **Ernst, A. F.**, I. Mikã, and A. R. Deans. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1-3].

11:24 (13) Phenology, diversity, and nematodes of Arkansas *Sirex* (Hymenoptera: Siricidae). **Keeler, D. M.**, L. D. Galligan, D. C. Steinkraus, and F. M. Stephen. Dept. of Entomology, Univ. of Arkansas. Fayetteville, AR [1-4].

11:36 (14) Geraniol as a potential fly (Diptera: Muscidae) repellent. **Guisewite, L. M.**, J. A. Cammack, S. S. Denning, and D. W. Watson. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1-4].

11:48 (15) Rearing and behavior of *Leptomastidea* nr. *antillicola* Dozier (Hymenoptera: Encyrtidae), a parasitoid wasp of *Harrisia cacti* mealybug *Hypogeococcus pungens* (Hemiptera: Pseudococcidae). **Velez, E.** and A. E. Segarra. Dept. of Agro-Environmental Sciences, U.of Puerto Rico, Mayagüez, PR [1, 2].

12:00 Lunch (on your own)

1:00 (16) Migration behavior of red palm mite, *Raoiella indica* Hirst (Acari: Tenuipalpidae), in *Cocos nucifera* (Palmae). **Colon, L. M.** and J. C. V. Rodrigues. Dept. of Crops and Agro-Environmental Sciences, Univ. of Puerto Rico, San Juan, PR [1, 2].

1:12 (17) Association of *Raoiella indica* (prey) and *Amblyseius largoensis* (predator) mite populations in coconut palms. **Cruz, S.**, L. M. Colon, and J. C. V. Rodrigues. Dept. of Crops and Agroenvironmental Sciences, Univ. of Puerto Rico, San Juan, PR [1-3].

1:24 (18) Factors influencing soil foraging by red imported fire ants (*Solenopsis invicta*) in managed turfgrass. **Barden, S. A.** and D. W. Held. Dept. of Entomology and Plant Pathology, Auburn Univ., Auburn, AL [1, 2].

1:36 (19) The impact and management of two-spotted spider mite (*Tetranychus urticae*) in cotton. **Scott, W. S.** Dept. of Biochemistry, Molecular Biology, Entomology and Plant Pathology, Mississippi State Univ., Mississippi State, MS [1].

1:48 (20) Efficacy of insecticides against the brown stink bug attacking peach. **Dent, A.**, T. E. Cottrell, and G. Mbata. Dept. of Biology, Fort Valley State Univ., Fort Valley, GA [1, 3]; USDA-ARS, Southeast Fruit and Tree Nut Research Laboratory, Byron, GA [2].

2:00 (21) Evaluating cultural practices and environmental factors that influence wireworm damage in Irish potato. **Langdon, K. W.** and M. R. Abney. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1, 2].

2:12 (22) Relationship between stink bug and phomopsis seed decay in Mississippi soybean production. **Jones, J. L.**, A. L. Catchot, and F. R. Musser. Dept. of Biochemistry, Molecular Biology, Entomology and Plant Pathology, Mississippi State Univ., Mississippi State, MS [1-3].

2:24 (23) Developing a no-choice feeding field protocol to assess stink bug injury to soybean seed. **Moore J. L.**, J. H. Temple, and B. R. Leonard. Dept. of Entomology, Louisiana State Univ. AgCenter, Baton Rouge, LA [1-3].

2:36 (24) Feeding behavior and duration of exposure of Mexican rice borer (Lepidoptera: Crambidae) neonates on sugarcane. **Wilson, B. E.**, T. E. Reagan, A. T. Showler, and J. M. Beuzelin. Dept. of Entomology, Louisiana State Univ. AgCenter, Baton Rouge, LA [1, 2, 4]; USDA-ARS, Weslaco, TX [3].

2:48 Break (San Geromino Foyer)

3:12 (25) Insecticide effects on bird-cherry oat aphid, *Rhopalosiphum padi*, early season population dynamics on Arkansas winter wheat. **McWilliams, B. J.**, T. J. Kring, and Y. J. Shen. Dept. of Entomology, Univ. of Arkansas, Fayetteville, AR [1-3].

3:24 (26) Insecticide resistance in *Spodoptera frugiperda* (J. E. Smith) (Lepidoptera: Noctuidae): Implications for an area-wide management plan in Puerto Rico. **Acevedo-Lugo, A.** and A. Segarra. Dept. of Agro-environmental Sciences, Univ. of Puerto Rico, Mayagüez, PR [1, 2].

3:36 (27) Effects of precision-applied in-furrow nematicide/insecticide (Temik) and seed treatments (AERIS, AVICTA) in management zones defined by soil electrical conductivity on populations of thrips and nematodes in cotton. **Devinney, G. N.**, J. K. Greene, J. D. Mueller, F. P. F. Reay-Jones, K. M. Carter, W. Henderson, and D. Robinson. Clemson Univ., Edisto Research and Education Center, Blackville, SC [1-3, 5-7]; Pee Dee Research and Education Center, Florence, SC [4].

3:48 (28) Treatment thresholds for bollworm in second-generation Bt cotton. **Carter, K. M.**, J. K. Greene, F. P. F. Reay-Jones, G. N. Devinney, and D. Robinson. Clemson Univ., Edisto Research and Education Center, Blackville, SC [1, 2, 4, 5]; Pee Dee Research and Education Center, Florence, SC [3].

4:00 (29) The impacts of planting date and varietal maturity selection on tarnished plant bug management. **Adams, B. P.**, A. L. Catchot, J. Gore, D. R. Cook, D. M. Dodds, and L. N. Owen.

Dept. of Biochemistry, Molecular Biology, Entomology & Plant Pathology, Mississippi State Univ., Mississippi State, MS [1-6].

4:12 (30) Can pheromone traps prevent stink bugs from moving into crops? **Roberts, S.**, T. E. Cottrell, and G. Mbata. Dept. of Biology, Fort Valley State Univ., Fort Valley, GA [1, 3]; USDA-ARS, Southeast Fruit and Tree Nut Research Laboratory, Byron, GA [2].

4:24 (31) Activity in trans-cinnamic acid, a bioactive component of *photorhabdus luminescens*. **Sheed, J.**, D. Shapiro-Ilan, C. Cantrell, D. Wedge, and G. Mbata. Fort Valley State Univ., Fort Valley, GA [1, 5]; USDA-ARS, Southeast Fruit and Tree Nut Research Laboratory, Byron, GA [2, 3, 4].

4:36 Close

**SUNDAY MORNING & AFTERNOON,
20 MARCH**

11:00 – 5:00 Ph.D. PAPER COMPETITION
San Gerónimo B

Moderators: Jeremy Greene, Clemson
Afternoon moderator to be announced

11:00 (35) Population structuring of bumble bees from the Central United States. **Tripodi, A. D.** and A. L. Szalanski. Dept. of Entomology, Univ. of Arkansas, Fayetteville, AR [1, 2].

11:12 (36) Spotted knapweed biological control: releases and biology of *Larinus minutus* (Coleoptera: Curculionidae) in Arkansas. **Minteer, C. R.**, T. J. Kring, and R. N. Wiedenmann. Dept. of Entomology, U. of Arkansas, Fayetteville, AR [1, 2, 3].

11:24 (37) *Trachymolgus berlese* (Acari: Bdellidae), the unusual purple tank, with notes on biogeography and taxonomic attractiveness. **Fisher, J. R.** and A. P. G. Dowling. Dept. of Entomology, Univ. of Arkansas, Fayetteville, AR [1, 2].

11:36 (38) Visible and near infrared spectroscopy for detecting and predicting two-spotted spider mite (Acari: Tetranychidae) damage on strawberry leaves. **Nyoike, T. W.**, O. E. Liburd, and W. S. Lee. Dept. of Entomology and Nematology [1, 2]; Dept. of Agricultural and Biological Engineering, Univ. of Florida, Gainesville, FL [3].

11:48 (39) Alternative monitoring and control tactics for green June beetle. **Kim, H. S.**, B. A. Lewis, D. Czokajlo, M. A. Pszczolkowski, and D. T. Johnson. Dept. of Entomology, Univ. of Arkansas, Fayetteville, AR [1, 2, 5]; Alphascents Inc., Portland, OR [3]; Darr School of Agriculture, Missouri State Univ., Mountain Grove, MO [4].

12:00 - LUNCH (On Your Own)

1:10 (40) The seasonal abundance and distribution of *Plectris aliena* (Coleoptera: Scarabaeidae), an invasive white grub in North Carolina. **Maxwell, N. L.** and M. R. Abney. Dept. of

Entomology, North Carolina State Univ., Raleigh, NC [1, 2].

1:12 (41) Modeling the effects of temperature on *Popillia japonica* larvae. **Petty, B. M.**, E. G. Rivera-Valentin, and D. C. Steinkraus. Dept. of Entomology [1, 3]; Space and Planetary Science, Univ. of Arkansas, Fayetteville, AR [2].

1:24 (42) Investigating host plant resistance of hemlock (*Tsuga* spp.) to the hemlock woolly adelgid (*Adelges tsugae*). **Oten, K. L.**, A. C. Cohen, and F. P. Hain. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1-3].

1:36 (43) Ecosystem impacts of hemlock woolly adelgid (*Adelges tsugae*) induced eastern hemlock (*Tsuga canadensis*) mortality in the Great Smoky Mountains National Park. **Huddleston, M. D.**, W. K. Clatterbuck, P. L. Lambdin, and D. A. Ethier. Dept. of Forestry, Wildlife and Fisheries [1, 2]; Dept. of Entomology and Plant Pathology [3]; Dept. of Ecology and Evolutionary Biology, Univ. of Tennessee. Knoxville, TN [4].

1:48 (44) The effect of imidacloprid metabolites on hemlock woolly adelgid, *Adelges tsugae* Annand, associated with eastern hemlock in the southern Appalachians. **Dilling, C. I.**, P. L. Lambdin, J. F. Grant, and J. R. Rhea. Dept. of Entomology and Plant Pathology, Univ. of Tennessee, Knoxville, TN [1, 2, 3]; USDA Forest Service, Forest Health Protection, Asheville, NC [4].

2:00 (45) Biological control of hemlock woolly adelgid in the Southern Appalachians: Release, recovery, and beyond. **Hakeem, A.**, J. F. Grant, G. J. Wiggins, J. R. Rhea, and P. L. Lambdin. Dept. of Entomology and Plant Pathology, Univ. of Tennessee, Knoxville, TN [1-3, 6]; USDA Forest Service, Forest Health Protection, Southern Region [4]; Dept. of Entomology & Plant Pathology, U. of Tennessee Extension, Nashville, TN [5].

2:12 (46) Evidence for interactions between native subterranean termites and bark beetles in the southeastern US. **Little, N. S.**, J. J. Riggins, T. P. Schultz, A. J. Londo, and M. D. Ulyshen. Dept. of Entomology and Plant Pathology [1, 2]; Dept. of Forest Products [3]; Dept. of Forestry, Mississippi State Univ., Mississippi State, MS [4]; USDA-Forest Service, Southern Research Station, Asheville, NC [5].

2:24 (47) Pleasing pepper perfumes: Semiochemical attractants for pepper weevil management. **McNeill, C. A.**, K. M. Adesso, H. J. McAuslane, and H. Alborn. Dept. of Entomology and Nematology, Univ. of Florida [1, 3]; USDA-ARS, CMAVE, Gainesville, FL [2, 4].

2:36 Break (San Geronimo Foyer BCD)

3:00 (48) Validation of blow fly (Diptera: Calliphoridae) development data sets for use in Raleigh, North Carolina, USA. **Cammack, J. A.**, L. M. Guisewite, S. S. Denning, and D. W. Watson. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1-4].

3:12 (49) Evaluating yield losses from simulated insect defoliation in soybean. **Owen, L. O.**, A. L. Catchot, F. Musser, J. Gore, and D. Cook. Dept. of Entomology, Mississippi State

Univ., Mississippi State, MS [1-4].

3:24 (50) Survivorship of Cry1F-resistant fall armyworm on field corn expressing Bt protein(s). **Hardke, J. T.**, J. H. Temple, C. Jackson, J. Holloway, and B. R. Leonard. Dept. of Entomology, Louisiana State Univ. AgCenter, Baton Rouge, LA [1, 2, 3, 5]; Bayer CropScience [4].

3:36 (51) Evaluating the susceptibility of a Bt-resistant Puerto Rican fall armyworm population to selected conventional insecticides. **Temple, J. H.**, J. T. Hardke, C. S. Jackson, J. Holloway, and B. R. Leonard. Dept. of Entomology, Louisiana State Univ. AgCenter, Baton Rouge, LA [1, 2, 3, 5]; Bayer CropScience [4].

3:48 (52) Unique binding of two engineered insecticidal proteins toward *Diabrotica virgifera* brush border membranes. **Jakka, S. R. K.**, F. Walters, R. Kurtz, and J. L. Jurat-Fuentes. Dept. of Entomology and Plant pathology, Univ. of Tennessee, Knoxville, TN [1, 4]; Syngenta [2, 3].

4:00 (53) Pest status determination of picture-winged flies (Diptera: Ulidiidae) infesting corn in Florida. **Goyal, G.**, G. S. Nuessly, D. R. Seal, J. L. Capinera, and G. J. Steck. Univ. of Florida, Everglades Research and Education Center, Belle Glade, FL [1, 2]; Tropical Research and Education Center, Homestead, FL [3]; Entomology and Nematology, Gainesville, FL [4]; Florida Dept. of Agriculture and Consumer Services, Division of Plant Industry, Gainesville, FL [5].

4:12 (54) Effects of rice stink bug, *Oebalus pugnax* (F.) infestation in rice. **Awuni, G. A.**, J. Gore, F. Musser, and D. Cook. Dept. of Biochemistry, Molecular Biology, Entomology and Plant Pathology, Mississippi State Univ., Mississippi State, MS [1, 3]; Delta Research and Extension Center, Mississippi State Univ., Stoneville, MS [2, 4].

4:24 (55) Can non-crop host management advance Mexican rice borer IPM? **Beuzelin, J. M.**, L. T. Wilson, Y. Yang, J. Lv, and T. E. Reagan. Dept. of Entomology, Louisiana State Univ., Baton Rouge, LA [1, 5]; Texas A&M Univ., Beaumont Center, Beaumont, TX [2-4].

4:36 (56) Diurnal variations in arthropod communities in several environments. **Gill, H. K.**, R. McSorley, G. Goyal, and R. L. Koenig. Univ. of Florida, Dept. of Entomology and Nematology, Gainesville, FL [1, 2]; Everglades Research and Education Center, Belle Glade, FL [3]; Agronomy Dept., Gainesville, FL [4].

5:00 Closed

SUNDAY MORNING & AFTERNOON, 20 MARCH

**TURF AND ORNAMENTAL ENTOMOLOGY
SYMPOSIUM**

11:00 am – 5:00 pm
Tropical

Organizers and Moderators:

Catharine Mannion, Univ. of Florida
Amanda Hodges, Univ. of Florida
Greg Hodges, Florida Division of Plant Industry

11:00 (57) The changing faces of warm season turfgrass pests. **Brandenburg, R.** Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1].

11:15 (58) Effect of mole crickets (*Scapteriscus spp.*) on soil hydrology. **Bailey, D.**, D. W. Held, N. Twarakavi, and P. Clement. Dept. of Entomology and Plant Pathology [1, 2]; Dept. of Agronomy and Soils [3]; Dept. of Civil Engineering, Auburn Univ., Auburn, AL [4].

11:30 (59) Residual toxicity of preventive insecticides against adults and neonates of Japanese beetle. **Chong, J.-H.** Dept. of Entomology, Soils, and Plant Sciences, Clemson Univ., Florence, SC [1].

11:45 (60) Control of an invasive insect pest *Popillia japonica* by RNAi. **Karim, S.**, S. Adamson, K. Shelby, and S. Alm. Dept. of Biological Sciences, Univ. of Southern Mississippi, Hattiesburg, MS [1, 2]; USDA-ARS, Biological Control, Columbia, MO [3]; Dept. of Plant Sciences, Univ. of Rhode Island, Kingston, RI [4].

12:00 Lunch (on your own)

1:00 (61) Ecological implications of pest-resistant plants for the landscape. **Braman, S. K.** Dept. of Entomology, Univ. of Georgia, Griffin, GA. [1].

1:15 (62) Phenology gardens in Alabama: Application of plant phenology to pest management. **Young, R.**, D. W. Held, W. E. Klingeman III, C. Hesselein, and K. Smith. Dept. of Entomology and Plant Pathology, Auburn Univ., Auburn, AL [1, 2]; Plant Sciences Dept., Univ. of Tennessee, Knoxville, TN [3]; Alabama Cooperative Extension, Mobile, AL [4]; Alabama Cooperative Extension, Auburn, AL [5].

1:30 (63) Integration of chemical and biological control in Gerbera production. **Abraham, C. M.**, S. K. Braman, and R. D. Oetting. Dept. of Entomology, Univ. of Georgia, Griffin, GA [1-3].

1:45 (64) Management of the B and Q biotypes of *Bemisia* under greenhouse conditions. **Oetting, R.**, C. McKenzie, and L. Osborne. Dept. of Entomology, Univ. of Georgia, Griffin, GA [1]; USDA-ARS, US Horticultural Research Laboratory, Fort Pierce, FL [2]; Univ. of Florida, Mid-Florida Research and Education Center, Apopka, FL [3].

2:00 (65) Development of phytosanitary treatments to facilitate nursery and floriculture trade. **Bográn, C. E.**, T. Starman, and C. Mannion. Entomology and Plant Pathology, Texas AgriLife Extension Service [1]; Horticulture Sciences, Texas A&M Univ., College Station, TX [2]; Tropical Research and Education Center, Univ. of Florida, Homestead, FL [3].

2:15 (66) Quantifying leaf damage using Photoshop. **Hesselein, C. P.** Alabama Cooperative Extension System, OHRC, Mobile, AL [1].

2:30 Break (San Geronimo Foyer BCD)

3:00 (67) Reducing insecticide volume and non-target effects of ambrosia beetle management in nurseries. **Frank, S. D.** Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1].

3:15 (69) Kontos ornamental insecticide update. **Dobbs, J.** OHP, Inc, Roswell, GA [1].

3:30 (70) Susceptibility of holly (*Ilex* spp.) taxa to Florida wax scale (*Ceroplastes floridensis*). **Held, D. W.** Dept. of Entomology and Plant Pathology, Auburn Univ., Auburn, AL [1].

3:45 (71) Host range of the Andromeda lace bug *Stephanitis takeyai*. **Nair, S.** and S. K. Braman. Dept. of Entomology, Univ. of Georgia, Griffin, GA [1, 2].

4:00 (72) Whitefly woes in the South Florida landscape. **Mannion, C.** Univ. of Florida, Tropical Research and Education Center, Homestead, FL [1].

4:15 (73) Exotic pests and the movement of plant material. **Hodges, G.** Florida Dept. of Agriculture and Consumer Services, Division of Plant Industry, Gainesville, FL [1].

4:30 (74) Extension educational materials for ornamentals - It's an invasion! **Hodges, A. C.** Southern Plant Diagnostic Network, Dept. of Entomology and Nematology, Univ. of Florida, Gainesville, FL [1].

4:45 Closing remarks

SUNDAY MORNING & AFTERNOON, 20 MARCH

URBAN ENTOMOLOGY SYMPOSIUM

11:00 am – 5:00 pm
Salon Condado

Organizers and Moderators:

Beverly Wiltz, USDA-ARS
Shripat Kamble, Univ. of Nebraska
Dan Suiter, Univ. of Georgia

11:00 Opening Remarks. **Wiltz, B.** USDA-ARS, New Orleans, LA.

11:05 (75) A summary of the USDA Mosquito and Fly Research Unit Research Program. **Hogsette, J. A.** and G. G. Clark. USDA-ARS, CMAVE, Gainesville, FL [1, 2].

11:20 (76) New insect and tick repellent: From the lab to the store shelf. **Roe, R. M.,** B. W. Bissinger, C. S. Apperson, and D. E. Sonenshine. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1-3]; Dept. of Biological Sciences, Old Dominion Univ., Norfolk, VA [4].

11:35 (77) Cloning, characterization, 3D modeling and dsRNA studies of *Aedes aegypti* juvenile hormone acid methyl transferase. **Borovsky, D.** and E. Van Ekert. Florida Medical Entomology Laboratory, Univ. of Florida, Vero Beach, FL [1, 2].

11:50 (78) Fire ant research in USDA-ARS, Stoneville, Mississippi. **Chen, J.** USDA-ARS, National Biological Control Laboratory, Biological Control of Pests Research Unit, Stoneville, MS [1].

12:05 Lunch (on your own)

1:00 (79) Developmental and environmental mRNA profile of G-protein in *Solenopsis invicta* (Hymenoptera: Formicidae). **Zhao, L.** and J. Chen. USDA-ARS, National Biological Control Laboratory, Biological Control of Pests Research Unit, Stoneville, MS [1, 2].

1:15 (80) Bubble elevators, brood buoyancy, bloated venom sacs: Facts about flooded fire ants. **Hooper-Bui, L.,** B. Adams, A. Papillion, and R. Strecker. Louisiana State Univ., Baton Rouge, LA [1-4].

1:30 (81) Impact of systemic thiamethoxam on Argentine ant foraging behavior in aphid-infested pepper plants. **Suiter, D. R.,** M. D. Guerra, M. Townsend, and R. D. Oetting. Univ. of Georgia, Griffin Campus, Dept. of Entomology, Griffin, GA [1,2,3,4].

1:45 (82) Environmental factors influencing potential distribution of the Formosan subterranean termite. **Wiltz, B. A.** USDA-ARS, Southern Regional Research Center, Formosan Subterranean Termite Research Unit, New Orleans, LA [1].

- 2:00 (83)** Aggregation and feeding behavior of the Formosan subterranean termite on decayed wood. **Cornelius, M. L.** USDA-ARS, Southern Regional Research Center, Formosan Subterranean Termite Research Unit, New Orleans, LA [1].
- 2:15 (84)** Temporal changes in chlorantraniliprole and indoxacarb in four soils and bioefficacy against the eastern subterranean termites. Spomer, N. A. and **S. T. Kamble.** Dow AgroSciences, Brookings, SD [1]; Dept. of Entomology, Univ. of Nebraska, Lincoln, NE [2].
- 2:30** Break (San Geronimo Foyer BCD)
- 3:00 (85)** Yeast expressing protozoacidal lytic peptides for termite control. **Husseneder, C.,** A. Sethi, J. Delatte, and L. Foil. Dept. of Entomology, Louisiana State Univ. Agricultural Center, Baton Rouge, LA [1-4].
- 3:15 (86)** Field validation of a novel durable termite bait system. **Eger, J. E. Jr.,** Dow AgroSciences, Tampa, FL [1].
- 3:30 (87)** Termidor Dry: And now... something completely different. **Jordan, K. K.** BASF Corporation, Atlanta, GA [1].
- 3:45 (88)** PHANTOM formulation fit for bed bug management. **Hickman, R.** BASF Corporation, Maitland, FL [1].
- 4:00 (89)** Determining repellency of essential oils to the German cockroach. **Appel, A.G.,** A. K. Phillips, and S. R. Sims. Dept. Entomology and Plant Pathology, Auburn Univ., Auburn, AL [1, 2]; BASF Pest Control Solutions, St. Louis, MO [3].
- 4:15 (90)** Developing synthetic-pheromone based mating disruption for *Lasioderma serricornis* in stored product environments. **Mahroof, R. M.** Dept. of Biological and Physical Sciences, South Carolina State Univ., Orangeburg, SC [1].
- 4:30 (91)** Response of *Callosobruchus maculatus* (Coleoptera: Bruchidae) to extracts of cashew kernel. **Adedire, C. O.,** O. M. Obembe, and H. Y. Fadamiro. Biology Dept., Federal Univ. of Technology, Akure, Nigeria [1, 2]; Dept. of Entomology and Pathology, Auburn Univ., Auburn, AL [3].
- 4:45 (92)** Some recent discoveries of invasive insects in Georgia. **Ames, L. M.** Univ. of Georgia, Griffin Campus, Dept. of Entomology, Griffin, GA [1].

5:00 Closing remarks.

SUNDAY MORNING & AFTERNOON, 20 MARCH

**VEGETABLE INSECT CONTROL AND RESISTANCE
MANAGEMENT STRATEGIES**

11:00 am – 5:00 pm
Guayacan

Organizers and Moderators:

Ralph Bagwell, Bayer CropScience
Caydee Savinelli, Syngenta Crop Protection

11:00 Welcome and symposium objectives. **Bagwell, R. D.**
Bayer CropScience, Research Triangle Park, NC [1].

11:05 (93) Sweetpotato weevil (*Cylas formicarius elegantulus*)
monitoring and best management practices in North Carolina.
Sorensen, K. A. North Carolina Dept. of Agriculture, Raleigh,
NC [1].

11:25 (94) Potentiality of bacterial insecticides in controlling
lepidopteran pests of vegetable crops. **Seal, D. R.** and C. M.
Sabines. Univ. of Florida, Tropical Research and Education
Center, Homestead, FL [1, 2].

11:45 (95) IRAC - US Role in insect resistance management.
Savinelli, C. and D. Rogers. Syngenta Crop Protection,
Greensboro, NC [1]; Bayer CropScience, Research Triangle
Park, NC [2].

12:00 Lunch (on your own)

1:00 (96) IRAC Diamide working groups, activities, and IRM
strategies. **Bagwell, R. D.**, C. Savinelli, D. Sherrod, J. Andaloro,
and J. Adams. Bayer CropScience, Research Triangle Park, NC
[1]; Syngenta Crop Protection, Greensboro, NC [2]; DuPont
Company, Newark, DE [3, 4]; Nichino America, Wilmington,
DE [5].

1:15 (97) Practical issues facing implementation of IRM.
Kennedy, G. G. Dept. of Entomology, North Carolina State
Univ., Raleigh, NC [1].

1:45 (98) Insecticide resistance management in Florida sweet
corn. **Nuessly, G.** Univ. of Florida, Everglades Research and
Education Center, Belle Glade, FL [1].

2:05 (99) Insecticide resistance management in Florida fruiting
vegetable crops. **Stansly, P. A.** Univ. of Florida, Southwest
Florida Research and Education Center, Immokalee, FL [1].

2:25 (100) Insecticide resistance management in Georgia cole
crops. **Riley, D.** Dept. of Entomology, Univ. of Georgia, Tifton
Campus, GA [1].

2:45 Break (San Geronimo Foyer BCD)

3:00 Round Table Discussion - Implementation of IRM
Strategies - Best Management Practices.

5:00 End.

SUNDAY AFTERNOON, 20 MARCH

**WHITEFLY-TRANSMITTED
GEMINIVIRUSES: A CARIBBEAN LEGACY
IN HONOR AND APPRECIATION OF JULIO
BIRD**

1:00 – 4:00 pm

Salon del Mar

Organizer and Moderator:

Judith K. Brown, Univ. of Arizona

1:00 (101) Reminiscences of ‘rugaceous diseases’ and begomovirus-vector biology, and lessons from our mentor, Julio Bird. **Brown, J. K.** Univ. of Arizona, Tucson, AZ [1].

1:25 (102) Begomovirology ‘roots’ in Puerto Rico and the discovery of ssDNA plant viruses. **Goodman, R. M.** Rutgers, The State Univ. of New Jersey, New Brunswick, NJ [1].

1:50 (103) A legacy of bean-breeding against whitefly-transmitted viruses in the Caribbean. **Beaver, J.** Univ. Puerto Rico, Mayaguez, PR [1].

2:00 (104) How the discovery of novel virus particles by electron microscopy at Rio Piedras changed plant virology. **Tolin, S. A.** Virginia Polytechnic Institute and State Univ., Blacksburg, VA [1].

2:15 (105) Julio Bird’s contributions and his role in the UPR-Experiment Station. **Beale, A.** Univ. of Puerto Rico, Rio Piedras, PR [1].

2:25 (106) Early days in whitefly-transmitted virus research with Julio Bird – simple tools and approaches. **Monllor, A.** Univ. of Puerto Rico, Rio Piedras, PR [1].

2:35 Break

3:00 (107) Aventuras con Julio Bird - Adventures with Julio Bird - My friend, teacher and colleague. **Niblett, C.** Venganza, Inc. Raleigh, NC [1].

3:25 (108) Six decades with Julio Bird. **Maramorosch, K.** Rutgers, The State Univ. of New Jersey, New Brunswick, NJ [1].

Presentation of the APS-CD Award of Appreciation to J. Bird by Karl Maramorosch and Judith K. Brown.

SUNDAY AFTERNOON, 20 MARCH

**S1034 Symposium –
WEED BIOLOGICAL CONTROL PROJECTS
IN THE REGION**

1:00 – 5:00 pm

Auditorium

Organizers and Moderators:

Kristopher Giles, Oklahoma State Univ.

Carmen Greenwood, Oklahoma State Univ.

1:00 (109) Biology and population dynamics of the cactus moth, *Cactoblastis cactorum*. **Legaspi, J. C.** USDA-ARS, Insect Behavior and Biocontrol Research Unit, Center for Biological Control, Gainesville, FL [1].

1:25 (110) Bugs without borders: unintended spread of intentionally introduced herbivores. **Pratt, P. D.** USDA-ARS, Invasive Plant Research Laboratory, Davie, FL [1].

1:50 (111) Successful biological control of tropical soda apple in Florida through multi-agency cooperation. **Overholt, W. A.** Univ. of Florida, Indian River Research and Education Center, Fort Pierce, FL [2].

2:15 (112) Experiences in the biocontrol of aquatic weeds in Puerto Rico. **Abreu, E.** Univ. of Puerto Rico, Puerto Rico Agricultural Experiment Station, Isabela, PR [1].

2:40 Break (San Geronimo Foyer BCD)

3:00 (113) Biological control progress against common and giant *Salvinia* in Louisiana. **Johnson, S.,** K. Parys, L. Eisenberg, D. Sanders, and M. Grodowitz. Dept. of Entomology, Louisiana State Univ. AgCenter, Baton Rouge, LA [1-3]; Bob R. Jones-Idlewild Research Station, Louisiana State Univ. AgCenter, Clinton, LA [4]; US Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS [5].

3:20 (114) Biological control of spotted knapweed in agricultural and natural systems in Arkansas. **Kring, T. J.,** C. R. Minter, and Y. J. Shen. Dept. of Entomology, Univ. of Arkansas, Fayetteville, AR [1-3].

3:40 (115) Challenges to implementing biological control of saltcedar in West Texas. **Knutson, A.** Dept. of Entomology, Texas A&M Univ., Texas AgriLife Research and Extension Center, Dallas, TX [1].

4:00 (116) Biological control of weeds in Oklahoma: Challenges and opportunities. Berro, A. and **T. Royer.** Dept. of Entomology and Plant Pathology, Oklahoma State Univ., Stillwater, OK [1-2].

4:20 (117) Biological control of musk thistle in Tennessee. **Grant, J.,** P. Lambdin and G. Wiggins. Dept. of Entomology and Plant Pathology, Univ. of Tennessee, Knoxville, TN [1].

4:40 Closing remarks

SUNDAY AFTERNOON, 20 MARCH

ADVANCES IN ACAROLOGY

2:00 – 5:00 pm

San Gerónimo C

Organizers and Moderators:

Raul Villanueva, Texas A&M Univ.

Ronald Ochoa, USDA-ARS

2:00 (118) The invasive route of the tomato spider mite *Tetranychus evansi*: clues from genes and biological traits. **Navajas, M.** Institut National de la Recherche Agronomique, UMR CBGP (INRA / IRD / CIRAD / Montpellier SupAgro), Campus international de Baillarguet, Montferrier-sur-Lez cedex, France [1].

2:24 (119) Phytophagous mites on several tropical fruits at Veracruz, Mexico. **Murillo Cuevas, F. D.**, H. Cabrera Mireles, and G. Otero Colinas. Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias, Veracruz, Mexico [1-4].

2:36 Break (San Geronimo Foyer BCD)

3:00 (120) Phytophagous mites as bioindicators of entropy in Amazon forest plantings. **Antony, L. M. K.** and J. C. V. Rodrigues. Dept. of Ecology, Instituto Nacional de Pesquisas da Amazônia, Manaus, Brazil [1]; Univ. of Puerto Rico, San Juan, PR [2].

3:12 (121) Proactive control of citrus rust mite as a novel approach for managing a "mighty" mite in Texas. **Setamou, M.**, D. Sekula, and R. Villanueva. Citrus Research Center, Texas A&M Univ., Weslaco, TX [1, 2]; Texas AgriLife Extension and Texas A&M Univ., Weslaco, TX [3].

3:24 (122) Update on mites associated with rice. **Hummel, N.**, R. Ochoa, and A. Dowling. Dept. of Entomology, Louisiana State Univ., Baton Rouge, LA [1]; ARS-USDA, Beltsville, MD [2]; Dept. of Entomology, Univ. of Arkansas [3].

3:36 (123) Ecology and management of two-spotted spider mite in relation to vegetables in North Carolina. **Walgenbach, J. F.** and E. D. Meck. Dept. of Entomology, North Carolina State Univ., MHCREC, Mills River, NC. [1, 2].

3:48 (124) Soil mites on four management systems of mango crop in Veracruz, Mexico. **Cabrera Mireles, H.**, F. D. Murillo Cuevas, E. G. Estrada-Venegas, and J. A. Villanueva Jiménez. Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias, Veracruz, Mexico [1-4].

4:00 (125) Nealta?: A novel BASF acaricide for crop protection. **Wofford, T** and V. Pedibhotla. BASF Corporation, Research Triangle Park, NC [1, 2].

4:12 (126) Mite biodiversity under the LT-SEM. **Ochoa, R.**, J. J.

Beard, A. Dowling, G. Bauchan, and C. Welbourn. ARS-USDA, Beltsville, MD [1, 2, 4]; Dept. of Entomology, Univ. of Arkansas, Fayetteville, AR [3]; Florida Division of Plant Industry, Gainesville, FL [5].

4:24 (127) Update on current research of the red palm mite, *Raoiella indica*. **Peña, J. E.**, J. C. Rodrigues, D. Carrillo, and A. Roda. Univ. of Florida, Tropical Research and Education Center, Homestead, FL [1, 3]; Univ. of Puerto Rico, Rio Piedras, PR [2]; USDA-APHIS-PPQ, Miami, FL [4].

4:36 (128) Why do leaves with more mine-damage leaves have more phytoseiids? **Villanueva, R. T.** and C. C. Childers. Texas AgriLife Extension and Texas A&M Univ., Weslaco, TX [1]; Univ. of Florida, Citrus Research and Education Center, Lake Alfred, FL [2].

4:48 Concluding remarks.

SUNDAY AFTERNOON, 20 MARCH

**BLACK SIGATOKA (*Mycosphaerella fijiensis*)
SYMPOSIUM**

**4:00 – 6:00 pm
Salon del Mar**

Organizers and Moderators:

J. A. Chavarría-Carvajal, Univ. of Puerto Rico
B. M. Irish, USDA-ARS

4:00 (129) Introduction to the Symposium. Black Sigatoka (*Mycosphaerella fijiensis* Morelet): The most important disease of *Musa* spp. **Chavarría-Carvajal, J. A.** and B. M. Irish. Dept. Crops & Agro-Environmental Sciences, Univ. of Puerto Rico, Mayagüez, PR [1]; USDA-ARS, Tropical Agriculture Research Station, Mayaguez, PR [2].

4:20 (130) Black Sigatoka in Puerto Rico: Current Situation and Perspectives. **Almodovar, W.**, M. Díaz, and M. Cortez. Dept. Crops & Agro-Environmental Sciences [1, 2]; Dept. Agricultural Economics, Univ. of Puerto Rico, Mayagüez, PR [3].

4:40 (131) Effect of weather variables on the severity of Black Sigatoka (*Mycosphaerella fijiensis* Morelet) in Puerto Rico. **Chavarría-Carvajal, J. A.**, R. Macchiavelli, J. Marengo, and B. M. Irish. Dept. Crops & Agro-Environmental Sciences, Univ. of Puerto Rico, Mayagüez, PR [1-3]; USDA-ARS, Tropical Agriculture Research Station, Mayaguez, PR [4].

5:00 (132) Fitting disease progress curves to describe Black Sigatoka (*Mycosphaerella fijiensis*) epidemics on banana in Puerto Rico. **Macchiavelli, R.** and J. A. Chavarría-Carvajal. Dept. Crops & Agro-Environmental Sciences, Univ. of Puerto Rico, Mayagüez, PR [1, 2].

5:20 (133) Evaluation of *Musa* spp. hybrids for Black Sigatoka (*Mycosphaerella fijiensis* Morelet) resistance. **Irish, B. M.**, R.

Goenaga, R. Ploetz, and J. A. Chavarría-Carvajal. USDA-ARS, Tropical Agriculture Research Station, Mayaguez, PR [1, 2]; Univ. of Florida, Tropical Research and Education Center, Homestead, FL [3]; Dept. Crops & Agro-Environmental Sciences, Univ. of Puerto Rico, Mayagüez, PR [4].

5:40 Questions and Concluding Remarks.

**SUNDAY DISPLAY SESSION I,
20 MARCH
8:00 am - 5:00 pm
San Geronimo Foyer BCD**

**Presenters should be at their posters from 1:30 - 2:30 pm
Set Up
Saturday 6:00 to 9:00 pm;
Sunday 7:00 to 8:00 am**

APS-CD Student Competition

DSP 1 First report of *Globodera pallida* and *Globodera rostochiensis* presence in Honduras. **Zerón, K.**, E. Aguilar, A. Rueda, M. M. Roca, D. Casco, M. Rivera, F. Diaz, and J. C. Melgar. Panamerican Agriculture School, Zamorano, Honduras [1-4]; Servicio Nacional de Sanidad Agropecuaria [5]; Fundación Hondureña de Investigación Agrícola [6-8].

DSP 2 Detection of coconut lethal yellowing using Real Time PCR and FTA cards for storage and transportation of pathogen DNA. **Aguilar, A.**, M. M. Roca, A. Castro, M. Moya, K. Zeron, and K. Rojas. Panamerican Agriculture School, Zamorano, Honduras [1-6].

DSP 3 Lethal yellowing phytoplasma DNA amplified by nested PCR in planthopper insects collected in an LY-infected coconut palm field in Honduras. **Rojas, N.**, M. M. Roca, E. Aguilar, O. Schlein, and R. Guity. Zamorano Univ., Honduras [1-4]; Ministry of Agriculture, Government of Honduras [5].

DSP 4 Potyviridae in wild plants of the Cucurbitaceae family in Puerto Rico. **Lopez, I. J.**, L. Wessel-Beaver, J. Ackerman, and J. C. V. Rodrigues. Univ. of Puerto Rico, Crops and AgroEnvironmental Sciences Dept., San Juan, PR [1-4].

DSP 5 Response of *Phaseolus vulgaris* lines to angular leaf spot. **M. Mbui Martins**, C. Estévez de Jensen, and J. Beaver. Crops and Agro-Environmental Sciences, Univ. of Puerto Rico, Mayagüez, PR [1-3].

DSP 6 Identification of mating types, nitrate-nonutilizing mutants and vegetative compatibility of *Aspergillus fumigatus*. **Davila, M. M.** and P. Bayman. Dept. of Biology, Univ. of Puerto Rico, Rio Piedras, PR [1, 2].

DSP 7 Survival of *Bacillus thuringiensis* and *Bacillus pumilus* in coffee trees under field conditions in Puerto Rico. **Vazquez, D. A.** and M. Zapata. Crops and AgroEnvironmental Sciences,

Univ. of Puerto Rico, Mayagüez, PR [1, 2].

DSP 8 Characterization of endophytic bacteria isolated from healthy and diseased coffee trees showing witches broom symptoms under field conditions in Puerto Rico. **Bolanos, C.** and M. Zapata. Crops and AgroEnvironmental Sciences, Univ. of Puerto Rico, Mayagüez, PR [1, 2].

DSP 9 Comparison of field infestation and damage caused by coffee berry borer (*Hypothenemus hampei*) between shade and sun coffee. **Marino, Y. A.**, M. Trifilio, V. Diaz, F. Gallardo, and P. Bayman. Dept. of Biology, Univ. of Puerto Rico, Rio Piedras, PR [1-3, 5]; Dept. of Crops & Agro-Environmental Sciences, Univ. of Puerto Rico, Mayagüez, PR [4].

ESA-SEB M.S. Student Competition

DSP 10 Immunoassay of tick proteins using lipocalin-specific antibodies. **Lukowski, B. E.** and Q. Q. Fang. Georgia Southern Univ., Statesboro, GA [1, 2].

DSP 11 Effect of light intensity on distribution and herbivory activity of *Gratiana boliviana* along the light intensity gradient. **Kariuki, E. M.**, R. L. Hix, S. Reitz, and S. Hight. Florida A&M Univ., Center for Biological Control [1, 2]; USDA-ARS, CMAVE, Tallahassee, FL [3, 4].

DSP 12 Two-spotted spider mite (*Tetranychus urticae*) dispersal in the presence of seed treatments. **Scott, W. S.**, A. Catchot, J. Gore, F. Musser, D. Cook, and P. English. Dept. of Entomology, Mississippi State Univ., Mississippi State, MS [1, 2, 4]; Delta Research and Education Center, Mississippi State Univ., Stoneville, MS [3, 5, 6].

DSP 13 Oviposition behavior of Arkansas Siricidae (*Sirex* species) in the presence and absence of potential predators. **Hartshorn, J. A.**, A. J. Lynn-Miller, L. D. Galligan, and F. M. Stephen. Dept. of Entomology, Univ. of Arkansas, Fayetteville, AR [1-3].

DSP 14 Biological comparisons between wild-caught and laboratory-reared *Sasajiscymnus tsugae*: Who is number one? **Decker, J.**, A. Lamb, J. F. Grant, and A. E. Mayfield. Dept. of Entomology and Plant Pathology, Univ. of Tennessee, Knoxville, TN [1-3]; USDA Forest Service, Southern Research Station, Asheville, NC [4].

DSP 15 Identification and impact of native predators on *Pityophthorus juglandis* Blackman on *Juglans nigra* L. in East Tennessee. **Nix, K. A.**, P. L. Lambdin, J. F. Grant, M. Windham, G. J. Wiggins, and A. E. Mayfield. Dept. of Entomology and Plant Pathology, Univ. of Tennessee, Knoxville, TN [1-5]; USDA Forest Service, Southern Research Station, Asheville, NC [6].

DSP 16 *Zelus longipes*: A potential predator of *Euxesta* spp. in sweet corn field of south Florida. **Kalsi, M.**, D. R. Seal, J. L. Capinera, and G. Nuessly. Dept. of Entomology & Nematology, Univ. of Florida, Homestead, FL [1, 2]; Univ. of Florida, Gainesville, FL [3]; Univ. of Florida, Belle Glade, FL [4].

DSP 17 A faunistic survey of mealybugs (Hemiptera:

Pseudococcidae) and their natural enemies occurring on coffee (*Coffea arabica* L.) and cacao (*Theobroma cacao* L.) agroecosystems in the Dominican Republic. **German-Ramirez, E.**, M. T. K. Kairo, A. Roda, and M. Haseeb. Florida A&M Univ., Center for Biological Control, Tallahassee, FL [1, 2, 4]; USDA-APHIS, Plant Protection & Quarantine, Center for Plant Health Science & Technology, Subtropical Horticulture Research Station, Miami, FL [3].

DSP 18 Survey of potential phytoplasma vectors: Palm-associated Fulgoroidea in Puerto Rico. **Otero, M.** and A. Segarra. Dept. of Agro-environmental Sciences, Univ. of Puerto Rico, Mayagüez, PR [1, 2].

DSP 19 Putative cues used by *Habrobracon hebetor* (Say) to locate pyralid host, *Plodia interpunctella* (Hb). **Matute, R. D.**, J. Eason, and G. N. Mbata. Dept. of Biology, Fort Valley State Univ., Fort Valley, GA [1-3].

ESA-SEB Ph.D. Student Competition

DSP 20 Hymenoptera parasitoids from NW Argentina: an interactive key for their identification. **Monmany, A. C.**, Z. González, J. Hernández, J. P. Ramos, D. M. Rãos, and V. Betancourt. Dept. of Biology, Univ. of Puerto Rico, Rio Piedras, PR [1-6].

DSP 21 Bed bug population genetic structure in apartment buildings and a survey of *Bartonella henselae* in U.S. bed bug populations. **Saenz, V. L.**, W. Booth, C. Schal, and E. L. Vargo. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1-4].

DSP 22 Quantification of parameters influencing associational resistance in the *Asphondylia-Borrchia-Iva* system. **Stokes, K.** and P. Stiling. Dept. of Integrative Biology, Univ. of South Florida, Tampa, FL [1, 2].

DSP 23 Aphid response to feeding on tomato with altered expression of lipoxygenase C and fatty acid desaturase 7. **Durden, K. P.**, C. A. Avila, and H. K. Klee. Dept. of Entomology, Univ. of Arkansas, Fayetteville, AR [1, 2]; Horticultural Sciences Dept, Univ. of Florida, Gainesville, FL [3].

DSP 24 Effect of different nitrogen rates and sources on *Blissus insularis* (Barber) population dynamics when reared on Captiva™ and Floratam™ St. Augustinegrass. **Kaur, N.** and E. A. Buss. Dept. of Entomology and Nematology, Univ. of Florida, Gainesville, FL [1, 2].

DSP 25 Western corn rootworm behavioral responses to soil microbiota. **Gorski, S.** and Y. Cardoza. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1, 2].

DSP 26 The functional response of *Trichogramma fuentesi* (Hymenoptera: Trichogrammatidae), a potential biological control agent against *Cactoblastis cactorum* (Lepidoptera: Pyralidae). **Paraiso, O.**, S. D. Hight, M. T. K. Kairo, S. Bloem, and J. Carpenter. Florida A&M Univ., Center for Biological Control [1, 3]; USDA-ARS, Center for Medical Agricultural and

Veterinary Entomology [2]; USDA-APHIS-PPQ-CPHST, Plant Epidemiology and Risk Analysis Laboratory [4]; USDA-ARS, Crop Protection and Management Research Unit, Tallahassee, FL [5].

DSP 27 A new report on abundance of chilli thrips, *Scirtothrips dorsalis* (Thysanoptera: Thripidae) on fruit hosts in Florida.

Kumar, V., D. R. Seal, D. J. Schuster, L. S. Osborne, and C. McKenzie. Dept. of Entomology and Nematology, Univ. of Florida, Gainesville, Apopka, Homestead, FL [1-4]; USDA-ARS, U. S. Horticultural Research Laboratory, Fort Pierce, FL [5].

REGULAR POSTERS

Plant-Insect Ecosystems and Crop Protection Structural, Veterinary, Public Health Systems

DSP 28 Impact of defoliation timing and rate on sweetpotato yield. **Abney, M. R.** and R. D. Davila. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1, 2].

DSP 29 Entomophagy and insect food production: Entomophagy at UGA. **Harman, J.** and M. S. Robinette. Dept. of Entomology, Univ. of Georgia, Athens, GA [1, 2].

DSP 30 IPM³ Training Consortium's new fire ant IPM course. **Corder, R. F.**, K. M. Loftin, R. N. Wiedenmann, K. L. Flanders, J. D. Hopkins, M. E. Ascerno, and M. J. McDonough. Univ. of Arkansas, Fayetteville, AR [1-3, 5]; Auburn Univ., Auburn, AL [4]; Univ. of Minnesota, St. Paul, MN [6, 7].

DSP 31 Optimization of a non-ionic surfactant for formulation development of *Metarhizium anisopliae*. **Jin, X.**, J. Chen, and L. Zhao. USDA-ARS Biological Control of Pests Research Unit, Stoneville, MS [1-3].

DSP 32 Synergism and antagonism of essential oil vapors to red imported fire ants. **Eva, M. J.**, A. G. Appel, and S. R. Sims. Dept. of Entomology and Plant Pathology, Auburn Univ., Auburn, AL [1, 2]; BASF Pest Control Solutions, St. Louis, MO [3].

DSP 33 Diurnal ovipositional activity patterns of *Pseudacteon litoralis* (Diptera: Phoridae) in Alabama. **Graham, L. C.** and K. A. Ridley. Dept. Entomology and Plant Pathology, Auburn Univ., Auburn, AL [1, 2].

DSP 34 Diurnal patterns of ovipositional activity of two well-established phorid flies in Alabama. **Ridley, K. A.** and L. C. Graham. Dept. Entomology and Plant Pathology, Auburn Univ., Auburn, AL [1, 2].

DSP 35 Status of biological control of red imported fire ants with phorid flies in Louisiana. **Meszaros, A.** and S. J. Johnson. Dept of Entomol., Louisiana State U., Baton Rouge, LA [1, 2].

DSP 36 Monitoring Formosan subterranean termites

(*Coptotermes formosanus*) in the French Quarter program in New Orleans, LA. **Morgan, A. L.**, D. R. Ring, F. S. Guillot, A. R. Lax, and C. R. McCown. Dept. of Entomology, Louisiana State Univ. Agricultural Center, Baton Rouge, LA [1, 2, 5]; USDA-ARS, Southern Regional Research Center, New Orleans, LA [3, 4].

DSP 37 Management of *Culex quinquefasciatus* (Diptera: Culicidae) in packaged plant sewage systems: Exploring efficacy of five industry-standard insecticides in Grand Cayman, Cayman Islands. **Clayson, P. J.** and M. P. Nelder. Dept. Nematology and Entomology, Univ. of Florida, Citrus Research and Education Center, Lake Alfred, FL [1]; Ministry of Health and Long-term Care, Enteric, Zoonotic and Vector-Borne Diseases Unit, Toronto, Canada [2].

DSP 38 Aspects of ground pearl (Hemiptera: Margarodidae) ecology in North Carolina. **Hertl, P. T.** and R. L. Brandenburg. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1, 2].

SUNDAY EVENING, 20 March

5:00 – 7:30

Linnaean Games
– Las Olas

7:30 – 10:00

Welcome Reception (open to all)
Atlantico Redondel

MONDAY, 21 MARCH

All Day: Tours

El Yunque Rain Forest (9:00 – 3:00)

Tropical Fruit Production

Crop Production Sites in South

TUESDAY, 22 MARCH

- 7:00 - 8:00** Past Presidents Breakfast – Palmeras Restaurant
- 7:00 - 5:00** Registration and ESA Certification Board Information –San Geronimo Foyer
- 7:00 - 5:00** Audiovisual, Job Placement, Local Arrangements, and Public Relations – Boardroom 2
- 7:00 - 7:00** Office – Boardroom 2
- 7:00 - 5:00** Display Presentations Session- San Geromino Foyer
- 7:00 - 6:00** Commercial Exhibits - San Geromino Foyer
- 8:00 - 10:30** Current Status And Pest Potential Of *Megacocta cribraria* (F.) (Heteroptera: Plataspidae) In Its Expanded New World Range - Conference 3 -7
- 8:00 - 12:00** Student Symposium: CSI Puerto Rico: Adventures In Forensic Entomology - Auditorium
- 8:00 - 10:30** Invasive Pests and Diseases of Palm- Salon del Mar
- 8:00 - 10:30** Acarology in Post-Genomics Era - Ceiba
- 8:00 - 11:00** Behavioral Plasticity From Neural To Evolutionary Scale Behavior - Flamboyant
- 8:00 - 11:45** New Generation Diagnostics For Pathogens And Their Management - Tropical
- 8:00 - 12:00** PIE- Las Olas
- 8:00 - 9:00** IPTMIS - Conference 10
- 9:00 - 10:00** SVPHS - Conference 10
- 10:00 - 10:30** SMEB - Conference 10
- 10:30 - 11:00** Break - San Geronimo Foyer
- 11:00 - 5:00** Entomologists As Educators – Using Traditional And Non-Traditional Tools To Reach Young To Old Audiences- Salon del Mar
- 11:00 - 5:00** Phyto-Arboviruses In Agroecosystems Symposium - Conference 3-7
- 12:00 - 1:30** Award Luncheon - San Gerónimo B

- 1:30 - 4:25** **Invasive Alien Species In The Caribbean Basin Of Concern To The U.S.A-**
Auditorium
- 1:30 - 5:00** **Invasive Forest Insects And Diseases Symposium-** Ceiba
- 1:30 - 5:00** **Disease Detection and Management-**
Tropical
- 1:30 - 5:00** **Sustainable Orchards: Towards Pest And Pollinator Management In Temperate And Tropical Perennial Cropping Systems-**
Flamboyan
- 1:30 - 5:00** **PIE -** Las Olas
- 1:30 - 4:00** **Arthropod Host - Pathogen Interactions-**
Conference 10
- 2:45 - 3:00** **Break-** San Cristobal Foyer
- 5:00 - 6:30** **SEB-ESA Final Business Meeting-**
Auditorium
- 5:00 - 6:30** **APS-CD Final Business Meeting-** Tropical
- 6:30 - 10:00** **Closing Reception-** Atlantico Redondel

TUESDAY MORNING, 22 MARCH

ESA-SEB CONTRIBUTED PAPERS

Conference 10
8:00 – 10:30 am

Moderator: Lambert Kanga, FAMU

Apiculture

8:00 (134) The use of fungal pathogens to control the ectoparasitic mite, *Varroa destructor*, in honey bee colonies.
Kanga, L. H. B., J. Adamczyk, C. Gracia, and J. Cascino.
Center for Biological Control, Florida A&M Univ., Tallahassee, FL [1]; USDA-ARS, Beneficial Insects Research Unit, Weslaco, TX [2, 3]; Sylvan Bioproducts Inc., Kittanning, PA [4].

Integrative Physiological, Toxicological and Molecular Insect Systems

8:12 (135) Asian citrus psyllid genome advances RNA interference in psyllids. **Hunter, W. B.** and B. R. Bextine.
USDA-ARS, US Horticultural Research Laboratory, Ft. Pierce, FL [1]; Dept. of Biology, Univ. of Texas at Tyler, TX [2].

8:24 (136) Insecticide resistance and effects of temperature and *Candidatus Liberibacter asiaticus* infection on insecticide susceptibility of Asian citrus psyllid populations in Florida.
Tiwari, S., M. E. Rogers, and L. L. Stelinski. Univ. of Florida, Citrus Research and Education Center, Lake Alfred, FL [1-3].

8:36 (137) Identification and characterization of major pesticide resistance genes in the tarnished plant bug, *Lygus lineolaris*. **Zhu, Y. C.**, Z. Guo, and R. Luttrell. USDA-ARS, Stoneville, MS [1-3].

Structural, Veterinary, and Public Health Systems

8:48 (138) Past, present and future of veterinary and medical entomology: Results from surveys conducted in Spring 2009, Part 2. **McKay, T.** and K. L. Yanowitz. Dept. of Biological Sciences [1]; Dept. Psychology and Counseling, Arkansas State Univ., State University, AR [2].

9:00 (139) Darkling beetles (*Alphitobius diaperinus*) location and life cycle impacts population. **Skinner, J. D.** and J. J. Arends. Terregena Inc., Raleigh, NC [1]; JABB of the Carolinas, Pine Level, NC [2].

9:12 (140) Maintaining low darkling beetle population in broiler houses. **Skinner, J. D.** and J. J. Arends. Terregena Inc., Raleigh, NC [1]; JABB of the Carolinas, Pine Level, NC [2].

9:24 (141) Mimic dead ants. **Chen, J.**, L. Zhao, X. Jin, and X. Ni. USDA-ARS, National Biological Control Laboratory, Biological Control of Pests Research Unit, Stoneville, MS [1-3]; USDA-ARS, Crop Genetics and Breeding Research Unit, Tifton, GA [4].

Systematics, Morphology, Evolution, Biodiversity

9:48 (143) Exploitation of a high genomic mutation rate in *Solenopsis invicta* virus 1 to infer demographic information about its host, *Solenopsis invicta*. **Allen, C.**, J. A. Briano, L. Varone, D. H. Oi., and S. M. Valles. USDA-ARS, Imported Fire Ant and Household Insects Research Unit, Gainesville, FL [1, 4, 5]; USDA-ARS, South American Biological Control Laboratory, Hurlingham, Buenos Aires Province, Argentina [2, 3].

10:00 (144) Taxonomy: The Importance of a one-to-one correlation between morphology and genetics. **Eaton, T. D.**, R. Carruthers, and T. M. Jenkins. Univ. of Georgia, Dept. of Entomology, Griffin Campus, GA [1, 3]; USDA-ARS, PWA, WRRRC-EIW, Exotic and Invasive Weeds Research, Albany, CA [2].

10:12 (145) A revision of the New World species of *Donacaula* Meyrick and a phylogenetic analysis of related Schoenobiinae (Lepidoptera: Crambidae). **Martinez, E. L.** and R. L. Brown. Dept. of Crops and Agroenvironmental Sciences, Univ. of Puerto Rico, Mayaguez Campus, PR [1]; Dept. of Entomology, Mississippi State Univ., Mississippi State, MS [2].

10:24 Break (San Geronimo Foyer BCD)

TUESDAY MORNING

**CONTRIBUTED PAPERS -
Plant-Insect Ecosystems and Crop Protection**

**8 am – 12 pm
Las Olas**

Moderator: Clare Allen, USDA

8:00 (146) ESA pioneering liaison interactions with US-EPA pesticide programs. **Reagan, T. E.** Dept. of Entomology, Louisiana State Univ., Baton Rouge, LA [1].

8:12 (147) Biology, host range and guarding behavior of a stink bug egg parasitoid. **Jones, W. A.** and R. Evans. USDA-ARS, Biological Control of Pests Research Unit, Stoneville, MS [1, 2].

8:24 (148) Tracking the movement and reproduction of stink bugs in Georgia farmscapes. **Herbert, J. J.** and M. D. Toews. Dept. of Entomology, Univ. of Georgia, Tifton, GA [1, 2].

8:36 (149) Soybean habitat for managing stink bugs in peanut-cotton farmscapes: current and future research. **Tillman, P. G.** and W. C. Johnson. USDA-ARS, Crop Protection and Management Research Laboratory, Tifton, GA [1, 2].

8:48 (150) Movement and insecticidal management of *Euschistus* spp. in corn. **Reisig, D. D.** Dept. of Entomology, North Carolina State Univ., Plymouth, NC [1].

9:00 (151) The residual efficacy of selected insecticides against stinkbug. **McPherson, J. W.**, F. Musser, A. Catchot, D. Cook, and C. Allen. Dept. of Biochemistry, Molecular Biology, Entomology and Plant Pathology, Mississippi State Univ., Mississippi State, MS [1-4]; USDA-ARS, Stoneville, MS [5].

9:12 (153) Control of the two-spotted spider mite, *Tetranychus urticae*, in the Midsouth. **Von Kanel, B.**, A. Catchot, and J. Gore. Dept. of Biochemistry, Molecular Biology, Entomology and Plant Pathology, Mississippi State Univ., Mississippi State, MS [1-3].

9:24 (154) Management of tarnished plant bug in the Mississippi Delta. **Catchot, A. L.**, F. Musser, J. Gore, D. Cook, L. Owen, B. Adams, and G. Snodgrass. Dept. of Biochemistry, Molecular Biology, Entomology and Plant Pathology, Mississippi State Univ., Mississippi State, MS [1-6]; USDA-ARS, Stoneville, MS [7].

9:36 (155) Method for determining the effect of the entomopathogenic fungus, *Beauveria bassiana*, and the insect growth regulator Diamond on fecundity and growth inhibition of the tarnished plant bug, *Lygus lineolaris*. **Portilla M., G.** Snodgrass, and R. Luttrell. ARS-USDA, Stoneville, MS [1-3].

9:48 (156) Transform insecticide for management of key southern cotton insect pests. **Siebert, M. W.**, L. C. Walton, R. B. Lassiter, R. A. Haygood, J. D. Siebert, J. S. Richburg, and J. D. Thomas. Dow AgroSciences LLC, Indianapolis, IN [1-7].

10:00 (157) TwinLink™ performance across the cotton belt. **Rinehardt, M.**, W. Mullins, J. Holloway, L. Trolinder, and S. Baker. Bayer CropScience Trait Development, Southeast US [1]; Americas [2]; Eastern Global [3]; Global Research [4]; Mid-South [5].

10:12 (158) Experiences with Bt cottons inundated with bollworm in the Southeast. **Greene, J. K.**, D. Robinson, K. Carter, and G. Devinney. Dept. of Entomology, Soils, and Plant Sciences, Clemson Univ., Edisto Research and Education Center, Blackville, SC [1-4].

10:24 (159) Efficacy of four traps in capturing male *Helicoverpa* moths in north Florida. **Guerrero, S.**, R. Meagher, and J. Brambila. USDA-APHIS [1, 3]; USDA-ARS, Gainesville, FL [2].

10:45 Break (San Geronimo Foyer BCD)

11:00 (160) Field efficacy of single and pyramided Bt traits in corn against fall armyworm (*Spodoptera frugiperda*), corn earworm (*Helicoverpa zea*), and other lepidopteran pest species in the southern United States. **Rice, M. E.**, T. Krone, and S. Moser. Pioneer Hi-Bred International, Johnston, IA, 50131 [1-3].

11:12 (161) Parasitization of fall armyworm in sweet and field corn by *Cotesia marginiventris*. **Meagher, R. L.** and M. Hay-Roe. USDA-ARS, CMAVE [1]; Univ. of Florida, Gainesville, FL [2].

11:24 (162) Southwestern corn borer pheromone trap thresholds. **Musser, F. R.**, A. L. Catchot, D. Cook, and C. Daves. Dept. of Biochemistry, Molecular Biology, Entomology and Plant Pathology, Mississippi State Univ., Mississippi State, MS [1, 2]; Delta Research and Extension Center, Stoneville, MS [3]; Central Mississippi Research and Extension Center, Raymond, MS [4].

11:36 (163) Management of sugarcane beetle in field corn. Catchot, A. L., **S. D. Stewart**, D. Cook, and L. Owen. Dept. of Biochemistry, Molecular Biology, Entomology and Plant Pathology, Mississippi State Univ., Mississippi State, MS [1, 3, 4]; Univ. of Tennessee, West Tennessee Research and Education Center, Jackson, TN [2].

11:48 (164) The impact of silk clipping on corn pollination and yield. **Steckel, S. J.** and S. D. Stewart. Dept. of Entomology and Plant Pathology, Univ. of Tennessee, West Tennessee Research and Education Center, Jackson, TN [1, 2].

12:00 Award Luncheon (San Geronimo B)

TUESDAY AFTERNOON, 22 MARCH

CONTRIBUTED PAPERS

Plant-Insect Ecosystems and Crop Protection

**1:30 pm – 5 pm
Las Olas**

Moderator: Oscar Liburd, Univ. of Florida

1:30 (165) A survey of loopers in Mississippi soybean fields during 2010. **Allen, K. C.** USDA-ARS, Stoneville, MS [1].

1:42 (166) Field screening of sweet sorghum inbred lines for pest resistance and biomass production. **Ni, X.** and W. F. Anderson. USDA-ARS, Crop Genetics and Breeding Research Unit, Tifton, GA [1, 2].

1:54 (167) Insect herbivores of sweet sorghum in southern Florida. **Nuessly, G. S.,** H. S. Sandhu, R. C. Cherry, Y. Wang, N. Larsen, and A. Wilson. Univ. of Florida, Everglades Research and Extension Center, Belle Glade, FL [1-6].

2:06 (168) Susceptibility of citrus and citrus related germplasm to *Diaphorina citri* (Hemiptera: Psyllidae). **Hall, D. G.,** C. J. Westbrook, E. W. Stover, and Y. Duan. USDA-ARS, Horticultural Research Laboratory, Fort Pierce, FL [1-4].

2:18 (169) Efficacy of sulfoxaflor, a novel insecticide from Dow AgroSciences, for control of insect pests in Florida citrus. **Weiss, A.** and J. Thomas. Dow AgroSciences LLC., Brandon, FL [1, 2].

2:30 (170) Low volume applications of various insecticides to control the Asian citrus psyllid (*Diaphorina citri*) in central Florida citrus groves. **Clayson, P. J.,** M. S. Salyani, and L.L. Stelinski. Univ. of Florida, Citrus Research and Education Center, Lake Alfred, FL [1-3].

2:42 Break (San Geronimo Foyer BCD)

3:00 (171) Within-field spatial distribution of the cereal leaf beetle in wheat in South Carolina. **Reay-Jones, F. P. F.** Dept. of Entomology, Soils and Plant Sciences, Clemson Univ., Pee Dee Research and Education Center, Florence, SC [1].

3:12 (172) Spotted wing drosophila (*Drosophila suzukii*) in the southeast: current status and future directions. **Burrack, H. J.,** D. G. Pfeiffer, and J. P. Smith. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1]; Dept. of Entomology, Virginia Polytechnic Institute and State Univ., Blacksburg, VA [2]; Clemson Univ. Cooperative Extension, Columbia, SC [3].

3:24 (173) Fall armyworm (*Spodoptera frugiperda*) migration pathways in the United States. **Nagoshi, R. N.** and R. L. Meagher. USDA-ARS, Center for Medical, Agricultural, and Veterinary Entomology, Behavior and Biological Control, Gainesville, FL [1, 2].

3:36 (174) Is beneficial insect habitat really beneficial? **Orr, D. B.**, C. Reberg-Horton, C. Moorman, A. Fox, and C. J. Plush. Dept. of Entomology [1]; Dept. of Crop Science [2, 4]; Division of Fisheries and Wildlife, North Carolina State Univ., Raleigh, NC [3, 5].

3:48 (175) Do spider mites mediate sublethal effects of lima bean on an exotic predator, *Stethorus punctillum*? **Riddick, E. W.**, M. G. Rojas, and Z. Wu. USDA-ARS, Biological Control of Pests Research Unit, Stoneville, MS [1-3].

4:00 (176) Effect of releasing *Neoseiulus californicus* on arthropod community structure in strawberries. **Liburd, O. E.** and T. W. Nyoike. Entomology and Nematology Dept., Univ. of Florida, Gainesville, FL [1, 2].

4:12 (177) Effects of cogongrass (*Imperata cylindrica*) management strategies on the abundance and diversity of arthropod natural enemies in longleaf pine stands. **Martin, S. M.**, D. Held, S. Enloe, L. Eckhardt, and N. Loewenstein. Dept. of Entomology and Plant Pathology [1, 2]; Dept of Agronomy and Soils [3]; School of Forestry and Wildlife Sciences, Auburn Univ., Auburn, AL [4, 5].

4:24 (178) New program in insect rearing science research at NCSU. **Cohen, A. C.** and J. L. Cohen. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1, 2].

4:36 (179) New program in insect rearing science education at NCSU. **Cohen, A. C.** and J. L. Cohen. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1, 2].

4:48 (180) What we know (or don't know) about the hemlock woolly adelgid predator, *Sasajiscymnus tsugae*, in Japan and the United States. **Lamb, A.**, S. Shiyake, J. F. Grant, A. E. Mayfield, J. Decker, G. Wiggins, A. Hakeem, and J. R. Rhea. Dept. of Entomology and Plant Pathology, Univ. of Tennessee, Knoxville, TN [1, 3, 5-7]; Osaka Museum of Natural History, Nagai Park, Japan [2]; USDA Forest Service, Southern Research Station, Asheville, NC [4]; USDA Forest Service, Forest Health Protection, Southern Region [8].

5:00 Close

TUESDAY MORNING, 22 MARCH

ACAROLOGY IN POST-GENOMIC ERA

8:00 am -12:00 pm

Ceiba

Organizers and Moderators:

Patricia V. Pietrantonio, Texas A&M Univ.

Albert Mulenga, Texas A&M Univ.

8:00 (181) The tick attachment phase. **Mulenga, A** and T. Kim. Texas A&M Univ. AgriLife Research, Dept. of Entomology, College Station, TX [1, 2].

8:30 (182) iTick: Functional genomics of tick sialome. **Karim, S.**, P. Singh, R. Truhett, S. Adamson, Z. Zhang, C. C. Chao, and W. M. Ching. Dept. of Biological Sciences, Univ. of Southern Mississippi, Naval Medical Research Center, Hattiesburg, MS [1-7].

8:50 (183) Defining vector competency as a function of immune response: Antimicrobial peptides are barriers to rickettsial invasion of the tick midgut challenges and provides further insight into how ticks acquire and maintain rickettsial infections as competent vectors. **Ceraul, S. M.** Dept. of Microbiology and Immunology, Univ. of Maryland School of Medicine, Baltimore, MD [1].

9:10 (184) Molecular determinants of rickettsial infection in ticks. **Macaluso, K. R.** Dept. of Pathobiological Sciences, School of Veterinary Medicine, Louisiana State Univ., Baton Rouge, LA [1].

9:30 (185) The spider mite whole genome sequence: looking to the future. **Navajas, M.**, R. Clark, V. Grbic, and M. Grbic. Institut National de la Recherche Agronomique, Centre de Biologie et Gestion des Populations, Campus international de Baillarguet, Montferrier-sur-Lez cedex, France [1]; Dept. of Biology, Univ. of Utah, Salt Lake City, Utah [2]; Dept. of Biology, Univ. of Western Ontario, London, Canada [3, 4]; I.C.V.V. Logroño La Rioja, Spain [3, 4].

9:50 (186) Mining the tick genome to understand reproduction and development. **Roe, R. M.**, B. W. Bissinger, D. E. Sonenshine, S. M. S. Khalil, C. M. Grozinger, and K. V. Donohue. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1, 2, 4, 6]; Dept. of Biological Sciences, Old Dominion Univ., Norfolk, VA [3]; Dept. of Entomology, Pennsylvania State Univ., State College, PA [5].

10:10 (187) Candidate tick neuropeptide receptors involved in water balance. **Pietrantonio, P. V.**, H.-L. Lu, and D. Kim. Dept. of Entomology, Texas A&M Univ., College Station, TX [1-3].

10:30 Break (San Geronimo Foyer BCD)

11:00 (189) Mining the genome of *Rhipicephalus microplus* to develop novel control technology and vaccines. **Miller, R. J.**, F.

G. Guerrero, and A. A. Perez de Leon. USDA-ARS, Cattle Fever Tick Research Laboratory, Edinburg, TX [1]; USDA-ARS, Livestock Insect Research Laboratory, Kerrville, TX [2, 3].

11:30 Closing remarks.

12:00 Award Luncheon (San Cristobal A-G)

TUESDAY MORNING, 22 MARCH

**BEHAVIORAL PLASTICITY FROM
NEURAL TO EVOLUTIONARY SCALE**

8:00 – 11:00 am

Flamboyant

Organizer and Moderator:
Tugrul Giray, Univ. of Puerto Rico

8:00 Introduction. **Giray, T.** Univ. of Puerto Rico, San Juan, PR [1].

8:05 (190) Temporal polyethism and behavioral plasticity in fire ants. **Hu, X. P.** Auburn Univ., Auburn, AL [1].

8:25 (191) Behavioral regulation of the little fire (*Wasmannia auropunctata*) by juvenile hormone. **Rivera-Marchand, B., Y. Ortiz-Alvarado, A. Rosado-Rodriguez, Y. Rodriguez-Cruz, and C. Ortiz-Alvarado.** Inter-American Univ. of Puerto Rico, Bayaman Campus, PR [1-5].

8:45 (192) Evolution of social behavior in spiders. **Agnarsson, I.** Univ. of Puerto Rico, San Juan, PR [1].

9:05 (193) Evolution and genetics of mimicry wing patterns of *Heliconius* butterflies. **Papa, R.** Univ. of Puerto Rico, San Juan, PR [1].

9:25 (194) Population genetics of Africanized bees with reduced defensive behavior. **Galindo-Cardona, A.** and J. Acevedo. Univ. of Puerto Rico, Mayaguez, PR [1]; Univ. of Puerto Rico, San Juan, PR [2].

9:45 (195) Punishment and reward pathway biogenic amines and learning in honey bees. **Giray, T.** Univ. of Puerto Rico, San Juan, PR [1].

10:05 (196) Temperature regulates the sleep-like state of *Drosophila melanogaster* by modulating light pathways and circadian rhythms. **Agosto, J. L.** Univ. of Puerto Rico, San Juan, PR [1].

10:25 Concluding remarks.

TUESDAY MORNING, 22 MARCH

INVASIVE PESTS AND DISEASES OF
PALMS

8:00 – 11:00 am
Salon del Mar

Organizers and Moderators:

Jose C.V. Rodrigues, Univ. of Puerto Rico

Jorge E. Peña, Univ. of Florida

8:00 (197) Networking as a successful invasive species detection tool. **Ramírez-Lluch, A.**, J. C. V. Rodrigues, and A. Segarra. Puerto Rico Dept. of Agriculture, Santurce, PR [1]; Univ. of Puerto Rico, Crops and Agroenvironmental Dept., San Juan, PR [2, 3].

8:18 (198) Red palm weevil (*Rhynchophorus ferrugineus*), an invasive pest that threatens the U.S. nursery and palm industry. **Roda A.**, M. Kairo, T. Damian, F. Franken, K. Heidweiller, C. Johanns, and R. Mankin. USDA-APHIS, Center for Plant Health and Science, Miami, FL [1]; Florida A&M Univ., Tallahassee, FL [2]; Dept. of Agriculture, Husbandry and Fisheries, Oranjestad, Aruba [3, 4]; Dept. of Agriculture, Husbandry and Fisheries, Willemstad, Curacao [5]; USDA-ARS, Gainesville, FL [6].

8:36 (199) Fusarium wilt of palms. **Elliott, M. L.** Fort Lauderdale Research and Education Center, Univ. of Florida, Davie, FL [1].

8:54 (200) First report of an outbreak caused by the lethal yellow phytoplasma in a wild palm species in the Rio Platano Biosphere Reserve in la Moskitia, Honduras. **Roca, M. M.**, G. Roberto, R. McDowell, and E. Aguilar. Zamorano Univ., Honduras [1, 4]; Ministry of Agriculture, Government of Honduras [2]; USDA-APHIS, Risk Assessment Unit [3].

9:12 (201) Status of lethal yellowing of palms in Puerto Rico. **Rodriguez, J.C.V.**, N. A. Harrison, A. Ramírez-Lluch, and A. Segarra. Univ. of Puerto Rico, Crops and Agroenvironmental Dept., San Juan, PR [1, 4]; Fort Lauderdale Research and Education Center, Univ. of Florida [2]; Puerto Rico Dept. of Agriculture, Santurce, PR [3].

9:30 (202) The red palm mite, *Raoiella indica* (Acari: Tenuipalpidae): Biotic and abiotic factors effect in the subtropics. **Peña J. E.**, R. D. Duncan, D. Carrillo, and J. C. V. Rodrigues. Tropical Research and Education Center, Univ. of Florida, Homestead, FL [1-3]; Univ. of Puerto Rico, Crops and Agroenvironmental Dept., San Juan, PR [4].

9:48 (203) Population dynamics and migration behavior of red palm mite, *Raoiella indica* Hirst (Acari: Tenuipalpidae), in *Cocos nucifera* (Palmae). **Colon, L. M.**, S. Cruz, and J. C. V. Rodrigues. Univ. of Puerto Rico, Crops and Agroenvironmental Dept., San Juan, PR [1-3]; Puerto Rico Dept. of Agriculture, Santurce, PR [2].

10:06 (204) A molecular method for detecting predation of *Raoiella indica* (Acari: Tenuipalpidae) by *Amblyseius largoensis* (Acari: Phytoseiidae), and notes on the predator's behavior. **Rivera C.**, A. Gallinos, and J. C. V. Rodrigues. Univ. of Puerto Rico, Crops and Agroenvironmental Dept., San Juan, PR [1-3].

10:24 (205) A fingerprinting of microorganisms associated with epizooties in *Raoiella indica* (Acari: Tenuipalpidae). Colon, L. M. and **J. C. V. Rodrigues**. Univ. of Puerto Rico, Crops and Agroenvironmental Dept., San Juan, PR [1, 2].

10:42 Discussion

TUESDAY MORNING, 22 MARCH

**CURRENT STATUS AND PEST POTENTIAL
OF *MEGACOPTA CRIBRARIA* (F.)
(HETEROPTERA: PLATASPIDAE) IN ITS
EXPANDED NEW WORLD RANGE
8:00 – 10:30 am
Conference 3-7**

Organizers and Moderators:

Wayne A. Gardner, Univ. of Georgia
Jeremy K. Greene, Clemson Univ.
Joseph E. Eger, Jr., Dow AgroSciences

8:00 (206) Ground zero and beyond: Introductory remarks on invasion of *Megacopta cribraria*. **Eger, J. E. Jr.** Dow AgroSciences, Tampa, FL [1].

8:10 (207) Discovery and distribution of *Megacopta cribraria* in Georgia. **Suiter, D. R.**, L. Ames, and W. A. Gardner. Dept. of Entomology, Univ. of Georgia, Griffin, GA [1-3].

8:30 (208) *Megacopta cribraria* (Fabricius) (Heteroptera: Plataspidae), an Oriental species established in Georgia: Taxonomy and background information. **Eger, J. E., Jr.** and D. A. Rider. Dow AgroSciences, Tampa, FL [1]; Dept. of Entomology, North Dakota State Univ., Fargo, ND [2].

8:50 (209) From genes to populations: *Megacopta cribraria* in North America. **Jenkins, T. M.** and T. D. Eaton. Dept. of Entomology, Univ. of Georgia, Griffin, GA [1, 2].

9:10 (210) Occurrence and impact of *Megacopta cribraria* in soybean in Georgia. Roberts, P. M., J. N. All, and **G. D. Buntin**. Dept. of Entomology, Univ. of Georgia, Tifton, GA [1]; Athens, GA [2]; Griffin, GA [3].

9:30 (211) Natural enemies of *Megacopta cribraria*. **Ruberson, J. R.** and K. Takasu. Dept. of Entomology, Univ. of Georgia, Tifton, GA [1]; Faculty of Agriculture, Dept. of Agronomy and Environmental Sciences, Kyushu Univ., Fukuoka, Japan [2].

9:50 (212) The South Carolina experience with *Megacopta cribraria*. **Greene, J. K.** Edisto Research & Education Center, Clemson Univ., Blackville, SC [1].

10:10 Concluding remarks.

TUESDAY MORNING, 22 MARCH

**NEW GENERATION DIAGNOSTICS FOR
PATHOGENS AND THEIR MANAGEMENT**

**8:00 – 11:45 am
Tropical**

Sponsors:

IPM CRSP Global Themes Virus-Vector Interactions, Virginia
Tech
AGDIA, Elkhart, IN
VARGAS, Raleigh, NC

Organizers and Moderators:

Consuelo Estévez de Jensen, Univ. of Puerto Rico
Judith K. Brown, Univ. of Arizona

8:00 (213) Nucleic acid-based detection of plant pathogens: strengths and limitations. **Vincelli, P.** Dept. of Plant Pathology, Univ. of Kentucky, Lexington, KY [1].

8:25 (214) Detection and identification of mite borne viruses. **Rodrigues, J. C. V.**, E. W. Kitajima, and C. C. Childers. Univ. of Puerto Rico, San Juan, PR [1]; Univ. of Sao Paulo, Piracicaba, SP, Brazil [2]; Univ. Florida, CREC, Lake Alfred, FL [3].

8:50 (215) Tools for pathogen detection in plant host tissue. **Palmateer, A.** Univ. of Florida, Tropical Research & Education Center, Homestead, FL [1].

9:20 (216) Combining diagnostics and ‘on the ground’ virus disease management. **Tolin, S. A.** Dept. Plant Pathology, Physiology, & Weed Science, Virginia Polytechnic and State Univ., Blacksburg, VA [1].

9:50 (217) Detection of diseases in winter nurseries in Puerto Rico. **Estévez de Jensen, C.** Univ. of Puerto Rico, Mayagüez, PR [1].

10:15 (218) Venganza – The molecular revenge of the plants. **Niblett, C.** Venganza, Inc., Raleigh, NC [1].

10:50 Break (San Geronimo Foyer BCD)

11:00 (219) New generation detection for plant pathogens. **Bohannon, R. C.** AGDIA, Elkhart, IN [1].

11:35 Questions and concluding remarks

TUESDAY MORNING, 22 MARCH

Student Symposium –

**CSI PUERTO RICO: ADVENTURES IN
FORENSIC ENTOMOLOGY**

8:00 am – 12:00 pm

Auditorium

Organizers and Moderators:

Carey Minter, Univ. of Arkansas
Julien Beuzelin, Louisiana State Univ.
Carla Dilling, Univ. of Tennessee

8:00 (221) Insects: helping solve crimes since 1325. **Minter, C.** Dept. of Entomology, Univ. of Arkansas, Fayetteville, AK [1].

8:15 (222) The “dirt” on forensic entomology. **Cammack, J. A.**, G. R. Balme, Y. Arai, J. K. Tomberlin, and D. W. Watson. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1, 2, 5]; Dept. of Entomology, Soils, & Plant Sciences, Clemson Univ., Clemson, SC [3]; Dept. of Entomology, Texas A&M Univ., College Station, TX [4].

8:45 (223) Discovery and recovery: How one thing leads to another. **Watson, W.**, A. Ross, B. Oliver, D. Hinks, and J. Byrd. Dept. of Entomology, College of Agriculture and Life Sciences, North Carolina State Univ., Raleigh, NC [1]; Dept. Sociology and Anthropology, College of Humanities and Social Sciences, North Carolina State Univ. Raleigh, NC [2, 3]; Dept. of Textile Engineering, Chemistry and Science, College of Textiles, North Carolina State Univ., Raleigh, NC [4]; Dept. of Pathology, Immunology and Laboratory Medicine, College of Medicine, Univ. of Florida, Gainesville, FL [5].

9:15 (224) Forensic Entomology: The insects in the crime scene. **Vanegas, S. Z. Y.** Univ. of Puerto Rico, Mayagüez, Puerto Rico [1].

9:45 (225) The Great Maggot Escape: The trials and tribulations of rearing black soldier flies. **Brait, C.** and S. VanLaerhoven. Univ. of Windsor, ON, Canada [1, 2].

10:15 (226) How important is resource and community composition? The physiological effects that mediate competitive interactions. **Reid, C.** and S. VanLaerhoven. Univ. of Windsor, ON, Canada [1, 2].

10:45 Break (San Geronimo Foyer BCD)

11:00 (227) Blow flies and parenting: how adult decisions maximize offspring potential. **Rosati, J.** and S. VanLaerhoven. Univ. of Windsor, ON, Canada [1, 2].

11:30 (228) Integrating ecology and insect evidence: the paradigm shift in forensic science. **S. VanLaerhoven.** Univ. of Windsor, ON, Canada [1].

12:00 Award Luncheon (San Cristobal A-G).

TUESDAY MORNING & AFTERNOON, 22 MARCH

**ENTOMOLOGISTS AS EDUCATORS – USING
TRADITIONAL AND NON-TRADITIONAL
TOOLS TO REACH YOUNG TO OLD
AUDIENCES**

11:00 am – 5:00 pm

Salon del Mar

Organizers and Moderators:

Natalie Hummel, Louisiana State Univ. AgCenter

Blake Bextine, Univ. of Texas at Tyler

11:00 Introduction to symposium. **Hummel, N. A.** Dept. of Entomology, LSU AgCenter, Baton Rouge, LA [1].

11:05 (228) Entomological Foundation - educating young people about entomology. **Toscano, N. C.** Dept. of Entomology, Univ. of California, Riverside, CA [1].

11:25 (229) Educating undergraduates – exciting students about entomology. **Bextine, B. B.** Dept. of Biology, Univ. of Texas, Tyler, TX [1].

11:40 (230) Online education for college students. **Harper, J. D.** Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1].

12:00 Award Luncheon (San Cristobal A-G)

1:30 (231) Asynchronous course delivery of science courses for non-science majors: boon or trap? **Sorenson, C. E.** Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1].

1:50 (232) A professional ethics course for entomology graduate students. **Roe, R. M.** and C. E. Sorenson. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1, 2].

2:10 (233) Developing relationships across international lines – undergraduate and graduate student education. **Sanchez, S. E.** Departamento de Parasitología, Universidad Autónoma Agraria Antonio Narro, Saltillo, Coahuila, Mexico [1].

2:30 Break (San Cristobal Foyer BCD)

3:00 (234) Entomological education for Master Gardeners. **Layton, M. B.** and L. S. Kelly. Dept. of Entomology, Mississippi State Univ. Cooperative Extension Service, Starkville, MS [1]; Dept. of Plant and Soil Sciences, Northeast Mississippi Research and Extension Center, Verona, MS [2].

3:20 (235) Identify a gap in stakeholder education and fix it! **Leonard, B. R.** Northeast Region, Dept. of Entomology, LSU AgCenter, Macon Ridge, LA [1].

3:40 (236) On-line tutorials to hands-on training; diverse educational methods for pest control professionals. **Thoms, E. M.** Dow AgroSciences, Gainesville, FL [1].

4:00 (237) Using eXtension (www.extension.org) to provide entomological education: experiences of the Imported Fire Ant Community of Practice. **Flanders, K. L.** and B. M. Drees. Dept. of Entomology and Plant Pathology, Auburn Univ., Auburn, AL [1]; Dept. of Entomology, Texas AgriLife Extension, College Station, TX [2].

4:20 (238) E-Learning modules for pest screening and invasive species education. **Hodges, A. C.** Entomology & Nematology Dept., Univ. of Florida, Gainesville, FL [1].

4:40 Concluding comments. **Hummel, N. A.** Dept. of Entomology, LSU AgCenter, Baton Rouge, LA [1].

TUESDAY MORNING & AFTERNOON, 22 MARCH

**PHYTO-ARBOVIRUSES IN
AGROECOSYSTEMS SYMPOSIUM**

11:00 am – 5:00 pm
Conference 3-7

Organizers and Moderators:

Rajagopalbabu Srinivasan, Univ. of Georgia
Alvin M. Simmons, USDA-ARS

11:00 (239) Historical perspectives of Tomato Spotted Wilt Virus in peanut production systems of southern USA. **Brown, S. L.** Univ. of Georgia, Athens, GA [1].

11:20 (240) Global status of tospoviruses: Advances and challenges ahead. **Pappu, H.** Dept. of Plant Pathology, Washington State Univ., Pullman, WA [1].

11:40 (241) Thrips vector management and its relationship to *Tospovirus* disease progress. **Riley, D. G.** Dept. of Entomology, Univ. of Georgia, Tifton, GA [1].

12:00 Award Luncheon (San Cristobal A-G)

1:30 (242) *Tospovirus* and thrips interactions in Florida. **Reitz, S. R.**, C. G Webster, and S. T. Adkins, USDA-ARS-CMAVE, Tallahassee, FL [1]; USDA-ARS-USHRL, Fort Pierce, FL [2, 3].

1:50 (243) The influence of virus-induced changes in plants on aphid vectors and potential impacts on virus disease epidemiology. **Bosque-Pérez, N. A.**, L. L. Ingwell, and S. D. Eigenbrode. Dept. of Plant Soil and Entomological Sciences, Univ. of Idaho, Moscow, ID [1-3].

2:10 (244) Aphids and virus incidence in Alaska potatoes: Do we need management tactics even at latitude 64 north? **Pantoja, A.**, J. Smeenk, and J. Anderson. USDA-ARS, Subarctic Agricultural Research Unit, Fairbanks, AK [1]; Univ. of Alaska, Fairbanks, School of Natural Resources and Agricultural Sciences, High Latitude Agriculture, Matanuska Experiment Farm, Palmer, AK [2, 3].

2:30 Break (San Geronimo Foyer)

3:00 (245) Variation in transmission of *Tomato Spotted Wilt Tospovirus* in North Carolina by vector, *Thrips tabaci*.

Jacobson, A. L. and G. G. Kennedy. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1, 2].

3:20 (246) Thrips dispersal and the epidemiology of *Tomato Spotted Wilt Tospovirus* in North Carolina. **Kennedy, G. G.** and A. Beaudoin. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1, 2].

3:40 (247) Cultural strategies for the management of *Bemisia tabaci* and associated viruses in vegetable crops. **Simmons, A. M.** and S. Abd-Rabou. USDA-ARS, U.S. Vegetable Laboratory, Charleston, SC [1]; ARC, Plant Protection Research Institute, Dokki, Egypt [2].

4:00 (248) *Iris yellow spot Tospovirus* epidemics in the US-Pacific Northwest: Factors favoring disease outbreaks in onion seed. **Rondon, S. I.** Oregon State Univ., Hermiston Agricultural Research and Extension Center, Hermiston, OR [1].

4:20 (249) Thrips and Tomato Spotted Wilt Virus interactions in the peanut production landscape of Georgia. **Srinivasan, R.,** S. Sundaraj, A. K. Culbreath, D. G. Riley, and H. Pappu. Dept. of Entomology [1, 2, 4]; Dept. of Plant Pathology, Univ. of Georgia, Tifton, GA [3]; Dept. of Plant Pathology, Washington State Univ., Pullman, WA [5].

4:40 (250) Psyllids as vectors of arbovirota in potato and other annual crops. **Munyaneza, J. E.** USDA-ARS, Yakima Agricultural Research Laboratory, Wapato, WA [1].

5:00 Concluding remarks.

TUESDAY AFTERNOON, 22 MARCH

**ARTHROPOD-HOST-PATHOGEN
INTERACTIONS**

**1:30 – 4:00 pm
Conference 10**

Moderator:
Paul Kendra, USDA-ARS

1:30 Moderator's instructions

1:33 (251) Are there associations between *Fusarium* spp. and marsh crabs in New England salt marshes affected by Sudden Vegetation Dieback? **Elmer, W. H.** Dept. of Plant Pathology and Ecology, Connecticut Agricultural Experiment Station, New Haven, CT [1].

1:53 (252) Abundance in *Persea americana* of the red bay ambrosia beetle *Xyleborus glabratus* (Coleoptera: Scolytinae) vector of laurel wilt: a case of intra-guild competition? **Peña, J. E., J. Capinera, P. Kendra, G. Brar, R. Duncan, S. McLean, L. Stelinski, R. Ploetz, and J. Crane.** Univ. of Florida, Tropical Research and Education Center, Homestead, FL [1, 5, 8, 9]; Univ. of Florida, Dept. of Entomology and Nematology, Gainesville, FL [2, 4, 6]; USDA-ARS, Subtropical Horticulture Research Station, Miami, FL [3]; Univ. of Florida, Citrus Research and Education Center, Lake Alfred, FL [7].

2:13 (253) Host-based attractants for the redbay ambrosia beetle, *Xyleborus glabratus* (Coleoptera: Curculionidae: Scolytinae). **Kendra, P. E., W. S. Montgomery, J. S. Sanchez, J. Niogret, J. E. Pena, N. D. Epsky, and R. R. Heath.** USDA-ARS, Subtropical Horticulture Research Station, Miami, FL [1-4, 6, 7]; Univ. of Florida, Tropical Research and Education Center, Homestead, FL [5].

2:33 Break (San Geronimo Foyer BCD)

3:00 (254) Using RNA interference to reduce viral diseases. **Hunter, W. B.** and R. Reddy. USDA-ARS, US Horticulture Research Laboratory, Ft. Pierce, FL [1, 2].

3:20 (255) Rates of transmission of the huanglongbing pathogen between citrus and orange jasmine by the Asian citrus psyllid. **Walter, A. J., D. G. Hall, and Y. Duan.** USDA-ARS, Horticultural Research Laboratory, Fort Pierce, FL [1-3].

3:40 (256) Effectiveness of the field releases of the parasitoid *Tamarixia radiata* (Hymenoptera: Eulophidae) to suppress Asian citrus psyllid (ACP) *Diaphorina citri* (Hemiptera: Psyllidae) in Florida citrus. **Qureshi, J. A.** and P. A. Stansly. Dept. of Entomology and Nematology, Southwest Florida Research and Education Center, Univ. of Florida, Immokalee, FL [1, 2].

4:00 Close

TUESDAY AFTERNOON, 22 MARCH

DISEASE DETECTION AND MANAGEMENT

1:30 – 5:00 pm
Tropical

Moderator: Ronald H. Brlansky, Univ. of Florida
Paul Vincelli, Univ. of Kentucky

1:30 (257) Molecular diagnosis of plant diseases in Barbados.
Alleyne, A. T. Univ. of the West Indies, Cave Hill Campus,
Bridgetown, Barbados [1].

1:45 (258) Development of serological diagnostics for
cytoplasmic citrus leprosis virus. **Brlansky, R. H.**, N.
Choudhry, A. Roy, J. S. Hartung, and L. Levy. Univ. of
Florida, Citrus Research and Education Center, Lake Alfred, FL
[1-3]; USDA-ARS, MPPL, Beltsville, MD [4]; USDA-APHIS-
PPQ-CPHST, Beltsville, MD [5].

2:00 (259) Un metodo de PCR simplificado para detectar el
Virus Baciliforme del Taro (TaBV) en *Colocasia esculenta* L.
Wall, G. C. WPTRC/CNAS, Univ. of Guam, Mangilao, GU [1].

2:15 (260) A comparison of Dot-blot and RT-PCR methods for
the evaluation of resistance of *Solanum phureja* to potato yellow
vein virus. Vargas-Berdugo, A., E. Rodriguez, and **O. Oliveros-
Garay**. Dept. Agronomy, Universidad Nacional de Colombia,
Bogota, Colombia [1-3].

2:30 (261) Detection and identification of viruses infecting
Passiflora edulis in Colombia. Camelo, V., C. Garcia, and **O.
Oliveros-Garay**. Dept. Agronomy, Universidad Nacional de
Colombia, Bogota, Colombia [1-3].

2:45 Break (San Geronimo Foyer BCD)

3:00 (262) Incidence and genetic diversity of soybean mosaic
virus infecting *Passiflora edulis* Sims. in Colombia. Gordillo, A.
L., V. Camelo, C. Garcia-Dominguez, **O. Oliveros-Garay**.
Dept. Agronomy, Universidad Nacional de Colombia, Bogota,
Colombia [1-4].

3:15 (263) First demonstration of infectivity in *Nicotiana
benthamiana* using infectious clones of two monopartite
begomoviruses, sweetpotato golden vein and sweetpotato leaf
curl, and the bipartite *Merremia* mosaic virus, isolated from
Merremia species in Puerto Rico. **He, Z.** and J. K. Brown. Plant
Protection Research Institute, Guangdong Academy of
Agricultural Sciences, Guangzhou, Guangdong, China [1];
School of Plant Sciences, Univ. of Arizona, Tucson, AZ [2].

3:30 (264) Fungi associated with roots and crowns from
diseased wheat samples. **French-Monar, R. D.**, L. M. Serrato-
Diaz, and L. I. Rivera-Vargas. Dept. of Plant Pathology and
Microbiology, Texas AgriLife Extension Service, Texas A&M
System, Amarillo, TX [1, 2]; Dept. of Crop and
Agroenvironmental Sciences, U. of Puerto Rico, Mayaguez, [3].

3:45 (265) Disease incidence in *Phaseolus vulgaris* in the region of Huambo and Malange, Angola. **Estevez de Jensen, C.**, T. Porch, A. Chicapa Dovala, and L. Baptista. Univ. of Puerto Rico, Mayaguez, PR [1]; USDA-ARS, Tropical Agriculture Research Station, Mayagüez, PR [2]; Instituto de Investigacao Agronomica, Angola [3].

4:00 (266) Effect of antracol on management of die-back and fruit rot of chilli (*Capsicum annum*). **Gomathinayagam, S.**, M. Theradi Mani, S. Juliet Hepziba, and M. Rekha. Faculty of Agriculture and Forestry, Univ. of Guyana, Berbice Campus, Guyana [1]; Dept. of Plant Pathology, Tamil Nadu Agriculture Univ., Madurai, Tamil Nadu, India [2, 3]; Dept. of Biotechnology, PSR Engineering College, Sivakasi, Tamil Nadu, India [4].

4:15 (267) Identification of six different *Fusarium* species on commercial carnation related with vascular death and basal decay. **Filgueira, J. J.**, J. C. Soto, G. Fernandez, C. G. Quinche, G. Buraglia, and M. Rincon. Science Faculty, Plant Biotechnology Laboratory, Military Univ. of Colombia, Bogota, Colombia [1-6].

4:30 (268) Endophytic bacteria from the vascular tissue of coffee (*Coffea arabica* L.) and citrus (*Citrus sinensis* L.) leaves found during the attempt to isolate the pathogen, *Xylella fastidiosa* in Puerto Rico. **Zapata, M.** Crops and AgroEnviromental Sciences, Univ. of Puerto Rico, Mayaguez, PR [1].

4:48 Close

TUESDAY AFTERNOON, 22 MARCH

**INVASIVE ALIEN SPECIES IN THE
CARIBBEAN BASIN OF CONCERN TO THE
US**

**1:30 – 4:25 pm
Auditorium**

Organizers and Moderators:

Moses T. K. Kairo, Florida A&M Univ.
Muhammad Haseeb, Florida A&M Univ.

1.30 Introduction and overview

1:35 (269) USDA APHIS Greater Caribbean Safeguarding Initiative. **Balaam, R. J.** USDA-APHIS-PPQ, Miami, FL [1].

1:50 (270) Using self-organizing maps to predict potential alien invasive species of concern to the US from the Greater Caribbean Region. **Suiter, K. A.** and R. D. Magarey. NSF Center for Integrated Pest Management, North Carolina State Univ. Raleigh, NC [1, 2].

2:05 (271) Passionvine mealybug, *Planococcus minor* (Maskell): What we know and the way forward to deal with this new incursion. **Francis, A.**, M. T. K. Kairo, A. Roda, and O. Liburd. Center for Biological Control, College of Engineering

Sciences, Technology and Agriculture, Florida A&M Univ., Tallahassee, FL [1, 2]; USDA-APHIS, Center for Plant Health and Science, Miami, FL [3]; Dept. of Entomology and Nematology, Univ. of Florida, Gainesville, FL [4].

2:20 (272) Panama Canal Sentinel Survey: Evaluating a potential conduit for exotic pests. **Roda, A.**, C. Korytkowski, J. Stewart, M. Gonzalez, F. Dominquez, C. Salgado, S. Castillo, and J. Ortega. USDA-APHIS, Center for Plant Health and Science, Miami, FL [1]; Univ. of Panama, Panama City, Panama [2, 6, 7]; USDA-APHIS-PPQ, CPHST, Raleigh, NC [3]; USDA-APHIS, IS, San Jose, Costa Rica [4]; Cuarentena, Panama Ministry of Agriculture, Panama [5].

2:35 Break (San Geronimo Foyer BCD)

3:00 (273) The Florida-Caribbean Pest Pathway - A two-way road. **Mannion, C.** Tropical Research and Education Center, Univ. of Florida, Homestead, FL [1].

3:15 (274) *Hypogeococcus pungens* in Puerto Rico: the unauthorized biography. **Jenkins, D.A.** USDA-ARS, Tropical Agricultural Research Station, Mayaguez, PR [1].

3:30 (275) New findings on factors affecting Mexican rice borer, *Eoreuma loftini* Dyar, infestation of sugarcane: leaf characteristics, drought stress, soil fertility, and alternate host plants. Showler, A.T. and **Reagon, T.E.** [1] USDA-ARS, Kika de la Garza Subtropical Agricultural Research Center, Weslaco, TX [1]. USDA-ARS, Puerto Rico [2].

3:45 (276) Development of digital identification resources for potentially invasive Coleoptera from the Caribbean. **Haseeb, M.** and M. T. K. Kairo. Center for Biological Control, College of Engineering Sciences, Technology and Agriculture, Florida A&M Univ., Tallahassee, FL [1, 2].

4:00 Discussion, priorities, partnerships and concluding remarks.

4:25 Close.

TUESDAY AFTERNOON, 22 MARCH

**INVASIVE FOREST INSECTS AND DISEASES
SYMPOSIUM**

1:30 – 4:30 pm
Ceiba

Organizers and Moderators:

Fred M. Stephen, Univ. of Arkansas
Robert N. Coulson, Texas A&M Univ.
Daniel A. Herms, Ohio State Univ.

1:30 (277) Invasive forest insects and diseases – introduction and overview. **Stephen, F. M.**, R. N. Coulson, and D. A. Herms. Dept. of Entomology, Univ. of Arkansas, Fayetteville, AR [1]; Dept. of Entomology, Texas A&M Univ., College Station, TX [2]; Dept. of Entomology, Ohio State Univ., Ohio Agricultural Research and Development Center, Wooster, OH [3].

1:45 (278) A new winter moth invasion of the northeastern U.S. **Elkinton, J.** Dept. of Plant, Soil, and Insect Sciences, Univ. of Massachusetts, Amherst, MA [1].

2:00 (279) Once upon a time in a hemlock forest... the hemlock woolly adelgid story. **Grant, J. F.** Dept. of Entomology and Plant Pathology, Univ. of Tennessee, Knoxville, TN [1].

2:15 (280) The Asian longhorn beetle (*Anoplophora glabripennis*): Present and potential status as a forest pest species. **Smith, M. T.**, J. Turgeon, M. Bohne, and K. J. Dodds. USDA-ARS, Beneficial Insects Introduction Research Laboratory, Newark, DE [1]; Canadian Forest Service, Sault Ste. Marie, Ontario, Canada [2]; USDA Forest Service, Northern Research Station, Durham, NH [3, 4].

2:30 (281) The emerald ash borer invasion of North America: Ecological impacts and the quest for resistance. **Herms, D. A.** Dept. of Entomology, Ohio State Univ., OARDC, Wooster, OH [1].

2:45 Break (San Geronimo Foyer BCD)

3:00 (282) Biology and ecology of goldspotted oak borer. **Haavik, L. J.**, T. W. Coleman, M. L. Flint, R. C. Venette, and S. J. Seybold. Dept. of Entomology, Univ. of California, Davis, CA [1,3]; USDA Forest Service, Forest Health Protection, San Bernardino, CA [2]; USDA Forest Service, Northern Research Station, St. Paul, MN [4]; USDA Forest Service, Pacific Southwest Research Station, Davis, CA [5].

3:15 (283) Ecology and management of *Sirex noctilio* in North American forest stands. **Gandhi, K. J. K.** and J. Dinkins. Warnell School of Forestry and Natural Resources, Univ. of Georgia, Athens, GA [1, 2].

3:30 (284) Walnut twig beetle and thousand cankers disease: Status of the problem in the U.S. **Seybold, S. J.** USDA Forest Service, Pacific Southwest Research Station, Davis, CA [1].

3:45 (285) Impacts of redbay ambrosia beetle (*Xyleborus glabratus*) and laurel wilt fungus (*Raffaelea lauricola*) on Lauraceae and forest ecosystems of the Southeastern U.S.A. **Riggins, J. J.**, A. E. Mayfield, and J. L. Hanula. Dept. of Entomology and Plant Pathology, Mississippi State Univ., Mississippi State, MS [1]; USDA Forest Service, Southern Research Station, Asheville, NC [2]; USDA Forest Service, Southern Research Station, Athens, GA [3].

4:00 (286) Impacts and management of sudden oak death: The case of coast live oak in Northern California. **Bonello, P.**, B. A. McPherson, S. R. Mori, and D. L. Wood. Dept. of Plant Pathology, Ohio State Univ., Columbus, OH [1]; Dept. of Environmental Science, Policy, and Management, Univ. of California, Berkeley, CA [2, 4]; USDA Forest Service, Pacific Southwest Research Station, Albany, CA [3].

4:15 Discussion and closing summary. **Coulson, R. N.**, D. A. Herms, and F. M. Stephen. Dept. of Entomology, Texas A&M University, College Station, TX [1]; Dept. of Entomology, Ohio State Univ., OARDC, Wooster, OH [2]; Dept. of Entomology, Univ. of Arkansas, Fayetteville, AR [3].

4:30 Close.

TUESDAY AFTERNOON, 22 MARCH

SUSTAINABLE ORCHARDS: TOWARDS PEST AND POLLINATOR MANAGEMENT IN TEMPERATE AND TROPICAL PERENNIAL CROPPING SYSTEMS

1:30 – 5:00 pm
Flamboyant

Organizers and Moderators:
David Jenkins, USDA-ARS
David Shapiro-Ilan, USDA-ARS
Ted Cottrell, USDA-ARS

1:30 (287) Augmenting and regulating ecological services: some theoretical background and current status, barriers and potential. **Mizell, R. F.** Univ. of Florida, North Florida Research and Education Center, Quincy, FL [1].

1:50 (288) Southeastern fruit pest management's challenges with changing pest complexes and markets. **Horton, D. L.** Univ. of Georgia, Athens, GA [1].

2:10 (289) Understanding spatial patterns of the *Diaprepes-Phytophthora* complex in Florida citrus: A basis for IPM? **Duncan, L. W.** Univ. of Florida, Citrus Research and Education Center, Lake Alfred, FL [1].

2:30 (290) No orchard is an island: Fruit fly dynamics inside and outside orchards. **Jenkins, D. A.**, S. Van Bloem, S. Whitmire, and L. Diaz. USDA-ARS, Tropical Agriculture Research Station, Mayaguez, PR [1]; USDA-Forest Service, Institute For Tropical Forestry, Rio Piedras, PR [2]; Univ. of Puerto Rico, Mayaguez Campus, Mayaguez, PR [3, 4].

2:50 Break (San Geronimo Foyer)

3:00 (291) Attractant-based systems as pesticide alternatives for control of tropical fruit flies (Diptera: Tephritidae). **Epsky, N. D.**, P. E. Kendra, J. H. Crane, and R. R. Heath. USDA-ARS, Subtropical Horticulture Research Station, Miami, FL [1, 2, 4]; Univ. of Florida, Tropical Research and Education Center, Homestead, FL [3].

3:20 (292) Pollinating insects and tropical fruit: A topic that merits more research. **Peña, J. E.** Univ. of Florida, Tropical Research and Education Center, Homestead, FL [1].

3:40 (293) The threat posed by brown marmorated stink bug to commercial tree fruit. **Leskey, T.** USDA-ARS, AFRS, Kearneysville, WV [1].

4:00 (294) Impact of entomopathogens in sustainable orchard pest management systems. **Shapiro-Ilan, D.** USDA-ARS, Southeast Fruit and Tree Nut Research Laboratory, Byron, GA [1].

4:20 (295) Indirect pests of peach: Another roadblock toward sustainable orchards? **Cottrell, T.** USDA-ARS, Southeast Fruit and Tree Nut Research Laboratory, Byron, GA [1].

4:40 (296) Improving pest management for fruits in the Ozark mountain region. **Johnson, D.**, S. Kim, C. Vincent, B. Lewis, C. Rom, and E. Garcia. Dept. of Entomology [1, 2, 4]; Dept. of Horticulture, Univ. of Arkansas, Fayetteville, AR [3, 5, 6].

5:00 Concluding remarks.

**TUESDAY DISPLAY SESSION II,
22 MARCH
8:00 am - 5:00 pm
San Geronimo Foyer BCD**

**Presenters should be at their posters from 1:30 - 2:30 pm
Set Up**

**Monday 6:00 to 9:00 pm;
Tuesday 7:00 to 8:00 am**

Disease Management

DSP 40 Aflatoxins of *Aspergillus flavus* isolate from marine and terrestrial habitats. **Ramirez L. A.**, V. Hernandez, A. Zuluaga, M. M. Davila, and P. Bayman. Dept. of Biology, Univ. of Puerto Rico, Rio Piedras, PR [1-5].

DSP 41 Suppression of greasy spot disease, *Mycosphaerella citri*, using compost tea. **Showler, A. T.** USDA-ARS, Integrated Farming and Natural Resources Research, Weslaco, TX [1].

DSP 42 Training the next generation of plant scientists in global food security at Southern University and A & M College, Baton Rouge, LA, USA. **Collins, D. J.**, Y. Qi, and A. Johnson. Urban Forestry Program, Southern Univ. and A & M College, Baton Rouge, LA [1-3].

Integrative Physiological, Toxicological and Molecular Insect Systems

DSP 43 Effects of methoxyfenozide and tebufenozide on egg production by the yellow fever mosquito *Aedes aegypti*. **Usry, D. U.**, M. R. Brown, and M. Strand. Dept. of Entomology, Univ. of Georgia, Athens, GA [1-3].

DSP 44 Using RNA interference to reduce viral diseases. **Hunter, W. B.** and R. Reddy. USDA-ARS, US Horticultural Research Laboratory, Ft. Pierce, FL [1-2].

Systematics, Morphology, Evolution, Biodiversity

DSP 45 Revision of Nearctic *Stichopogon* species (Diptera: Asilidae) with white-banded abdomens. **Barnes, J. K.** Dept. of Entomology, Univ. of Arkansas, Fayetteville, AR [1].

DSP 46 Larval identification of the *Hydropsyche* species of Florida (Trichoptera: Hydropsychidae). **Abad, R.** and **A. K. Rasmussen.** Florida Department of Environmental Protection [1]; Florida A&M Univ., Center for Water and Air Quality, Tallahassee, FL [2].

DSP 47 Influence of bacteriophage on a tripartite symbiosis in the pea aphid, *Acyrtosiphon pisum*. **Weldon, S. R.** and K. M. Oliver. Dept. of Entomology, U. of Georgia, Athens, GA [1, 2].

Plant-Insect Ecosystems and Crop Protection

DSP 48 Defining the toxicity of novel insecticides against sugarcane borer, *Diatraea saccharalis* (F.) in the laboratory. **Jackson, C. S.**, **J. H. Temple**, J. T. Hardke, M. Ghimire, F. Huang, and B. R. Leonard. Louisiana State Univ. AgCenter, Dept. of Entomology, Baton Rouge, LA [1-6].

DSP 49 Introducing the Journal of Insect Pest Management: opportunities for practitioners of applied IPM. **Leonard B. R.** and N. C. Hinkle. Dept. of Entomology, Louisiana State Univ. AgCenter, Baton Rouge, LA [1]; Dept. of Entomology, Univ. of Georgia, Athens, GA [2].

DSP 50 The escalating cost of invasive pests in Tennessee. **Hale, F. A.** Dept. of Entomology and Plant Pathology, Univ. of Tennessee Extension, Nashville, TN [1].

DSP 51 Collaborative cactus moth survey in Puerto Rico. **Perez, H. L.**, E. L. Martinez, and A. Segarra. Dept. of Crops and Agroenvironmental Sciences, U. of Puerto Rico, Mayagüez, PR [1-3].

DSP 52 Potential impact of biotech sweet corn (MON 89034 x MON 88017) on pest management in the Southeastern US. **Cordero, R. J.**, W. E. Morjan, and A. Fabellar. Monsanto Company, St. Louis, MO [1-3].

DSP 53 Prevalent weeds and insects on shaded coffee plantations in two localities of Puerto Rico. **Cruz-González, A. G.**, **M. Zapata**, and B. V. Brodbeck. Crops and Agro-Environmental Sciences, Univ. of Puerto Rico, Mayagüez, PR [1, 2]; U. of Florida, NFREC, Quincy, FL [3].

- DSP 54** Sharpshooter leafhoppers (Cicadellidae: Cicadellinae) and other Hemiptera on coffee and citrus in Puerto Rico. Andersen, P. C., **B. V. Brodbeck**, and M. Zapata. Univ. of Florida, North Florida Research and Education Center, Quincy, FL [1, 2]; Univ. of Puerto Rico, Mayagüez, PR [3].
- DSP 55** Positive effects of galling by the gall midge, *Asphondylia borrichiae* (Diptera: Cecidomyiidae) on its host plant. **Rossi, A. M.**, H. Van Doren, and W. Seemer. Dept. of Biology, Univ. of North Florida, Jacksonville, FL [1-3].
- DSP 56** Experimental investigation of the role of fenestrations (visual lures) of the carnivorous pitcher plant (*Sarracenia minor*) on arthropod capture and biodiversity. **Rossi, A. M.**, J. McGregor, and D. C. Moon. Dept. of Biology, Univ. of North Florida, Jacksonville, FL[1-3].
- DSP 57** Introduced biological control agents and native thistles in Tennessee: Life after release. **Wiggins, G.**, J. F. Grant, and P. L. Lambdin. Dept. of Entomology and Plant Pathology, Univ. of Tennessee, Knoxville, TN [1-3].
- DSP 58** Response of leaf litter arthropods to woodland restoration in the Ozark Mountains of Arkansas. **McClung, M. R.** and K. G. Smith. Dept. of Biological Sciences, Univ. of Arkansas, Fayetteville, AR [1, 2].
- DSP 59** The museum of entomology and tropical biodiversity: Safeguarding the Agricultural Experimental Station insect research collection. **Franqui, R.A.** and Segarra-Carmona, A.E. Dept. of Crops and Agroenvironmental Sciences, Univ. of Puerto Rico, San Juan, PR [1, 2].
- DSP 60** Understanding interactions between ambrosia beetles and their endosymbiotic fungi. **Mann, R. S.**, J. Hulcr., E. Kuhn, and L. L. Stelinski. Univ. of Florida, Citrus Research and Education Center, Lake Alfred, FL[1, 3, 4]; Dept. of Entomology, North Carolina State Univ., Raleigh, NC [2].
- DSP 61** Trap-lure combinations for redbay ambrosia beetle detection. **Nioret, J.**, P. E. Kendra, W. S. Montgomery, J. S. Sanchez, R. Joseph, N. D. Epsky, and R. R. Heath. USDA-ARS, Subtropical Horticulture Research Station, Miami, FL [1-7].
- DSP 62** Preliminary assessment of Thousand Cankers Disease and its associated vector, *Pityophthorus juglandis*, on black walnut in Tennessee. **Grant, J. F.**, M. T. Windham, P. L. Lambdin, G. J. Wiggins, and G. Haun. Dept. of Entomology and Plant Pathology, Univ. of Tennessee, Knoxville, TN [1-4]; Tennessee Dept. of Agriculture, Division of Regulatory Services, Nashville, TN [5].
- DSP 63** Identification of semiochemicals for detection and monitoring of the walnut twig beetle, *Pityophthorus juglandis* (Coleoptera: Scolytidae). Nelson, L. J., A. D. Graves, R. Gries, P. L. Dallara, M. L. Flint, W. Francke, and **S. J. Seybold**. USDA Forest Service, Pacific Southwest Research Station, Davis CA [1, 4, 7]; USDA Forest Service, Forest Health Protection, Albuquerque, NM [2]; Simon Fraser University, Burnaby, British Columbia, Canada [3]; Dept. of Entomology, Univ. of

California, Davis, CA [4, 5]; Institute of Organic Chemistry, Univ. of Hamburg, Hamburg, Germany [6].

DSP 64 Detection and field identification of the goldspotted oak borer, *Agrilus auroguttatus* (Coleoptera: Buprestidae). Haavik, L. J., T. W. Coleman, S. Hishinuma, M. L. Flint, R. C. Venette, and **S. J. Seybold**. Dept. of Entomology, Univ. of California, Davis, CA [1, 3, 4]; USDA Forest Service, Forest Health Protection, San Bernardino, CA [2]; USDA Forest Service, Northern Research Station, St. Paul, MN [5]; USDA Forest Service, Pacific Southwest Research Station, Davis, CA [6].

DSP 65 Potential effects of Cicadellinae leafhoppers (Hemiptera: Cicadellidae) on shade and sun coffee in Puerto Rico. **Brodbeck, B. V.**, P. C. Andersen, E. Schroeder, C. Bolaos, and M. Zapata. Univ. of Florida, North Florida Research and Education Center, Quincy, FL [1, 2]; Univ. of Puerto Rico, Mayagüez, PR [3-5].

DSP 66 Management of the brown citrus aphid, *Toxoptera citricidus*, using entomopathogen. **Pick, D. A.**, P. B. Avery, W. B. Hunter, C. A. Powell, D. G. Hall, and S. P. Arthurs. Harriet L Wilkes Honors College, Florida Atlantic Univ., Fort Lauderdale, FL [1]; Univ. of Florida, Indian River Research and Education Center, Fort Pierce, FL [2, 4]; USDA-ARS, U. S. Horticultural Research Laboratory, Subtropical Insect Research Unit, Fort Pierce, FL [3, 5]; Univ. of Florida, Mid-Florida Research and Education Center, Apopka, FL [6].

DSP 67 A survey of coccinellid species in citrus in East Central Florida. Hall, D. G. and **M. G. Hentz**. USDA-ARS, US Horticultural Research Laboratory, Subtropical Insects Research Unit, Fort Pierce, FL [1, 2].

DSP 68 Seasonal occurrence of potential virus vectors of blackberry in Arkansas. Lewis, B. A., C. E. Trammel, M.A.C. Gillespie, **D. T. Johnson**, and I. E. Tzanetakis. Dept. of Entomology, [1-4]; Dept. of Plant Pathology, Univ. of Arkansas, Fayetteville, AR [5].

DSP 69 Impact of thrips on cowpea and use of acephate in management programs. **McLeod, P.** and T. Rashid. Dept. of Entomology, Univ. of Arkansas, Fayetteville, AR [1]; Extension/Research Demonstration Farm, Alcorn State Univ., Lorman, MS [2].

DSP 70 The red palm weevil threatens twenty four million date palms in Saudi Arabia. **Ajlan, A.** and K. Alhudaib. Dept. of Plant Protection, College of Agriculture & Food Sciences, King Faisal Univ., Hofuf, Alhasa, Saudi Arabia [1, 2].

DSP 71 The date palm phytoplasma (Al-Wijam) in Saudi Arabia. **Alhudaib, K.** and A. Ajlan. Dept. of Plant Protection, College of Agriculture & Food Sciences, King Faisal Univ., Hofuf, Alhasa, Saudi Arabia [1, 2].

DSP 72 Development of Louisiana Online Rice Pest Identification Guide. **Meszaros, A.**, N. A. Hummel, and L. West. Dept. of Entomology [1, 2]; Dept. of Web and Application Development, Louisiana State Univ. Agricultural Center, Baton Rouge, LA [3].

DSP 73 Multi-state rice insect survey, 2009. Hummel, N. A., A. Meszaros, **B. B. Blackman**, M. J. Stout, M. O. Way, K. Tindal, G. Lorenz, J. Gore, J. Bernhardt, and K. Machtmes. Dept. of Entomology, Louisiana State Univ. Agricultural Center, Baton Rouge, LA [1-4]; Texas AgriLife Research and Extension Center, Beaumont, TX [5]; Univ. of Missouri, Delta Center, Portageville, MO [6]; Dept. of Entomology, Univ. of Arkansas, Fayetteville, AR [7, 9]; Mississippi State Univ., Delta Research and Education Center, Stoneville, MS [8]; Louisiana State Univ., Human Resource Education, Baton Rouge, LA [10].

DSP 74 Regional survey 2009 and 2010: Thrips species composition. **Akin, D. S.**, J. Reed, J. Bachelier, A. Catchot, D. Cook, C. Daves, J. Gore, J. Greene, A. Herbert, D. Kerns, R. Leonard, G. Lorenz, S. Micinski, D. Reisig, P. Roberts, S. Stewart, G. Studebaker, K. Tindall, and M. Toews. Univ. of Arkansas [1, 12, 17]; Mississippi State Univ. [2, 4-7]; North Carolina State Univ. [3, 14]; Clemson Univ. [8]; Virginia Polytechnic Univ. [9]; Texas AgriLife [10]; Louisiana State Univ. [11, 13]; Univ. of Georgia [15, 19]; Univ. of Tennessee [16]; Univ. of Missouri [18].

DSP 75 Addition of starter fertilizer to shorten susceptibility to thrips. **Toews, M. D.**, R. S. Tubbs, and G. Harris. Dept. of Entomology [1]; Dept. of Crop and Soils, Univ. of Georgia, Tifton, GA [2].

DSP 76 Scouting for stink bug damage in Southeast US cotton: Description and use of a pocket decision aid. **Bachelier, J.**, A. Herbert, J. Greene, P. Roberts, and M. Toew. Dept. of Entomology, North Carolina State Univ., Raleigh, NC [1]; Dept. of Entomology, Virginia Tech, Blacksburg, VA [2]; Dept. of Entomology, Soils and Plant Sciences, Clemson Univ., Blackville, SC [3]; Dept. of Entomology, Univ. of Georgia, Tifton, GA [4, 5].

DSP 77 Tarnished plant bug and the plant growth regulator, mepiquat chloride - Influence on cotton fruiting dynamics and yield. **Teague, T. G.** Arkansas State Univ. – Univ. of Arkansas Agricultural Experiment Station, State University, AR [1].

DSP 78 Pathogenicity and demographic parameters of isofamilies of *Spodoptera frugiperda* resistant to Cry1Ac and Cry1Fa proteins of *Bacillus thuringiensis*. **Portilla, M.**, C. Blanco, G. Snodgrass, R. Arias, J. L. Jurat-Fuentes, and R. Luttrell. ARS-USDA, Stoneville, MS [1, 3, 4, 6]; USDA-APHIS, Riverdale, MD [2]; U. of Tennessee, Knoxville, TN [5].

DSP 79 Caterpillar damage to Bt corn hybrids in Arkansas. **Studebaker, G. E.** and S. Lancaster. U. of Arkansas, Keiser, AR [1, 2].

DSP 80 Susceptibility of field populations of sugarcane borer to Bt toxins and Bt corn containing single and pyramided transgenes. **Huang, F.**, M. N. Ghmire, B. R. Leonard, Y.C. Zhu, R. Levy, and G. P. Head. Dept. of Entomology, Louisiana State Univ. Agricultural Center, Baton Rouge, LA [1-3, 5]; USDA-ARS, Jamie Whitten Delta States Research Center, Stoneville, MS [4]; Monsanto Company [5].

DSP 81 Stable isotope analysis: a valuable tool for determining developmental origin of house flies. **Solorozano Torres, C.D.**, USDA-ARS-MSA, National Biological Control Laboratory Stoneville, MS

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PAST PRESIDENTS OF THE ESA-SEB
(formerly the *Cotton States Branch*)

<u>Name</u>	<u>Date</u>	<u>Meeting Site</u>
W. E. Hinds	3-4 Feb. 1926	Atlanta, GA
F. Sherman	2-3 Feb. 1927	Atlanta, GA
G. M. Bentley	29 Dec. 1927	Nashville, TN
G. M. Bentley	1-2 Feb. 1928	Memphis, TN
F. L. Thomas	6-7 Feb. 1929	Houston TX
B. R. Coad	6-7 Feb. 1930	Jackson, FL
J. M. Robinson	5-6 Feb. 1931	Atlanta, GA
R. W. Harned	31 Dec. 1931	New Orleans, LA
R. W. Harned	3-4 Feb. 1932	Birmingham, AL
J. W. Folsom	2-3 Feb. 1933	New Orleans, LA
R. W. Leiby	1-2 Feb. 1934	Memphis, TN
S. W. Bilsing	31 Jan. - 2 Feb. 1935	Atlanta, GA
C. Lyle	5-6 Feb. 1936	Jackson, MS
W. E. Anderson	18-20 Feb. 1937	San Antonio, TX
W. E. Dove	3-5 Feb. 1938	New Orleans, LA
C. O. Eddy	21-23 Feb. 1939	Tampa, FL
O. I. Snapp	7-9 Feb. 1940	Birmingham, AL
Z. P. Metcalf	5-8 Feb. 1941	Waco, TX
F. A. Fenton	4-6 Feb. 1942	Memphis, TN
O. W. Rosewall	1-3 Feb. 1944	New Orleans, LA
E. W. Laake	24-25 Jan. 1945	New Orleans, LA
C. E. Smith	3-6 Dec. 1945	Dallas, TX
R. C. Gaines	11-16 Jan. 1947	Biloxi, MS
D. Isley	4-6 Feb. 1948	Atlanta, GA
J. T. Creighton	31 Jan. - 2 Feb. 1949	Baton Rouge, LA
E. W. Dunnam	13-16 Dec. 1949	Tampa, FL
J. W. Ingram	5-7 Feb. 1951	Memphis, TN
C. H. Alden	4-6 Feb. 1952	Atlanta, GA
K. L. Cockerham	9-11 Feb. 1953	New Orleans, LA
F. S. Arant	25-27 Jan. 1954	Biloxi, MS
W. G. Bruce	17-19 Jan. 1955	Tampa, FL
H. C. Young	6-8 Feb. 1956	Atlanta, GA
A. N. Tissot	4-6 Feb. 1957	Birmingham, AL
N. Allen	2-5 Dec. 1957	Memphis, TN
C. G. Lincoln	2-4 Feb. 1959	Memphis, TN
F. E. Guyton	25-27 Jan. 1960	Savannah, GA
I. J. Becnel	23-25 Jan. 1961	Mobile, AL
C. N. Smith	27-30 Nov. 1961	Miami, FL
R. J. Kowal	29-31 Jan. 1963	Jackson, MS
W. C. Nettles	28-29 Jan. 1964	Asheville, NC
L. D. Newsom	25-26 Jan. 1965	Little Rock, AR
J. C. Alden	29 Nov. - 2 Dec. 1965	New Orleans, LA
M. E. Merkl	30 Jan. - 2 Feb. 1967	Atlanta, GA
J. S. Roussel	29 Jan. - 1 Feb. 1968	Charleston, SC
C. M. Beckham	27-30 Jan. 1969	Biloxi, MS
S. R. Morris	26-29 Jan. 1970	Hot Springs, AR
W. G. Eden	30 Nov. - 3 Dec. 1970	Miami, FL
C. R. Jordan	1-3 Feb. 1972	Mobile, AL
C. F. Smith	30 Jan. - 1 Feb. 1973	Savannah, GA
T. R. Pfrimmer	9-31 Jan. 1974	Memphis, TN
S. B. Hays	28-30 Jan. 1975	Raleigh, NC
T. D. Canerday	30 Nov. - 3 Dec. 1975	New Orleans, LA
J. B. Graves	25-27 Jan. 1977	Charleston, SC
A. N. Sparks	24-26 Jan. 1978	Gainesville, FL
F. G. Maxwell	23-25 Jan. 1979	Nashville, TN
S. G. Turnipseed	29-31 Jan. 1980	Biloxi, MS
D. F. Martin	30 Nov. - 4 Dec. 1980	Atlanta, GA
J. E. Paine, Sr.	25-28 Jan. 1982	Mobile, AL
R. L. Rabb	24-27 Jan. 1983	Little Rock, AR
K. L. Hays	23-26 Jan. 1984	New Orleans, LA
G. J. Musick	28-31 Jan. 1985	Greenville, SC
M. H. Bass	8-12 Dec. 1985	Hollywood, FL
D. V. Allemann	26-29 Jan. 1987	Jackson, MS
B. R. Wiseman	25-28 Jan. 1988	Raleigh, NC

<u>Name</u>	<u>Date</u>	<u>Meeting Site</u>
T. E. Skelton	30 Jan. - 2 Feb. 1989	Nashville, TN
J. W. Todd	4-8 Feb. 1990	Orlando, FL
E. R. Mitchell	10-13 Mar. 1991	Orange Beach, AL
D. J. Boethel	8-11 Mar. 1992	Savannah, GA
G. A. Herzog	7-10 Mar. 1993	Little Rock, AR
R. E. Lynch	6-9 Mar. 1994	Baton Rouge, LA
J. E. Eger	5-8 Mar. 1995	Charleston, SC
D. C. Herzog	3-6 Mar. 1996	Biloxi, MS
D. F. Williams	2-5 Mar. 1997	Asheville, NC
J. D. Culin	1-4 Mar. 1998	Chattanooga, TN
D. R. Johnson	28 Feb. - 3 Mar. 1999	Sandestin, FL
R. G. Luttrell	27 Feb. - 1 Mar. 2000	Mobile, AL
F. S. Guillot	4-7 Mar. 2001	Augusta, GA
G. L. Lentz	3-6 Mar. 2002	Little Rock, AR
B. L. Sparks	9-12 Mar. 2003	Baton Rouge, LA
M. L. Williams	16-18 Feb. 2004	Charleston, SC
G. R. Mullen	7-9 Mar. 2005	Tunica, MS
W. A. Gardner	5-8 Mar. 2006	Wilmington, NC
R. K. Sprenkel	2-5 Mar. 2007	Knoxville, TN
J. D. Harper	2-5 Mar. 2008	Jacksonville, FL
A. M. Simmons	8-11 Mar. 2009	Montgomery, AL
S. K. Braman	7-10 Mar 2010	Atlanta, GA



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Hotel Information

The Caribe Hilton Resort is our meeting site. This hotel is set on an exclusive peninsula, made up of 17 acres of lush tropical gardens. This resort is ideally situated between the historic old San Juan and the exciting Condado business district, offering a secluded beach, lavish accommodations and amenities tailored to families, couples and business travelers. The address for the official accommodation and meeting site is:

Caribe Hilton Resort

Address: Los Rosales Street, 1 San Geronimo Grounds, San Juan, PR 00901

Phone: 787-721-0303

FAX: 787-724-6992

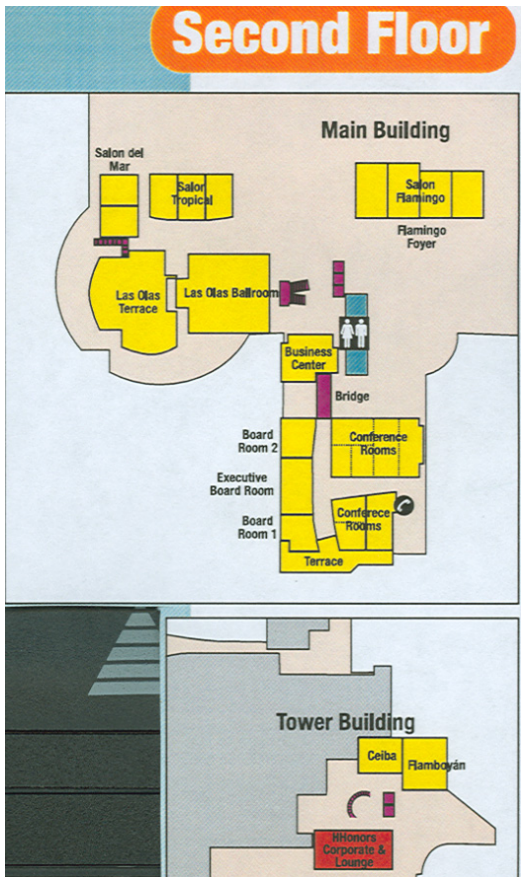
Airport - The Luis Muñoz Marín International Airport (SJU) is a major interconnecting point to the Caribbean as well as a hub for airlines such as American Airlines. The airport is served by large aircraft from airlines including: American Airlines, BWIA, Delta, Continental, Air Canada, British Airways, Iberia, Lufthansa, Northwest, TWA, United, US Airways and Virgin Atlantic. Other airlines also fly into and out of Puerto Rico, so do not limit yourself to the above-listed airlines.

Local Transport - The airport is about 7 miles (less than 15 minutes) from the conference hotel and can be reached by taxi, public bus or rental car. The hotel is about a 10 minute taxi ride to the historic district of Old San Juan which has a fort maintained by the US Park Service, colonial homes and buildings, and abundant shops and restaurants.

Driving Directions to Caribe Hilton Resort from Luis Muñoz International Airport

Take first exit to the right to Baldorioty Expressway 26 West. Drive straight for approximately 7 miles. The expressway ends and you continue on Muñoz Rivera 25. Go over the Dos Hermanos Bridge and go through one set of traffic lights. Follow the road around the corner and the Caribe Hilton Hotel will be on the right-hand side.

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 H. Corporate & Lounge is now called Guayacan.