

**90<sup>th</sup> Annual Meeting  
of the  
Southeastern Branch**

**Entomological Society  
of America**

**13-16 March 2016  
Raleigh  
North Carolina**



**Nancy Hinkle  
President, 2015-2016**



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# SEB AWARDS-2016

## ESA RECOGNITION AWARD IN ENTOMOLOGY

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**Dr. David G. Riley**, a professor in the Department of Entomology at The University of Georgia (UGA), is the 2016 recipient of the Southeastern Branch, Entomological Society of America Recognition Award in Entomology. He began his professional career at the University of Georgia as a student worker in the Institute of Ecology, graduating with a Bachelor's degree in 1981. He then spent two years as an agricultural extension Peace Corps volunteer in Ecuador, South America working in vegetable production in the inter-Andean valley near Ambato. He obtained a MS Entomology degree at North Carolina State University in 1986 and completed his academic training with a PhD in Entomology at the University of Florida in 1990 working on pepper weevil. He then worked for 5½ years as a vegetable entomologist with Texas A&M University and accepted a position as Vegetable Research Entomologist at the University of Georgia, Tifton Campus in 1996 where he has resided until now. He is currently the Graduate Coordinator for the Masters in Plant Protection and Pest Management (MPPPM) degree. In addition, he has served as Major Professor for 17 Entomology graduate students and served on 13 other thesis committees and coordinated 37 MPPPM programs. He has served as principal investigator for research grants in the amount of \$4,085,788 and his total direct grant involvement is \$6,061,374. Dr. Riley has authored or co-authored 10 book chapters, 76 refereed journal articles, 27 published proceedings or bulletins, 32 refereed experiment station/extension publications, 69 other experiment station reports, and 26 non-refereed journal articles and over 140 abstracts. D. Riley has presented 32 invited papers at national and international meetings, 109 invited talks at regional and local meetings, and 169 submitted papers to various meetings. He developed a new course, ENTO 4350/6350 Crop Specific Insect Management, frequently teaches ENTO 8900 Special Problems, and taught/co-taught ENTO 4000/6000 General Entomology at the UGA Tifton Campus. His career has focused on providing practical solutions for complex pest-crop problems in high value vegetable crops such as the management of whiteflies and thrips and the viruses they transmit. He recently is focusing on *Chalcodermus aeneus*, the cowpea curculio.

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# SEB AWARDS-2016

## ESA DISTINGUISHED ACHIEVEMENT AWARD IN TEACHING

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**Dr. Marianne Shockley** received her Bachelor's degree in Biology from Georgia College and State University in Milledgeville, Georgia in 1997. Marianne later received her M.S. (2001) and Ph.D. (2009) degrees from the Department of Entomology at the University of Georgia. In 2010 Marianne was hired as an Academic Professional Associate in Entomology at UGA and assumed the position of Undergraduate Coordinator in 2013.

While a faculty member at UGA she has implemented several experiential learning initiatives including developing service-learning courses, study abroad courses, research and internship experiences, and distance education courses. Marianne has a passion for teaching and learning and is always looking for new, engaging, and innovate ways to reach various learners using diverse technologies and social media platforms. Annually the UGA Insect Zoo and the UGA Bug Dawgs reach over 30,000 Georgians through their service-learning and outreach initiatives.

Marianne has been involved with international education and programs since 2006 when she developed Entomology's first study abroad course in Costa Rica and Ecuador. She has traveled each summer to Costa Rica, Ecuador and/or the Galapagos with a group of ~20 participants and K-12 teachers. Her research interests include program and course development in the areas of outreach and service, service-learning, edible insects for food and feed, forensic entomology, distance education and international program development. She currently teaches Entomology Outreach & Service-Learning, Entomology for Teachers Distance Education, Forensic Entomology and Insect Natural History in Ecuador.

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# SEB AWARDS-2016

## ESA RECOGNITION AWARD IN INSECT PHYSIOLOGY, BIOCHEMISTRY, AND TOXICOLOGY

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**Dr. Daniel Hahn**, Professor of Entomology at the University of Florida studied Biology at Florida State University where he fell in love with the diversity of insects while working with Walter Tschinkel on ants and graduated with a BS in 1996. He did his PhD in Insect Science at the University of Arizona where he continued to learn about ecology, diversification, and how an understanding of physiological and genetic mechanisms can impact our understanding of evolution, graduating in 2003 under the direction of Diana Wheeler. Dan then did a postdoc at Ohio State with Dave Denlinger where he fell in love again, this time with seasonal biology. In 2005 he joined the Department of Entomology and Nematology at the University of Florida. Dan is currently an associate professor that does research, mentors students, and teaches; including a graduate course in Insect Physiology.

Scientific work in Hahn's group focuses on rapid adaptation, phenotypic plasticity, and seasonal biology of insects both from basic research and applied agricultural perspectives. Our lab is particularly interested in understanding the fundamental mechanisms underlying life history timing, especially how parasites and their hosts achieve seasonal synchrony and when insects know it is time to mate and reproduce, hardiness to environmental stress, predicting winners and losers in the face of climate change, and improving environmentally friendly methods for insect pest control: including classical biological control, the sterile insect technique, and phytosanitary treatments for commodities. NSF, USDA, and the Florida Agricultural Experiment Station have been generous enough to fund our work.

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# SEB AWARDS-2016

## JOHN HENRY COMSTOCK AWARD

### Outstanding Ph.D. Student

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**Jessica Hartshorn**, a native of Dayton, Ohio, received her BS in zoology with a minor in chemistry from Southern Illinois University (SIU)—Carbondale in 2010. During her time at SIU, she worked on projects examining the ecology of Lyme disease at the Cary Institute of Ecosystem Studies in Millbrook, New York, macroinvertebrate community dynamics in streams of the Konza LTER in the Flint Hills of Kansas, and conservation of native bamboo in the Southeast. In 2012 she completed her MS in entomology at the University of Arkansas looking at oviposition behavior of the native woodwasp, *Sirex nigricornis*. She will complete her PhD in entomology at the University of Arkansas in May of 2016 evaluating triggers of adult *S. nigricornis* emergence and parasitism of adult female woodwasps by nematodes.

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# SEB AWARDS-2016

## KIRBY L. HAYS AWARD

### Outstanding M.S. Student

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**Scott Clem**'s fascination with nature and biology was sparked very young, through exploring the wooded property behind his house in Athens, Alabama. As an undergraduate at Auburn University, Scott majored in Zoology: Conservation and Biodiversity. After taking the General Entomology course taught by Dr. Wayne Clark, he decided to pursue the Entomology minor. He later did undergraduate research under Dr. David Held, exploring the longevity and fecundity of the Asiatic garden beetle (*Maladera castanea*). Scott also worked under Dr. Robert Boyd, assisting with research on the endangered Morefield's leather flower (*Clematis morefieldii*) in Northern Alabama. By his senior year, he was the president of the Auburn University chapter of the Society for Conservation Biology, and the undergraduate teaching assistant for the General Entomology course. Scott decided to pursue a Master's degree in Entomology under Dr. Held at Auburn. His thesis involves the interactions that native and non-native urban plants have with insect communities, particularly caterpillars and parasitoids. As a side project, he worked with Dr. Charles Ray, creating a checklist of the broad-headed bugs (Hemiptera: Alydidae) of Alabama. During his graduate work, Scott has demonstrated leadership by being the president of the F.S. Arant Entomology Club, coordinating various Entomology outreach events, organizing a symposium for ESA 2015, and being the teaching assistant for both the General and Economic Entomology courses. He has also remained a senior volunteer at the Southeastern Raptor Center, working with various birds of prey including the eagles that circle the stadium before every Auburn University home football game. Scott's list of awards includes first place in student paper competitions and the Outstanding Graduate Student Award in the Department of Entomology and Plant Pathology. Scott completed his Master's degree in December 2015 and wishes to obtain a PhD, pursuing a career in insect taxonomy and conservation biology.





Register Today  
[www.ice2016orlando.org/register](http://www.ice2016orlando.org/register)

# 2016

**XXV International Congress of Entomology**

Orlando, Florida, USA  
September 25–30

**NETWORK AT THE LARGEST** gathering of scientists and experts in the history of the entomological sciences



Hosted by ESA and with an anticipated attendance of over 6,000 delegates, ICE 2016 will provide a dynamic forum for the exchange of the latest science, research and innovations among entomologists and others from around the world.

**Two Nobel Laureates to Speak**

[www.ice2016orlando.org/Nobel-Laureates](http://www.ice2016orlando.org/Nobel-Laureates)

Under the theme, "Entomology without Borders", research shared will cover every aspect of the discipline. Prepare now to participate in this once-in-a-lifetime event!

- Make important connections with entomologists and scientists on all levels from around the world
- Present to this global audience and compete in global competitions
- Participate in forums and discussions covering every aspect of the discipline
- Build global networks and collaborative research with others in your field of interest
- Showcase your products and services to an important global audience

Contact Cindy Myers  
for information on  
exhibits, sponsorships,  
and advertising  
[cmyers@entsoc.org](mailto:cmyers@entsoc.org)  
+1-301-731-4535 x3001.

**ICE 2016 takes place in fun and easily-accessible Orlando, Florida, USA**

**[www.ice2016orlando.org](http://www.ice2016orlando.org)**



Sharing Insect Science Globally  
[www.entsoc.org](http://www.entsoc.org)

## SEB members

Mark your calendars for our next annual meeting! At the **Sheraton Memphis Downtown** In Memphis, Tennessee **March 12-15, 2017**



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# ESA SECTIONS

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**Systematics, Evolution, and Biodiversity:**

For members who study insect anatomy, classification and history. As the name implies, it focuses on systematics, evolution and biodiversity, but it could also include morphology, ecology, population dynamics, genetics, phylogeny, nomenclature, biogeography, zoology, and other specialties.

**Physiology, Biochemistry, and Toxicology:**

(formerly Integrative Physiological and Molecular Insect Systems): For members who study insects at the cellular or molecular levels, and it includes topics such as biochemistry, microbiology, toxicology, endocrinology, cytology, molecular biology, allelochemicals, pheromones, hormones, metabolism, and others.

**Medical, Urban, and Veterinary Entomology:** For members who deal with insect interactions with other animals, including humans. Topics include medical entomology, urban entomology, veterinary entomology, forensic entomology, epidemiology, integrated disease management, human and veterinary parasitology, public health pest management, mosquito control, management of structural pests (e.g., termites, ants), and others.

**Plant–Insect Ecosystems:** For members who deal with insect interactions with plants. Topics include behavioral, ecological, and evolutionary relationships in natural landscapes, as well as integrated pest management (IPM) in agriculture, horticulture, forests, and lawn and garden. Aspects of crop protection, host-plant response, plant pathology/vectors, pollination, biological control, microbial control, and others are relevant.

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## PROGRAM SUMMARY

### SUNDAY, 13 MARCH

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|                       |  |
|-----------------------|--|
| <b>8:00 AM-5:00</b>   | <b>SAC/NCAC Department Heads Meeting</b><br><i>Hannover Ballroom II</i>  |
| <b>8:00 AM-5:00</b>   | <b>S-1055 Biology, Impact, and Management of Soybean Insect Pests in Soybean Production Systems</b><br><i>Willow Oak</i>     |
| <b>11:00 AM-12:00</b> | <b>Local Arrangements/Program Committee Meeting</b><br><i>Hannover Ballroom III</i>  |
| <b>1:00 PM-5:00</b>   | <b>Executive Committee Meeting</b><br><i>Hannover Ballroom III</i>   |
| <b>1:00 PM-3:00</b>   | <b>Student Affairs Committee Meeting</b><br><i>Capitol Room</i>  |
| <b>1:00 PM-5:00</b>   | <b>Registration</b><br><i>Oak Forest Ballroom Prefunction Area</i>   |
| <b>1:00 PM-6:00</b>   | <b>Golf Tournament</b><br><i>Lonnie Poole Golf Course</i>  |
| <b>1:00 PM-5:00</b>   | <b>SYMPOSIUM: Biological Control of Arthropod Pests and Weeds in the Southern United States</b><br><i>Governor's Room II</i> |
| <b>3:00 PM-7:00</b>   | <b>Audiovisual and Job Placement</b><br><i>Pin Oak</i>   |
| <b>4:00 PM-7:00</b>   | <b>Linnaean Games, Preliminary Rounds</b><br><i>Oak Forest Ballroom</i>  |

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## PROGRAM SUMMARY

### MONDAY, 14 MARCH

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|                     |   |
|---------------------|---|
| <b>7:00 AM-8:00</b> | <b>Host State Breakfast</b><br><i>Oak Forest Ballroom</i>           |
| <b>7:00 AM-5:00</b> | <b>Audiovisual and Job Placement</b><br><i>Pin Oak</i>              |
| <b>7:00 AM-8:00</b> | <b>Poster Set Up</b><br><i>Oak Forest Ballroom Prefunction Area</i> |
| <b>7:00 AM-5:00</b> | <b>Registration</b><br><i>Oak Forest Ballroom Prefunction Area</i>  |

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# PROGRAM SUMMARY

## MONDAY, 14 MARCH (Cont.)

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|                       |   |
|-----------------------|---|
| <b>8:00 AM-5:00</b>   | <b>Student Poster Competitions</b><br><i>Oak Forest Ballroom Prefunction Area</i>   |
| <b>8:00 AM-5:00</b>   | <b>General Poster Presentations</b><br><i>Oak Forest Ballroom Prefunction Area</i>  |
| <b>8:30 AM-4:00</b>   | <b>Student Poster Competitions Judging</b><br><i>Oak Forest Ballroom Prefunction Area</i>   |
| <b>8:00 AM-10:15</b>  | <b>Opening and Plenary Session</b><br><i>Oak Forest Ballroom</i>  |
| <b>10:15 AM-10:30</b> | <b>Break</b><br><i>Oak Forest Ballroom Prefunction Area</i>   |
| <b>10:30 AM-12:20</b> | <b>M.S. Student Oral Presentation Competition I</b><br><i>Governor's Room I</i>   |
| <b>10:30 AM-12:20</b> | <b>M.S. Student Oral Presentation Competition II</b><br><i>Hannover Ballroom II</i>   |
| <b>10:30 AM-12:20</b> | <b>M.S. Student Oral Presentation Competition III</b><br><i>Hannover Ballroom III</i>   |
| <b>10:30 AM-11:30</b> | <b>Undergraduate Student Oral Presentation Competition</b><br><i>Governor's Room II</i>   |
| <b>12:30 PM-1:30</b>  | <b>Lunch and Learn</b><br><b>Entomology Career Opportunities in Research Triangle Park</b><br>Prior Registration required<br><i>Oak Forest Ballroom</i> |
| <b>12:30 PM-2:00</b>  | <b>Lunch (on your own)</b>  |
| <b>1:30 PM-2:30</b>   | <b>Poster Presenters at Display Presentation</b><br><i>Oak Forest Ballroom Prefunction Area</i>   |
| <b>2:00 PM-4:05</b>   | <b>Ph.D. Student Oral Presentation Competition I</b><br><i>Hannover Ballroom II</i>   |
| <b>2:00 PM-4:05</b>   | <b>Ph.D. Student Oral Presentation Competition II</b><br><i>Governor's Room I</i>   |
| <b>2:00 PM-4:05</b>   | <b>Ph.D. Student Oral Presentation Competition III</b><br><i>Hannover Ballroom III</i>  |

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## PROGRAM SUMMARY

### MONDAY, 14 MARCH (Cont.)

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- 2:00 PM-4:50**     **SYMPOSIUM: The Gamut of Resistance Management for Soybean Insect Pests: Issues and Prospects**  
*Governor's Room II*
- 5:00 PM-7:00**     **Linnaean Games, Final Round**  
*Oak Forest Ballroom*
- 7:30 PM-9:00**     **Monday Night Reception**  
*North Carolina Museum of Natural Sciences, Nature Research Center*

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## PROGRAM SUMMARY

### TUESDAY, 15 MARCH

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- 7:00 AM-8:00**     **Past Presidents Breakfast**  
*Jimmy V's Osteria*
- 7:00 AM-12:00**     **Registration**  
*Oak Forest Ballroom Prefunction Area*
- 7:00 AM-4:00**     **Audiovisual and Job Placement**  
*Pin Oak*
- 8:00 AM-4:00**     **Poster Presentations**  
*Oak Forest Ballroom Prefunction Area*
- 8:00 AM-11:45**     **SYMPOSIUM: Pest Issues and Management at the Interface of Natural and Managed Systems**  
*Governor's Room I*
- 8:00 AM-11:55**     **Contributed Papers I: P-IE**  
*Magnolia Room I*
- 8:10 AM-11:45**     **SYMPOSIUM: Turf and Ornamental Entomology**  
*Magnolia Room II*
- 8:30 AM-11:30**     **STUDENT SYMPOSIUM: Advances in Understanding Southeastern Insect Biodiversity**  
*Governor's Room II*
- 10:00 AM-10:15**     **Break**  
*Oak Forest Ballroom Prefunction Area*
- 12:00 PM-1:30**     **Awards Luncheon and Photo Salon**  
*Oak Forest Ballroom*

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## **PROGRAM SUMMARY**

### **TUESDAY, 15 MARCH (Cont.)**

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- |                     |   |
|---------------------|---|
| <b>1:45 PM-4:10</b> | <b>SYMPOSIUM: Turf and Ornamental Entomology (continued)</b><br><i>Magnolia Room II</i> |
| <b>1:45 PM-4:15</b> | <b>Contributed Papers II: P-IE</b><br><i>Magnolia Room I</i>                            |
| <b>1:45 PM-4:15</b> | <b>SYMPOSIUM: Vegetable Entomology</b><br><i>Governor's Room II</i>                     |
| <b>2:00 PM-4:00</b> | <b>Contributed Papers III: MUVE, PBT, SysEB</b><br><i>Governor's Room I</i>             |
| <b>3:00 PM-3:15</b> | <b>Break</b><br><i>Oak Forest Ballroom Prefunction Area</i>                             |
| <b>4:00 PM-4:30</b> | <b>Poster Removal</b><br><i>Oak Forest Ballroom Prefunction Area</i>                    |
| <b>4:30 PM-6:00</b> | <b>Final Business Meeting</b><br><i>Governor's Room I</i>                               |

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## **PROGRAM SUMMARY**

### **WEDNESDAY, 16 MARCH**

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|----------------------|--|
| <b>8:00 AM-10:00</b> | <b>SYMPOSIUM: Insect-Microbe Interactions in Public Health: It's the Little Things That Matter</b><br><i>Hannover Ballroom III</i> |
| <b>8:00 AM-10:30</b> | <b>SYMPOSIUM: Applied Ecology and Evolution of Social Insects</b><br><i>Hannover Ballroom I</i>                                    |
| <b>8:00 AM-11:45</b> | <b>SYMPOSIUM: Integrated Pest Management</b><br><i>Hannover Ballroom II</i>  |
| <b>1:00 PM-5:00</b>  | <b>Tours</b>   |



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# MEETING NOTICES AND POLICIES

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**REGISTRATION:** Everyone attending the SEB-ESA meeting is expected to register. On-site registration fees include a luncheon ticket, and are: Active Members-\$210; Student Members-\$90; Guests-\$65; and Non-members-\$260. One-day registration-\$210. Honorary Members, Emeritus Members, and Non-members giving invitational papers must register, but will not pay registration fees. Registration Desk is located in the Oak Forest Ballroom Prefunction area and will be open on Sunday (1:00 PM-5:00 PM), Monday (7:00 AM-5:00 PM) and Tuesday (7:00 AM-12:00 PM).

## **ACCOMPANYING GUEST ACTIVITIES/ FUNCTIONS:**

We have several activities that should be of interest to accompanying registered guests at no extra cost, except for anyone wanting to participate in the golf event.

### **Sunday**

1:00 PM-6:30 Participate in Golf Tournament

### **Monday:**

7:00-8:00 AM Breakfast

10:15-10:30 AM Break

3:00 – 3:15 PM Break

7:30-9:00 PM Monday Night Reception

### **Tuesday:**

10:15-10:30 AM Break

12:00-1:30 PM Awards Luncheon

3:00-3:15 PM Break

### **Wednesday:**

1:00-5:00 PM Tours. Does require registration prior to the event.

As a registered accompanying guest at this meeting, you will be eligible for all of the above. In addition, you are welcome to attend any of the other meeting events including, Opening Session, Linnaean Games, etc.

There are numerous attractions in Raleigh that are within walking distance of the hotel. A list of these should be available at the registration desk.

## **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.

**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 Pin Oak room from 7:00 AM to 5:00 PM on Monday and from 7:00 AM to 4:00 PM on Tuesday. Upload presentations in this room as early as possible on Sunday afternoon, Monday morning, or Tuesday morning.

**DISPLAY PRESENTATIONS:** Poster boards measuring 4 ft. wide x 4 ft. tall will be provided for each display presentation (posters should be no larger than 44x44"). All posters should be set up on Monday morning from 7:00 AM to 8:00 AM in Hannover Ballroom I. All posters are expected to remain displayed until Tuesday at 4:00. All posters should be removed by Tuesday at 4:30. 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) 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. Presenters should be available at their displays between 1:30 PM and 2:30 PM on Monday.

**JOB PLACEMENT CENTER:** The Student Affairs Committee will sponsor a job placement board in the Pin Oak room for all interested employers and prospective employees from 7:00 AM to 5:00 PM on Monday and from 7:00 AM to 4:00 PM on Tuesday. If you have either a job vacancy or are seeking employment, please bring an announcement or résumé to the Pin Oak room or post it directly on the appropriate board..

**PUBLIC RELATIONS:** The Public Relations Committee will sponsor a Press Release area near the Registration desk during regular meeting hours. Press releases and public relations information may be brought to this area.

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# **SOUTHEASTERN BRANCH-ESA**

## **2015-2016**

### **OFFICERS AND COMMITTEES**

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#### **Executive Committee**

Nancy Hinkle, *President*

David Riley, *President-Elect*

Catharine Mannion, *Past President*

Juang-Horng 'JC' Chong (2018), *Secretary-Treasurer*

Tim Schowalter (2016), *Gov. Board Representative*

Gus Lorenz (2016), *Member-at-Large*

David Jenkins (2017), *Member-at-Large*

Alton "Stormy" Sparks (2018), *Member-at-Large*

#### **Program Committee**

Alton "Stormy" Sparks, UGA, *Co-Chair*

Jason Schmidt, UGA, *Co-Chair*

Don Cook, *Ex Officio*

Jeff Gore, *Ex Officio*

#### **Membership Committee**

Jason Oliver, TN (2017), *Chair*

Jeff Davis, LA (2016)

Eric Benson, SC (2016)

Eileen Buss, FL (2016)

David Jenkins, SC (2017)

Pat O'Leary, NC (2017)

#### **Member Awards Committee**

Michelle Samuel-Foo, FL (2016), *Chair*

Phil Stansly, FL (2016)

Anna Meszaros, LA (2016)

Sonja Brannon Thomas, AL (2017)

Ryan W. Kurtz, NC (2017)

Marianne Shockley, GA, *Ex Officio*

#### **Archives Committee**

Jim Harper, NC (2018)

#### **Resolutions Committee**

Eric Riddick, MS (2016), *Chair*

Kadie Britt, TN (2016)

#### **Student Awards Committee**

John Adamczyk, MS (2017), *Chair*

Xing Ping Hu, AL (2016)

Rufina Ward, AL (2017)

Jason Oliver, TN (2018)

Jeremy Greene, SC (2018)

Mohamed Alburaki, TN (2018)

Will Hudson, GA, *Ex Officio*

#### **Local Arrangements Committee**

##### **Raleigh, NC Meeting (2016)**

Hannah Burrack, NC, *Chair*

Clyde Sorenson, NC

Dominic Reisig, NC

David Tarpy, NC

## **Student Affairs Committee**

Steve Reyna, NC (2017), *Co-Chair*  
Tommy McElrath, GA (2016) *Co-Chair*  
Lindsay Iglesias, FL (2016)  
Lina Bernaola, LA (2016)  
Tolulope Marawo, AL (2016)  
Isis Lopez, PR (2016)  
Beth Ferguson, AR (2017)  
Whitney Crow, MS (2017)  
Ratnasri Mallipeddi, TN (2017)  
Francesca Stubbins, SC (2017)  
Jessica Hartshorn, AR, (2016) *Ex Officio*

## **ESA Central Student Affairs Committee**

Casey Parker, FL (2017), *Representative*

## **Public Relations Committee**

Matt Bertone, NC (2016), *Chair*  
Eleanor Spicer Rice, NC (2016)  
Michael Reiskind, NC (2016)

## **Audit Committee**

Vivek Kumar, FL (2016), *Chair*  
Jeremy Heath, NC (2016)  
JC Chong, SC, Secretary-Treasurer

## **Meeting Location/Time: Tennessee (2017)**

Jerome Grant, TN, *Chair*  
Scott Stewart, TN, *Co-Chair*

## **Meeting Location/Time: Florida (2018)**

Jerry Hogsette, FL, *Chair*

## **Board Certification Committee**

Dennis Ring, LA, (2017), *Chair*  
Jeffrey Brown, MS (2017)

## **International Congress of Entomology Meeting 2016 Organizing Committee**

Alvin Simmons, SC, *Co-Chair and SEB Liaison*

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# Sunday, 13 March

## PROGRAM SUMMARY SUNDAY, 13 MARCH

|                       |  |
|-----------------------|--|
| <b>8:00 AM-5:00</b>   | <b>SAC/NCAC Department Heads Meeting</b><br><i>Hannover Ballroom II</i>  |
| <b>8:00 AM-5:00</b>   | <b>S-1055 Biology, Impact, and Management of Soybean Insect Pests in Soybean Production Systems</b><br><i>Willow Oak</i>     |
| <b>11:00 AM-12:00</b> | <b>Local Arrangements/Program Committee Meeting</b><br><i>Hannover Ballroom III</i>  |
| <b>1:00 PM-5:00</b>   | <b>Executive Committee Meeting</b><br><i>Hannover Ballroom III</i>   |
| <b>1:00 PM-3:00</b>   | <b>Student Affairs Committee Meeting</b><br><i>Capitol Room</i>  |
| <b>1:00 PM-5:00</b>   | <b>Registration</b><br><i>Oak Forest Ballroom Prefunction Area</i>   |
| <b>1:00 PM-6:00</b>   | <b>Golf Tournament</b><br><i>Lonnie Poole Golf Course</i>  |
| <b>1:00 PM-5:00</b>   | <b>SYMPOSIUM: Biological Control of Arthropod Pests and Weeds in the Southern United States</b><br><i>Governor's Room II</i> |
| <b>3:00 PM-7:00</b>   | <b>Audiovisual and Job Placement</b><br><i>Pin Oak</i>   |
| <b>4:00 PM-7:00</b>   | <b>Linnaean Games, Preliminary Rounds</b><br><i>Oak Forest Ballroom</i>  |



**Sunday, 13 March**

**SYMPOSIUM**  
**Biological Control of Arthropod  
and Weed Pests in the  
Southern United States**

**1:00 PM – 5:00**  
Governor's Room II

**Organizers:**  
Emma Weeks and Rodrigo Diaz

**1:00** Introductory Remarks

**1:05 1** Biological Control of Giant Salvinia (*Salvinia molesta*) in Temperate Regions: Old and New Approaches. **Rodrigo Diaz** (rdiaz@agcenter.lsu.edu)<sup>1</sup>, Lori Moshman<sup>1</sup>, Alana Russell<sup>1</sup> and Lauren Cozad<sup>2</sup>, <sup>1</sup>Louisiana State Univ., Baton Rouge, LA, <sup>2</sup>Red River Waterway Commission, Natchitoches, LA

**1:25 2** *Calophya terebinthifolii* (Hemiptera: Calophyidae), a Potential Biocontrol Agent of Brazilian Peppertree: Preliminary Results of a Field Impact Study in Gaspar, Santa Catarina, Brazil. **James P. Cuda** (jcuda@ufl.edu)<sup>1</sup>, Marcelo D. Vitorino<sup>2</sup>, Marcus Boeno<sup>3</sup>, Firmino Moreira dos Santos<sup>3</sup> and Patricia Prade<sup>1</sup>, <sup>1</sup>Univ. of Florida, Gainesville, FL, <sup>2</sup>Fundação Universidade Regional de Blumenau, Santa Catarina, Brazil, <sup>3</sup>Universidade Regional de Blumenau -FURB, Blumenau, Brazil

**1:45 3** Biological Control of Air Potato in Florida: A Successful Multi-Agency Collaboration. **William A. Overholt** (billover@ufl.edu)<sup>1</sup>, Min Rajamajhi<sup>2</sup>, Eric Rohrig<sup>3</sup>, Ellen Lake<sup>4</sup>, Melissa Smith<sup>5</sup>, Stephen Hight<sup>6</sup>, Kenneth Hibbard<sup>7</sup>, Veronica Manrique<sup>1</sup> and Rodrigo Diaz<sup>8</sup>, <sup>1</sup>Univ. of Florida, Fort Pierce, FL, <sup>2</sup>United States Dept. of Agriculture, Davie, FL, FL, <sup>3</sup>Florida Dept. of Agriculture and Consumer Services, Gainesville, FL, <sup>4</sup>USDA - ARS, Fort Lauderdale, FL, <sup>5</sup>USDA-ARS, Fort Lauderdale, FL, <sup>6</sup>USDA - ARS, Tallahassee, FL, <sup>7</sup>Florida Dept. of Agriculture and Consumer Services, Fort Pierce, FL, <sup>8</sup>Louisiana State Univ., Baton Rouge, LA

**2:05 4** Georgia Agriculture Biocontrol Update: Observations and Ongoing Studies. **Jason M. Schmidt** (jschmid2@uga.edu), Univ. of Georgia, Tifton, GA

**2:25 5** From Predators to Parasitoids: Biological Control of Invasive Insect Pests of Tennessee Forests. **Gregory J. Wiggins** (wiggybug@utk.edu), Jerome F. Grant, Paris L. Lambdin and James Parkman, Univ. of Tennessee, Knoxville, TN

**2:45 6** Cost Effectiveness of Biological Control: Invasive Mole Crickets in Florida Pastures. **Norman Leppla** (ncleppla@ufl.edu)<sup>1</sup>, Daniel Solís<sup>2</sup>, Michael Thomas<sup>2</sup> and Grace Mhina<sup>2</sup>, <sup>1</sup>Univ. of Florida, Gainesville, FL, <sup>2</sup>Florida A&M Univ., Tallahassee, FL

# Sunday, 13 March

3:05      Break

**3:20**      S-1058 Biological Control of Arthropod and Weed  
Pests Meeting

## LINNAEAN GAMES PRELIMINARY ROUNDS

**4:00 PM – 7:00**  
Oak Forest Ballroom

## Monday, 14 March

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### PROGRAM SUMMARY MONDAY, 14 MARCH

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|                       |   |
|-----------------------|---|
| <b>7:00 AM-8:00</b>   | <b>Host State Breakfast</b><br><i>Oak Forest Ballroom</i>                                 |
| <b>7:00 AM-5:00</b>   | <b>Audiovisual and Job Placement</b><br><i>Pin Oak</i>                                    |
| <b>7:00 AM-8:00</b>   | <b>Poster Set Up</b><br><i>Oak Forest Ballroom Prefunction Area</i>                       |
| <b>7:00 AM-5:00</b>   | <b>Registration</b><br><i>Oak Forest Ballroom Prefunction Area</i>                        |
| <b>8:00 AM-5:00</b>   | <b>Student Poster Competitions</b><br><i>Oak Forest Ballroom Prefunction Area</i>         |
| <b>8:00 AM-5:00</b>   | <b>General Poster Presentations</b><br><i>Oak Forest Ballroom Prefunction Area</i>        |
| <b>8:30 AM-4:00</b>   | <b>Student Poster Competitions Judging</b><br><i>Oak Forest Ballroom Prefunction Area</i> |
| <b>8:00 AM-10:15</b>  | <b>Opening and Plenary Session</b><br><i>Oak Forest Ballroom</i>                          |
| <b>10:15 AM-10:30</b> | <b>Break</b><br><i>Oak Forest Ballroom Prefunction Area</i>                               |
| <b>10:30 AM-12:20</b> | <b>M.S. Student Oral Presentation<br/>Competition I</b><br><i>Governor's Room I</i>       |
| <b>10:30 AM-12:20</b> | <b>M.S. Student Oral Presentation<br/>Competition II</b><br><i>Hannover Ballroom II</i>   |

# Monday, 14 March

- 10:30 AM-12:20**    **M.S. Student Oral Presentation Competition III**  
*Hannover Ballroom III*
- 10:30 AM-11:30**    **Undergraduate Student Oral Presentation Competition**  
*Governor's Room II*
- 12:30 PM-1:30**    **Lunch and Learn**  
**Entomology Career Opportunities in Research Triangle Park**  
Prior Registration required  
*Oak Forest Ballroom*
- 12:30 PM-2:00**    **Lunch (on your own)**
- 1:30 PM-2:30**    **Poster Presenters at Display Presentation**  
*Oak Forest Ballroom Prefunction Area*
- 2:00 PM-4:05**    **Ph.D. Student Oral Presentation Competition I**  
*Hannover Ballroom II*
- 2:00 PM-4:05**    **Ph.D. Student Oral Presentation Competition II**  
*Governor's Room I*
- 2:00 PM-4:05**    **Ph.D. Student Oral Presentation Competition III**  
*Hannover Ballroom III*
- 2:00 PM-4:50**    **SYMPOSIUM: The Gamut of Resistance Management for Soybean Insect Pests: Issues and Prospects**  
*Governor's Room II*
- 5:00 PM-7:00**    **Linnaean Games, Final Round**  
*Oak Forest Ballroom*
- 7:30 PM-9:00**    **Monday Night Reception**  
*North Carolina Museum of Natural Sciences, Nature Research Center*

## **STUDENT POSTER PRESENTATION COMPETITION AND CONTRIBUTED POSTER PRESENTATIONS**

**8:00 AM to 5:00 PM**  
**Oak Forest Ballroom Prefunction Area**

**PRESENTERS AT POSTERS  
FROM 1:30 PM - 2:30**

# Monday, 14 March

## **BUSINESS MEETING AND PLENARY SESSION**

**8:00 AM – 10:15**  
**Oak Forest Ballroom**

**Presiding: Nancy Hinkle, President, Southeastern  
Branch, Entomological Society of America**

- 8:00      Call to Order, Nancy Hinkle, President**
- 8:05      Welcome – Richard H. Linton, Dean, College of  
Agriculture and Life Sciences, NCSU**
- 8:15      Address by ESA Past-President – Phil Mulder**
- 8:25      Message from ESA Executive Director  
Lisa Junker – ESA Director of Publications**
- 8:35      PLENARY PRESENTATION: Dr. Rob Dunn,  
“Why the future of food depends on entomologists  
and why that is a problem”**
- 9:00      Preliminary Business Meeting  
Announcements  
Committee Reports  
        Local Arrangements - Hannah Burrack  
        Program – Jason Schmidt  
        Nominations - Faith Oi  
        Membership - Jason Oliver  
        Resolutions - Eric Riddick  
        2017 Meeting Time/Location - Jerome Grant**
- 9:40      SEB Representative to the ESA Governing Board  
Report -Tim Schowalter**
- 9:45      Announcements from ESA Section  
Representatives**
- 9:55      Entomological Foundation Report  
Marianne Shockley**
- 10:00      SEB Representative to the ESA Certification  
Board Report - Dennis Ring**
- 10:05      Remarks from SEB President – Nancy Hinkle**
- 10:15-10:30      Break**

# Monday, 14 March

## M.S. STUDENT ORAL PRESENTATION COMPETITION I

**10:30 AM – 12:20**

Governor's Room I

**Moderator:**

Paul Borth

**10:30 7** Impacts of Neonicotinoid Resistance on Tobacco Thrips, *Frankliniella fusca* (Hinds), in the Mid-South. **Chelsie Darnell** (chd102@msstate.edu)<sup>1</sup>, Angus Catchot<sup>1</sup>, Fred Musser<sup>1</sup>, Don Cook<sup>2</sup>, Jeff Gore<sup>2</sup>, Darrin Dodds<sup>1</sup> and Shannon Morsello<sup>3</sup>, <sup>1</sup>Mississippi State Univ., Mississippi State, MS, <sup>2</sup>Mississippi State Univ., Stoneville, MS, <sup>3</sup>Syngenta, Greensboro, NC

**10:42 8** Can Defensive Symbionts Change the Composition of Natural Enemies Attacking the Pea Aphid? **Laura Kraft** (laura11@uga.edu), Clesson Higashi and Kerry M. Oliver, Univ. of Georgia, Athens, GA

**10:54 9** Reduction via Induction? Assessment of Pest and Disease Resistance Induced by Entomopathogenic Nematodes in Tobacco and Soybean. **Julia Ferguson** (jfergu25@utk.edu), Ruisheng An, Parwinder Grewal and Jerome F. Grant, Univ. of Tennessee, Knoxville, TN

**11:06 10** Leaf Volatiles: Identification for Whitefly Resistance in Watermelon. **Bobbie Blake** (bblake238@gmail.com), Claflin Univ., USDA-ARS, U.S. Vegetable Laboratory, Charleston, SC, Charleston, SC

11:18 Break

**11:28 11** Vet Guns or Ear Tags? Comparing New Insecticide Formulations and Delivery Methods on Cattle. **Annie Rich** (aerich@uga.edu) and Nancy C. Hinkle, Univ. of Georgia, Athens, GA

**11:40 12** Examining a Species Complex of North American *Auplopus* (Pompilidae). **Clinton E. Trammel** (cetramme@uark.edu) and A. L. Szalanski, Univ. of Arkansas, Fayetteville, AR

**11:52 13** Associational Interactions Between Native and Non-Native Urban Trees: Do Plant Neighbors Matter? **Carl Clem** (csc0013@tigermail.auburn.edu), Auburn Univ., Auburn, AL

**12:04 14** Insect v. Wind Pollination of the Ozark Chinquapin, *Castanea ozarkensis*. **Colton Zirkle** (coltonzirkle@gmail.com), Univ. of Arkansas, Fayetteville, AR

# Monday, 14 March

## M.S. STUDENT ORAL PRESENTATION COMPETITION II

10:30 AM – 12:20  
Hannover Ballroom II

**Moderator:**  
Don Cook

**10:30 15** Effect of Soil Depth on Soil Insect Pests in Florida Sugarcane. **Michael Karounos** (wompum@ufl.edu), Univ. of Florida, Belle Glade, FL

**10:42 16** Overcoming Barriers to IPM Adoption in NC Flue-Cured Tobacco. **Jeremy Slone** (jdslone@ncsu.edu) and Hannah Burrack, North Carolina State Univ., Raleigh, NC

**10:54 17** Value of Neonicotinoid Insecticide Seed Treatments in Mid-South Corn (*Zea mays* L.) Production Systems. **John North** (jhn39@msstate.edu)<sup>1</sup>, Jeff Gore<sup>2</sup>, Angus Catchot<sup>1</sup>, Scott Stewart<sup>3</sup>, Gus Lorenz<sup>4</sup>, Fred Musser<sup>1</sup>, Don Cook<sup>2</sup>, David L. Kerns<sup>5</sup> and Darrin Dodds<sup>1</sup>, <sup>1</sup>Mississippi State Univ., Mississippi State, MS, <sup>2</sup>Mississippi State Univ., Stoneville, MS, <sup>3</sup>The Univ. of Tennessee, Jackson, TN, <sup>4</sup>Univ. of Arkansas, Lonoke, AR, <sup>5</sup>Louisiana State Univ. Agricultural Center, Winnsboro, LA

**11:06 18** Assessing Mercury Levels of Terrestrial Invertebrates in East Tennessee. **Chelsea Standish** (bxn875@vols.utk.edu)<sup>1</sup>, Jerome F. Grant<sup>1</sup>, John K. Moulton<sup>1</sup>, John Smith<sup>2</sup> and Teresa Mathews<sup>2</sup>, <sup>1</sup>Univ. of Tennessee, Knoxville, TN, <sup>2</sup>Oak Ridge National Laboratory, Oak Ridge, TN

11:18 Break

**11:28 19** Effect of *Tetranychus urticae* Host Origin and Host Plant on *Phytoseiulus persimilis*. **Jessica Dittilo** (jldittilo@gmail.com)<sup>1</sup>, George G. Kennedy<sup>1</sup> and James F. Walgenbach<sup>2</sup>, <sup>1</sup>North Carolina State Univ., Raleigh, NC, <sup>2</sup>North Carolina State Univ., Mills River, NC

**11:40 20** Analysis of Insect Pest Problems at LSU Residential Life. **Namoona Acharya** (nachar1@lsu.edu)<sup>1</sup> and Gregg Henderson<sup>2</sup>, <sup>1</sup>LSU, Baton Rouge, LA, <sup>2</sup>Louisiana State Univ., Baton Rouge, LA

**11:52 21** Potential Biological Control Strategies for Management of Aphids in Organic Pecan Orchards. **Tzu-Chin Liu** (jean2036@uga.edu) and James D. Dutcher, Univ. of Georgia, Tifton, GA

**12:04 22** Effect of Truck-Based Mosquito Adulticides on Honey Bee (*Apis mellifera*). **Vivek Pokhrel** (vpokhr1@lsu.edu)<sup>1</sup> and Kristen Healy<sup>2</sup>, <sup>1</sup>Graduate Student, Baton Rouge, LA, <sup>2</sup>Louisiana State Univ., Baton Rouge, LA



# Monday, 14 March

## M.S. STUDENT ORAL PRESENTATION COMPETITION III

10:30 AM – 12:20  
Hannover Ballroom III

**Moderator:**  
David L. Kerns

**10:30 23** Herbicide-Induced Oxidative Stress in Honey Bees. **Jennifer R. Williams** (jdub12@vt.edu), Richard D. Fell, Carlyle C. Brewster and Troy Anderson, Virginia Tech, Blacksburg, VA

**10:42 24** Development of a Novel Molecular Method for Detection of La Crosse Virus from Mosquito Vectors. **Cassandra Urquhart** (curquhar@vols.utk.edu)<sup>1</sup>, Doris D'Souza<sup>1</sup>, Amy Lambert<sup>2</sup> and Rebecca Trout Fryxell<sup>1</sup>, <sup>1</sup>Univ. of Tennessee, Knoxville, TN, <sup>2</sup>Centers for Disease Control and Technology, Fort Collins, CO

**10:54 25** Evaluation of Commercial Sorghum Hybrids for Resistance to *Melanaphis sacchari*. **John Gonzales** (JGonzales@agcenter.lsu.edu)<sup>1</sup>, David L. Kerns<sup>2</sup>, Julien M. Beuzelin<sup>3</sup> and Sebe Brown<sup>1</sup>, <sup>1</sup>Louisiana State Univ., Winnsboro, LA, <sup>2</sup>Louisiana State Univ. Agricultural Center, Winnsboro, LA, <sup>3</sup>Louisiana State Univ., Baton Rouge, LA

**11:06 26** Insect Democracy: Do Honey Bees (*Apis mellifera*) Select the Best Queens? **James Withrow** (jmwithro@ncsu.edu) and David Tarpy, North Carolina State Univ., Raleigh, NC

11:18 Break

**11:28 27** Sugarcane Aphids (*Melanaphis sacchari*): A New Pest on Grain Sorghum. **Brittany Lipsey** (bse37@msstate.edu)<sup>1</sup>, Angus Catchot<sup>1</sup> and Jeff Gore<sup>2</sup>, <sup>1</sup>Mississippi State Univ., Mississippi State, MS, <sup>2</sup>Mississippi State Univ., Stoneville, MS

**11:40 28** Converting Marginal Land along Roadsides to Pollinator Habitat: Does it Make a Difference? **Jennifer O'Brien** (jeobrien@ncsu.edu), Danesha Seth Carley, Margarita López-Urbe, Rich McLaughlin, David Tarpy and Thomas Rufty, North Carolina State Univ., Raleigh, NC

**11:52 29** Dividing the Pie: Differential Dung Pat Use by Horn Flies and Face Flies. **Fallon Fowler** (fefowler@ncsu.edu)<sup>1</sup> and Bradley Mullens<sup>2</sup>, <sup>1</sup>NCSU, Raleigh, NC, <sup>2</sup>Univ. of California, Riverside, CA

# Monday, 14 March

**12:04 30** Ecology and Life History of the Kudzu Bug in East Tennessee: I Heard it Through the Kudzu Vine. **Kadie Britt** (kbritt5@vols.utk.edu)<sup>1</sup>, Jerome F. Grant<sup>1</sup>, Scott Stewart<sup>2</sup>, Gregory J. Wiggins<sup>1</sup> and Steve D. Powell<sup>3</sup>, <sup>1</sup>Univ. of Tennessee, Knoxville, TN, <sup>2</sup>The Univ. of Tennessee, Jackson, TN, <sup>3</sup>Tennessee Dept. of Agriculture, Nashville, TN

## UNDERGRADUATE STUDENT ORAL PRESENTATION COMPETITION

**10:30 AM – 11:30**  
Governor's Room II

**Moderator:**  
Fudd Graham

**10:30 31** Egg Clustering in the Common Bed Bug (*Cimex lectularius*). **Laura Harmon** (larharmon@ufl.edu) and Emma N. I. Weeks, Univ. of Florida, Gainesville, FL

**10:42 32** New Species of Eurytomid Wasps (Hymenoptera: Eurytomidae) and Their Host Plants (Myrtales: Myrtaceae) from Monteverde, Costa Rica. **Jessa Thurman** (thurmanjh@hendrix.edu), Hendrix College, Hot Springs, AR

**10:54 33** Influence of Competition and Predation on Success of *Cricotopus lebetis* as a Biological Control Agent. **Courtney Stachowiak** (cs1307390@ufl.edu), Julie Baniszewski, James P. Cuda and Emma N. I. Weeks, Univ. of Florida, Gainesville, FL

**11:06 34** The Effects of Urban Warming on Predators of Street Tree Pests. **Anna Holmquist** (ajholmqu@ncsu.edu)<sup>1</sup>, Emily K. Meineke<sup>1</sup> and Steven D. Frank<sup>2</sup>, <sup>1</sup>North Carolina State Univ., Raleigh, NC, <sup>2</sup>Univ. of Maryland, College Park, MD

**11:18 35** A Six-Year Study of Hoverfly (Family Syrphidae) Diversity and Abundance in Georgia Apple Orchards. **Peter Schlueter** (pmschl8466@ung.edu)<sup>1</sup> and Mark Schlueter<sup>2</sup>, <sup>1</sup>Univ. of North Georgia, Oakwood, GA, <sup>2</sup>Georgia Gwinnett College, Lawrenceville, GA

## LUNCH AND LEARN Entomology Career Opportunities in Research Triangle Park

**PRIOR REGISTRATION REQUIRED**  
**OAK FOREST BALLROOM**  
**12:30 PM – 1:30**

**Monday, 14 March**

**LUNCH**  
**(ON YOUR OWN)**  
**12:30 PM – 2:00**

**PRESENTING AUTHORS OF ALL  
POSTERS AT THEIR POSTERS**  
**1:30 PM – 2:30**

**PH.D. STUDENT  
ORAL PRESENTATION  
COMPETITION I**

**2:00 PM – 4:05**  
Hannover Ballroom II

**Moderator:**  
Amanda Hodges

**2:00 36** Identification of Biological Characteristics That Enhance the Attraction of *Lutzomyia longipalpis* Females to Conspecific Male Sex Pheromones. **Anthony Greene** (adg2@clemson.edu)<sup>1</sup> and Gideon Wasserberg<sup>2</sup>, <sup>1</sup>Clemson Univ., Blackville, SC, <sup>2</sup>Univ. of North Carolina at Greensboro, Greensboro, NC

**2:12 37** Chemical Signals to Manipulate Honey Bee Behavior. **Nicholas Larson** (nlarson@vt.edu)<sup>1</sup>, Uli Bernier<sup>2</sup>, Jeffrey Bloomquist<sup>3</sup> and Troy Anderson<sup>4</sup>, <sup>1</sup>Virginia Tech, Blacksburg, VA, <sup>2</sup>USDA, Agricultural Research Service, Gainesville, FL, <sup>3</sup>Univ. of Florida, Gainesville, FL, <sup>4</sup>Virginia Polytechnic Institute and State Univ., Blacksburg, VA

**2:24 38** Chemical Mediation of Queen and King Recognition and Other Royal Communication in Subterranean Termites (*Reticulitermes flavipes*). **Colin Funaro** (cffunaro@ncsu.edu), Drexel Univ., Philadelphia, PA

**2:36 39** A Combined Transcriptome and Anchored Hybrid Phylogenomic Approach to Address Acalyptrate Fly Phylogeny (Diptera: Cyclorrhapha). **Keith M. Bayless** (kmbayles@ncsu.edu)<sup>1</sup>, Michelle Trautwein<sup>2</sup> and Brian Wiegmann<sup>1</sup>, <sup>1</sup>North Carolina State Univ., Raleigh, NC, <sup>2</sup>California Academy of Sciences, San Francisco, CA

# Monday, 14 March

**2:48 40** Frass Semiochemicals Important to Corn-Infesting Ulidiidae (Diptera). **David Owens** (owensd119@ufl.edu)<sup>1</sup>, Gregg Nuessly<sup>1</sup>, Thomas Colquhoun<sup>2</sup>, Paul E. Kendra<sup>3</sup>, Daniel Hahn<sup>2</sup> and Dakshina Seal<sup>4</sup>, <sup>1</sup>Univ. of Florida, Belle Glade, FL, <sup>2</sup>Univ. of Florida, Gainesville, FL, <sup>3</sup>USDA - ARS, Miami, FL, <sup>4</sup>Univ. of Florida, Homestead, FL

3:00 Break

**3:15 41** Gene Duplication in the Evolution of Sex and Caste Biased Gene Expression. **Linh Chau** (lchau6@gatech.edu) and Michael AD. Goodisman, Georgia Institute of Technology, Atlanta, GA

**3:27 42** The Effects of JH Analogues on Diapausing *Halymorpha halys* and *Megacopta cribraria*. **Cory Penca** (cpenca@ufl.edu) and Amanda C. Hodges, Univ. of Florida, Gainesville, FL

**3:39 43** Characterizing the Role of Gibberellic Acid (GA) in Rice Defense Against Fall Armyworm (*Spodoptera frugiperda*) Feeding. **Lina Bernaola** (lbernaola@agcenter.lsu.edu)<sup>1</sup> and Michael Stout<sup>2</sup>, <sup>1</sup>Louisiana State Univ., Baton Rouge, LA, <sup>2</sup>Louisiana State Univ. Agricultural Center, Baton Rouge, LA

**3:51 44** Are Tobacco-Adapted Aphids (*Myzus persicae*) More Tolerant to Neonicotinoid Pesticides? **H. Alejandro Merchan** (hamercha@ncsu.edu) and Hannah Burrack, North Carolina State Univ., Raleigh, NC

## PH.D. STUDENT ORAL PRESENTATION COMPETITION II

**2:00 PM – 4:05**  
Governor's Room I

**Moderator:**  
Amanda Jacobson

**2:00 45** Populations of Foraging Honey Bees in Midsouth Crops. **Adam Whalen** (daw153@msstate.edu)<sup>1</sup>, Angus Catchot<sup>1</sup>, Scott Stewart<sup>2</sup>, Gus Lorenz<sup>3</sup>, Jeff Gore<sup>4</sup>, Don Cook<sup>4</sup>, Fred Musser<sup>1</sup> and Jeffrey Harris<sup>5</sup>, <sup>1</sup>Mississippi State Univ., Mississippi State, MS, <sup>2</sup>The Univ. of Tennessee, Jackson, TN, <sup>3</sup>Univ. of Arkansas, Lonoke, AR, <sup>4</sup>Mississippi State Univ., Stoneville, MS, <sup>5</sup>USDA, Baton Rouge, LA

**2:12 46** Ecological Succession of Necrophilous Insects: A Common Garden Experiment with Pigs at Various Stages of Decomposition. **Angela (Bucci) Cruise** (ambucci@ncsu.edu), Wes Watson and Coby Schal, North Carolina State Univ., Raleigh, NC

# Monday, 14 March

**2:24 47** Impact of Hemlock Woolly Adelgid Imidacloprid Treatments on Water Quality and Aquatic Macroinvertebrate Communities. **Elizabeth P. Benton** (ebenton3@utk.edu)<sup>1</sup>, Jerome F. Grant<sup>1</sup>, T. C. Mueller<sup>1</sup>, R. Jesse Webster<sup>2</sup>, Becky Nichols<sup>3</sup> and John Schwartz<sup>1</sup>, <sup>1</sup>Univ. of Tennessee, Knoxville, TN, <sup>2</sup>National Parks Service, Gatlinburg, TN, <sup>3</sup>National Park Service, Gatlinburg, TN

**2:36 48** Effects of Defoliation on Midsouth Soybean Yield. **Benjamin Thrash** (bct157@msstate.edu)<sup>1</sup>, Angus Catchot<sup>2</sup>, Jeff Gore<sup>3</sup>, Fred Musser<sup>2</sup>, Don Cook<sup>3</sup>, Trent Irby<sup>2</sup> and Jason Krutz<sup>3</sup>, <sup>1</sup>Mississippi State, Starkville, MS,

<sup>2</sup>Mississippi State Univ., Mississippi State, MS, <sup>3</sup>Mississippi State Univ., Stoneville, MS

**2:48 49** Characterizing Overwintering Habitats of the Invasive Kudzu Bug Around Commercial Soybean Fields. **Alejandro Del Pozo** (aidelpoz@ncsu.edu)<sup>1</sup>, Dominic Reisig<sup>2</sup> and Clyde Sorenson<sup>1</sup>, <sup>1</sup>North Carolina State Univ., Raleigh, NC, <sup>2</sup>North Carolina State Univ., Plymouth, NC

3:00 Break

**3:15 50** Comparative Phenology of the Kudzu Bug, *Megacopta cribraria* (Hemiptera: Plataspidae) in Soybean and Kudzu in the Southeast U.S. **Joni L. Blount** (jonilb@uga.edu)<sup>1</sup>, G. David Buntin<sup>1</sup>, Phillip M. Roberts<sup>2</sup>, Wayne Gardner<sup>1</sup> and John All<sup>3</sup>, <sup>1</sup>Univ. of Georgia, Griffin, GA, <sup>2</sup>Univ. of Georgia, Tifton, GA, <sup>3</sup>Univ. of Georgia, Athens, GA

**3:27 51** Identification of Plant-Related Volatiles Emitted by *Heliothis virescens* Larvae that Attract the Parasitoid, *Microplitis croceipes*. **Tolulope Morawo** (tom0002@auburn.edu)<sup>1</sup>, Matthew Burrows<sup>2</sup> and Henry Fadamiro<sup>1</sup>, <sup>1</sup>Auburn Univ., Auburn, AL, <sup>2</sup>Centers for Disease Control and Prevention, Atlanta, GA

**3:39 52** Spatial Distribution of *Megacopta cribraria* (Hemiptera: Plataspidae) Egg Masses and Parasitism By *Paratelenomus saccharalis* (Hymenoptera: Platygasteridae) in Soybean. **Ian Knight** (ianak@uga.edu) and Michael Toews, Univ. of Georgia, Tifton, GA

**3:51 53** Population Parameters of Melon Thrips, *Thrips palmi* Karny (Thysanoptera: Thripidae) on Six Vegetable Crops Grown Under Reflective and Colored Shading Nets. **M Razzak** (rafi321@ufl.edu)<sup>1</sup>, Dakshina Seal<sup>2</sup> and Catherine Sabines<sup>3</sup>, <sup>1</sup>Univeristy of Florida, Homestead, FL, <sup>2</sup>Univ. of Florida, Homestead, FL, <sup>3</sup>Entomology and Nematology, Homestead, FL

**Monday, 14 March**

**PH.D. STUDENT  
ORAL PRESENTATION  
COMPETITION III**

**2:00 PM – 4:05**  
Hannover Ballroom III

**Moderator:**  
Francis Reay-Jones

**2:00 54** Integrating Kaolin into Ambrosia Beetle (Coleoptera: Curculionidae: Scolytinae) Pest Management in Ornamental Tree Nurseries. **Chris Werle** (chris.werle@ars.usda.gov)<sup>1</sup>, Karla Addesso<sup>2</sup>, Blair Sampson<sup>3</sup>, Jason B. Oliver<sup>2</sup> and John Adamczyk<sup>3</sup>, <sup>1</sup>Louisiana State Univ., Baton Rouge, LA, <sup>2</sup>Tennessee State Univ., McMinnville, TN, <sup>3</sup>USDA - ARS, Poplarville, MS

**2:12 55** The Compound Stresses of Tobacco Thrips (*Frankliniella fusca*) and Reniform Nematodes (*Rotylenchulus reniformis*) on Cotton Yield. **Whitney Crow** (wdc165@msstate.edu)<sup>1</sup>, Angus Catchot<sup>1</sup>, Jeff Gore<sup>2</sup>, Darrin Dodds<sup>1</sup>, Thomas W. Allen<sup>1</sup> and Don Cook<sup>2</sup>, <sup>1</sup>Mississippi State Univ., Mississippi State, MS, <sup>2</sup>Mississippi State Univ., Stoneville, MS

**2:24 56** Effects of Single Vs. Pyramided Bt Corn Hybrids on the Development and Fecundity of *Helicoverpa zea*. **Thomas Bilbo** (bilbothomas@gmail.com)<sup>1</sup>, Francis Reay-Jones<sup>2</sup>, Dominic Reisig<sup>3</sup>, Fred Musser<sup>4</sup> and Jeremy Greene<sup>5</sup>, <sup>1</sup>Clemson Univ., Clemson, SC, <sup>2</sup>Clemson Univ., Florence, SC, <sup>3</sup>North Carolina State Univ., Plymouth, NC, <sup>4</sup>Mississippi State Univ., Mississippi State, MS, <sup>5</sup>Clemson Univ., Blackville, SC

**2:36 57** A Mother's Memory: How Previous Exposure Affects Oviposition Site Preference in *Drosophila suzukii*. **Johanna Elsensohn** (jeelsens@ncsu.edu), North Carolina State Univ., Raleigh, NC

**2:48 58** Feel the Heat: Activation, Orientation, and Feeding Responses of Bed Bugs (*Cimex lectularius*) to Different Temperatures. **Zachary DeVries** (zcdevrie@ncsu.edu), Russell Mick and Coby Schal, North Carolina State Univ., Raleigh, NC

**3:00** Break

**3:15 59** Risk Assessment of Cry1A.105-resistant Fall Armyworm to Transgenic Corn Containing Single or Pyramided *Bacillus thuringiensis* Genes. **Ying Niu** (yniu@agcenter.lsu.edu)<sup>1</sup>, Graham P. Head<sup>2</sup>, Paula A. Price<sup>2</sup> and Fangneng Huang<sup>1</sup>, <sup>1</sup>Louisiana State Univ., Baton Rouge, LA, <sup>2</sup>Monsanto Co., St. Louis, MO

**3:27 60** Border Sprays and Cultivation Tactics for Control of *Drosophila suzukii* (Matsumura) in Organic Blackberries. **Lindsay Iglesias** (liglesias@ufl.edu) and Oscar Liburd, Univ. of Florida, Gainesville, FL

# Monday, 14 March

**3:39 61** Stylet Penetration Behaviors of *Megacopta cribraria*, the Invasive Kudzu Bug, Using Electrical Penetration Graph Techniques. **Francesca Stubbins** (sstubbi@clemson.edu)<sup>1</sup>, Paula Mitchell<sup>2</sup>, Francis Reay-Jones<sup>3</sup> and Jeremy K. Greene<sup>1</sup>, <sup>1</sup>Clemson Univ., Blackville, SC, <sup>2</sup>Winthrop Univ., Rock Hill, SC, <sup>3</sup>Clemson Univ., Florence, SC

**3:51 62** Effect of Different Management Strategies on Soybean in Mississippi. **Nicholas R. Bateman** (nbateman@entomology.msstate.edu)<sup>1</sup>, Angus Catchot<sup>2</sup>, Jeff Gore<sup>3</sup>, Don Cook<sup>3</sup>, Fred Musser<sup>2</sup> and Trent Irby<sup>2</sup>, <sup>1</sup>Mississippi State Univ., Starkville, MS, <sup>2</sup>Mississippi State Univ., Mississippi State, MS, <sup>3</sup>Mississippi State Univ., Stoneville, MS

## SYMPOSIUM

### The Gamut of Resistance Management for Soybean Insect Pests: Issues and Prospects

**2:00 PM – 4:50**  
Governor's Room II

**Organizers and Moderators:**  
Louis Hesler, Julien Beuzelin  
and Dominic Reisig

**2:00 63** Framing the Issues of Resistance Management in Soybean. **Louis Hesler** (Louis.Hesler@ars.usda.gov), USDA - ARS, Brookings, SD

**2:05 64** Potential of Using Host Plant Resistance in Soybeans for Pest Management of *Megacopta cribraria* (Hemiptera: Plataspididae). **Sriyanka Lahiri** (slahiri@ncsu.edu)<sup>1</sup>, Dominic Reisig<sup>2</sup>, Francis Reay-Jones<sup>3</sup>, Thomas Carter<sup>4</sup>, MA. Rouf Mian<sup>4</sup>, Ben Fallen<sup>3</sup> and Jeremy Greene<sup>5</sup>, <sup>1</sup>North Carolina State Univ., Raleigh, NC, <sup>2</sup>North Carolina State Univ., Plymouth, NC, <sup>3</sup>Clemson Univ., Florence, SC, <sup>4</sup>USDA - ARS, Raleigh, NC, <sup>5</sup>Clemson Univ., Blackville, SC

**2:23 65** All Is Not Lost: Fitness Costs Are Associated with Virulence in a Parthenogenetic Pest of Soybeans, and That's Really Good News. **Matt O'Neal** (oneal@iastate.edu) and Adam Varenhorst, Iowa State Univ., Ames, IA

**2:41 66** Dow AgroSciences Solutions for Soybean Insect Protection: Opportunities and Challenges. **Bradley W. Hopkins** (bwhopkins@dow.com)<sup>1</sup>, Dwain M. Rule<sup>1</sup>, Nicholas Storer<sup>1</sup>, Melissa Willrich Siebert<sup>2</sup> and Randy Huckaba<sup>3</sup>, <sup>1</sup>Dow AgroSciences, Indianapolis, IN, <sup>2</sup>Dow AgroSciences, Greenville, MS, <sup>3</sup>Dow AgroSciences, Wake Forest, NC

# Monday, 14 March

**2:59 67** Resistance Management for Bt Soybean. **Samuel Martinelli** (samuel.martinelli@monsanto.com)<sup>1</sup>, Doug Sumerford<sup>1</sup>, Renato A. de Carvalho<sup>2</sup> and Graham P. Head<sup>3</sup>, <sup>1</sup>Monsanto Company, St. Louis, MO, <sup>2</sup>Monsanto do Brasil Ltda., São Paulo, Brazil, <sup>3</sup>Monsanto Co., St. Louis, MO

3:17 Break

**3:32 68** Insecticide Resistance in Soybean Looper. Jeffrey A. Davis<sup>1</sup>, **Xuan Chen** (xchen52@lsu.edu)<sup>2</sup>, Gus Lorenz<sup>3</sup>, Jeff Gore<sup>4</sup>, Fred Musser<sup>5</sup>, Tim Reed<sup>6</sup>, Dominic Reisig<sup>7</sup>, Phillip M. Roberts<sup>8</sup>, Scott Stewart<sup>9</sup> and Kelly Tindall<sup>10</sup>, <sup>1</sup>Louisiana State Univ. AgCenter, Baton Rouge, LA, <sup>2</sup>Louisiana State Univ., Baton Rouge, LA, <sup>3</sup>Univ. of Arkansas, Lonoke, AR, <sup>4</sup>Mississippi State Univ., Stoneville, MS, <sup>5</sup>Mississippi State Univ., Mississippi State, MS, <sup>6</sup>Alabama CES, Madison, AL, <sup>7</sup>North Carolina State Univ., Plymouth, NC, <sup>8</sup>Univ. of Georgia, Tifton, GA, <sup>9</sup>The Univ. of Tennessee, Jackson, TN, <sup>10</sup>DuPont Pioneer, Union City, TN

**3:50 69** Assessing Resistance to Foliar Insecticides in Populations of Soybean Aphids and Two-Spotted Spider Mites. **Robert Koch** (koch0125@umn.edu)<sup>1</sup>, Ian MacRae<sup>2</sup> and Bruce D. Potter<sup>3</sup>, <sup>1</sup>Univ. of Minnesota, Saint Paul, MN, <sup>2</sup>Univ. of Minnesota, Crookston, MN, <sup>3</sup>Univ. of Minnesota, Lamberton, MN

**4:08 70** Monitoring for Neonicotinoid Resistance in Soybean Aphid. **Matheus Ribeiro** (matheusgpmr@gmail.com)<sup>1</sup>, Blair Siegfried<sup>2</sup> and Thomas Hunt<sup>3</sup>, <sup>1</sup>Univ. of Nebraska - Lincoln, Lincoln, NE, <sup>2</sup>Univ. of Florida, Gainesville, FL, <sup>3</sup>Univ. of Nebraska, Concord, NE

**4:26 71** Implications of Neonicotinoid Use in Row Crops: Linking Cross-Commodity Seed Treatment Use to Insecticide Resistance. **Anders Huseth** (ashuseth@ncsu.edu), Thomas Chappell and George G. Kennedy, North Carolina State Univ., Raleigh, NC

**4:44 72** Prospects for Managing Resistance Among Soybean Insect Pests. **J.M. Beuzelin** (jbeuzel@tigers.lsu.edu), Louisiana State Univ. AgCenter, Baton Rouge, LA

## STUDENT POSTER PRESENTATION COMPETITION

**8:00 AM to 5:00 PM**  
Oak Forest Ballroom Prefunction Area

**PRESENTERS AT POSTERS  
FROM 1:30 PM - 2:30**



# Monday, 14 March

## M.S. STUDENT POSTER PRESENTATION COMPETITION

**P-1** Integrated Pest Management of the Southern Green Stinkbug, *Nezara viridula* (Hemiptera: Pentatomidae), for Tomatoes in North Florida. **Tavia Gordon** (taviagordon@yahoo.com)<sup>1</sup>, Muhammad Haseeb<sup>1</sup>, Lambert Kanga<sup>1</sup> and Jesusa C. Legaspi<sup>2</sup>, <sup>1</sup>Florida A&M Univ., Tallahassee, FL, <sup>2</sup>USDA - ARS, Tallahassee, FL

**P-2** Occurrence of Select Parasites and Pathogens in Arkansas Honey Bees. **Dylan Cleary** (dacleary@uark.edu), A. L. Szalanski and Donald C. Steinkraus, Univ. of Arkansas, Fayetteville, AR

**P-3** Laboratory Studies Indicate Early Scarlet Cowpea Variety is a Potential Intra-specific Trap Crop for the Management of the Brown Marmorated Stink Bug, *Halyomorpha halys* (Stål). **Olusola Jeje** (ojeje@aggies.ncat.edu), Beatrice Dingha, Sanjun Gu, Dukka KC and Louis E.N. Jackai, North Carolina A&T State Univ., Greensboro, NC

**P-4** Evaluating the Impact of Defoliation at Multiple Timings in Peanut. Jeff Gore<sup>1</sup>, **Chad Abbott** (cca169@msstate.edu)<sup>2</sup>, Don Cook<sup>1</sup> and Jason Sarver<sup>2</sup>, <sup>1</sup>Mississippi State Univ., Stoneville, MS, <sup>2</sup>Mississippi State Univ., Mississippi State, MS

**P-5** Discovery of Stilbene Acaricides for Managing the Honey Bee Pest, *Varroa destructor*. **Philene D. Vu** (phivu@vt.edu) and Troy Anderson, Virginia Polytechnic Institute and State Univ., Blacksburg, VA

**P-6** Hessian Fly (*Mayetiola destructor*) Interaction with Seed Applied and Foliar Applied Insecticides. **Forrest Howell** (fchowell@ncsu.edu)<sup>1</sup>, Dominic Reisig<sup>2</sup> and Hannah Burrack<sup>1</sup>, <sup>1</sup>North Carolina State Univ., Raleigh, NC, <sup>2</sup>North Carolina State Univ., Plymouth, NC

**P-7** A Morphological Phylogeny of the Nightshade Flea Beetles *Epitrix* and *Acallepitrix* in America North of Mexico. **Anthony Deczynski** (adeczyn@g.clemson.edu), Clemson Univ., Clemson, SC

**P-8** Control of *Musca domestica*: a Comparative Study of Granular House Fly Baits. **Brent Phelan** (BPhelan@uga.edu), Brian D. Fairchild and Nancy C. Hinkle, Univ. of Georgia, Athens, GA

**P-9** Monitoring and Management of *Drosophila suzukii* (Diptera: Drosophilidae) on Blueberry and Blackberry Crops in Florida. **Dasia Harmon** (dasiaharmon@yahoo.com)<sup>1</sup>, Muhammad Haseeb<sup>1</sup>, Lambert Kanga<sup>1</sup> and Oscar Liburd<sup>2</sup>, <sup>1</sup>Florida A&M Univ., Tallahassee, FL, <sup>2</sup>Univ. of Florida, Gainesville, FL

# Monday, 14 March

**P-10** Biocontrol of the Small Hive Beetle (*Aethina tumida* Murray) Using Fungal Pathogens. **Keyerra Rozier** (key\_le09@yahoo.com), Lambert Kanga and Anthony Ananga, Florida A&M Univ., Tallahassee, FL

## PH.D STUDENT POSTER PRESENTATION COMPETITION

**P-11** Evaluation of Sub-Lethal Effects of Ingested Insect Growth Regulators, Hydroprene and s-Methoprene, on Bed Bugs (*Cimex lectularius*). **Angela Sierras** (ajsierra@ncsu.edu) and Coby Schal, North Carolina State Univ., Raleigh, NC

**P-12** Effects of *Bell Pepper Endornavirus* (BPEV) on the Green Peach Aphid Host Selection and Population Dynamics. **Sunil Paudel** (spaude2@lsu.edu)<sup>1</sup> and Jeffrey A. Davis<sup>2</sup>, <sup>1</sup>Louisiana State Univ., Baton Rouge, LA, <sup>2</sup>Louisiana State Univ. AgCenter, Baton Rouge, LA

**P-13** Toxicity of Imidacloprid through Multiple Routes of Exposure to *Jalysus wickhami* (Hemiptera: Berytidae). **Peter Nelson** (pnnelson@ncsu.edu)<sup>1</sup>, Hannah Burrack<sup>2</sup> and Clyde E. Sorenson<sup>2</sup>, <sup>1</sup>NC State Univ., Raleigh, NC, <sup>2</sup>North Carolina State Univ., Raleigh, NC

**P-14** Confirming the Documented Graminous Host Range for Sugarcane Aphid [*Melanaphis sacchari* (Zehntner) (Aphididae)]. **Greg Wilson** (gbwilson@agcenter.lsu.edu)<sup>1</sup> and David L. Kerns<sup>2</sup>, <sup>1</sup>Louisiana State Univ., Baton Rouge, LA, <sup>2</sup>Louisiana State Univ. Agricultural Center, Winnsboro, LA

**P-15** Speciation Patterns of Beetle in the Highlands of Ecuador. **Sofia Muñoz-Tobar** (smunoz@clemson.edu), Clemson Univ., Clemson, SC

**P-16** Intraspecific Competition May Drive Resource Use Diversity in *Drosophila suzukii*. **Katharine Swoboda Bhattarai** (kaswobod@ncsu.edu) and Hannah Burrack, North Carolina State Univ., Raleigh, NC

**P-17** Population Dynamics of Green Peach Aphid, *Myzus persicae* (Sulzer) on Sweetpotato Weevil, *Cylas formicarius* (Fabricius), Infested or Noninfested Sweetpotato Plants. **Jie Chen** (jchen31@lsu.edu)<sup>1</sup>, Jeffrey A. Davis<sup>2</sup>, Julien M. Beuzelin<sup>3</sup>, Michael Stout<sup>1</sup>, M. J. Murray<sup>2</sup>, D. R. LaBonte<sup>2</sup> and Tara P. Smith<sup>4</sup>, <sup>1</sup>Louisiana State Univ. Agricultural Center, Baton Rouge, LA, <sup>2</sup>Louisiana State Univ. AgCenter, Baton Rouge, LA, <sup>3</sup>Louisiana State Univ. AgCenter, Alexandria, LA, <sup>4</sup>Louisiana State Univ., Chase, LA

# Monday, 14 March

## UNDERGRADUATE STUDENT POSTER PRESENTATION COMPETITION

**P-18** Molecular Evidence for a Decline in Pyrethroid Resistance from the *kdr* Locus in *Heliothis virescens*.

**Alexandra DeYonke** (amdeyonk@ncsu.edu), Megan Fritz and Fred Gould, North Carolina State Univ., Raleigh, NC

**P-19** Weight-Bearing Limits of American Cockroaches (*Periplaneta americana*). **E'Neysia Denny**

(Edenny94@gmail.com) and Eric Butler, Shaw Univ., Raleigh, NC

**P-20** A Novel System for Correlating Bee Activity with Temperature. **Krystal La Flora** (krystallaflora@gmail.com)<sup>1</sup>, Mark Schlueter<sup>2</sup> and Eric Butler<sup>1</sup>, <sup>1</sup>Shaw Univ., Raleigh, NC, <sup>2</sup>Georgia Gwinnett College, Lawrenceville, GA

**P-21** Effects of Temperature on Melanization of Carpenter Ants. **Brittany Ballentine**

(brittanye.ballentine@bears.shawu.edu)<sup>1</sup>, Natavia Ray<sup>1</sup> and De Anna Estella Beasley<sup>2</sup>, <sup>1</sup>Shaw Univ., Raleigh, NC, <sup>2</sup>North Carolina State Univ., Raleigh, NC

**P-22** A Multi-Year Survey of Bee (Superfamily Apoidea) Diversity and Abundance in Georgia Apple Orchards (2010-2015). **Nicholas Stewart** (nstewart@ggc.edu) and Mark Schlueter, Georgia Gwinnett College, Lawrenceville, GA

**P-23** Effects of Urbanization on Melanization and Immune Response in Ants. **Natavia Ray**

(natavias.ray@bears.shawu.edu)<sup>1</sup>, Brittany Ballentine<sup>1</sup> and De Anna Estella Beasley<sup>2</sup>, <sup>1</sup>Shaw Univ., Raleigh, NC, <sup>2</sup>Univ. of South Carolina, Columbia, SC

**P-24** Behavioral Camouflage in *Phidippus* Jumping Spiders. **Michael Diaz** (Diazmike66@gmail.com) and Eric Butler, Shaw Univ., Raleigh, NC

## CONTRIBUTED POSTER PRESENTATIONS

**8:00 AM to 5:00 PM**

Oak Forest Ballroom Prefunction Area

**PRESENTERS AT POSTERS  
FROM 1:30 PM - 2:30**

**P-25** Survey of Insect Availability for Foraging Bats in the Shoal Creek District of Alabama's Talladega National Forest. **Katherine Chambers** (kchambe3@my.westga.edu)<sup>1</sup>, Eric Mashburn<sup>1</sup>, Jeremy Moore<sup>2</sup>, Eric Dendy<sup>3</sup>, Austin Kirkland<sup>1</sup> and Gregory Payne<sup>1</sup>, <sup>1</sup>Univ. of West Georgia, Carrollton, GA, <sup>2</sup>Georgia Dept. of Public Health, Carrollton, GA, <sup>3</sup>USDA, Atlanta, GA

# Monday, 14 March

**P-26** Phylogeny of the Neotropical genus *Pselaphomorphus* Motschulsky, 1855 (Staphylinidae, Pselaphinae: Jubini). **Laura Vasquez-Velez** (lvasque@clemson.edu), Clemson Univ., Clemson, SC

**P-27** Genetic Variation of *Nasutitermes* Termites from Abaco, Bahamas. **Clinton E. Trammel** (cetramme@uark.edu)<sup>1</sup>, Allen L. Szalanski<sup>2</sup>, Rudolph H. Scheffrahn<sup>3</sup> and James Austin<sup>4</sup>, <sup>1</sup>Univ. of Arkansas, Fayetteville, AR, <sup>2</sup>University of Arkansas, Fayetteville, AR, <sup>3</sup>Univ. of Florida, Ft. Lauderdale, FL, <sup>4</sup>BASF Corporation, Raleigh, NC

**P-28** Ant Body Sculpturing and Pathogen Defense: Hidden Function behind the Aesthetics. **Kiran Gangwani** (kdgangwa@ncsu.edu), Omar Halawani, Ted Bledsoe, Michael Jones, Rob R. Dunn, Margarita López-Urbe and Clint Penick, North Carolina State Univ., Raleigh, NC

**P-29** Altered Enzymatic Activities and Genes Expressions in Honey Bees after Imidacloprid Exposure. **Jianxiu Yao** (jianxiu.yao@ars.usda.gov)<sup>1</sup>, Yu Cheng Zhu<sup>2</sup>, John Adamczyk<sup>3</sup> and Randall Luttrell<sup>4</sup>, <sup>1</sup>USDA-ARS, Stoneville, MS, <sup>2</sup>USDA-ARS Jamie Whitten Delta States Research Center, Stoneville, MS, <sup>3</sup>USDA - ARS, Poplarville, MS, <sup>4</sup>USDA - ARS, Stoneville, MS

**P-30** Cry1Ac Toxin Mode of Action in Heliothines. **Heba Abdelgaffar** (habelga@utk.edu)<sup>1</sup>, Cris Oppert<sup>2</sup>, Jessica Monserrate<sup>2</sup> and Juan Luis Jurat-Fuentes<sup>1</sup>, <sup>1</sup>Univ. of Tennessee, Knoxville, TN, <sup>2</sup>Bayer CropScience, Morrisville, NC

**P-31** Species Richness of Eruciform Larvae Associated with Native and Alien Plants in the Southeastern United States. **Carl Clem** (csc0013@tigermail.auburn.edu), Auburn Univ., Auburn, AL

**P-32** A Multi-Year Survey of Flower Fly (Family Syrphidae) Diversity and Abundance in Georgia Apple Orchards (2010-2015). **Peter Schlueter** (pmschl8466@ung.edu)<sup>1</sup> and Mark Schlueter<sup>2</sup>, <sup>1</sup>Univ. of North Georgia, Oakwood, GA, <sup>2</sup>Georgia Gwinnett College, Lawrenceville, GA

**P-33** Influence of Four Fall Host Plants on Populations of *Lygus lineolaris*. Gordon Snodgrass and **Katherine Parys** (katherine.parys@ars.usda.gov), USDA - ARS, Stoneville, MS

**P-34** Laboratory Evaluation of Selected Insecticides on Field-Collected Populations of Bollworm (*Helicoverpa zea*) and Tobacco Budworm (*Heliothis virescens*) Larvae-2015 Update. **Eric Mashburn** (emashbu1@my.westga.edu), Kody Fennell and Gregory Payne, Univ. of West Georgia, Carrollton, GA

**P-35** Measuring Sugarcane Aphid Susceptibility for Sulfoxaflo and Flupyradifurone. **John Gonzales** (JGonzales@agcenter.lsu.edu)<sup>1</sup>, David L. Kerns<sup>2</sup> and Sebe Brown<sup>1</sup>, <sup>1</sup>Louisiana State Univ., Winnsboro, LA, <sup>2</sup>Louisiana State Univ. Agricultural Center, Winnsboro, LA

# Monday, 14 March

**P-36** *Cacopsylla tobirae* (Miyatake) (Hemiptera: Psyllidae), a New Pest to North Carolina and a Threat to Japanese Pittosporum (*Pittosporum tobira* (Thunb.)) in the Southeast. **Matthew Bertone** (matt\_bertone@ncsu.edu), North Carolina State Univ., Raleigh, NC

**P-37** Assessing the Potential Effects of Chronic Thiamethoxam Exposure to Honey Bees: Results of a Hive Feeding Study Conducted in North Carolina, USA. **Max Feken** (Max.Feken@SYNGENTA.COM), Jay Overmyer and Fred Rice, Syngenta Crop Protection, Greensboro, NC

**P-38** Quantification and Molecular Characterization of Endemic *Beauveria bassiana* (Balsamo) Vuillemin Populations within Kudzu Soils. **Carly Lewallen** (ca.lewallen@wingate.edu)<sup>1</sup>, Erika Niland<sup>1</sup> and Wayne Gardner<sup>2</sup>, <sup>1</sup>Wingate Univ., Wingate, NC, <sup>2</sup>Univ. of Georgia, Griffin, GA

**P-39** Varietal Response to Tobacco Thrips, *Frankliniella fusca*, Feeding in Cotton. **Chelsie Darnell** (chd102@msstate.edu)<sup>1</sup>, Angus Catchot<sup>1</sup>, Fred Musser<sup>1</sup>, Don Cook<sup>2</sup>, Jeff Gore<sup>2</sup>, Darrin Dodds<sup>1</sup> and Shannon Morsello<sup>3</sup>, <sup>1</sup>Mississippi State Univ., Mississippi State, MS, <sup>2</sup>Mississippi State Univ., Stoneville, MS, <sup>3</sup>Syngenta, Greensboro, NC

**P-40** Progress in the Identification of the Compounds in the Kudzu Bug, *Megacopta cribraria*. **Heather Clontz** (h.clontz@wingate.edu) and Erika Niland, Wingate Univ., Wingate, NC

**P-41** Effect of Sorghum Planting Date on Density and Management of the Sugarcane Aphid, *Melanaphis sacchari*. **Nicholas Seiter** (nseiter@uaex.edu)<sup>1</sup>, Glenn Studebaker<sup>2</sup> and Gus Lorenz<sup>3</sup>, <sup>1</sup>Univ. of Arkansas, Monticello, AR, <sup>2</sup>Univ. of Arkansas Cooperative Extension Service, Keiser, AR, <sup>3</sup>Univ. of Arkansas, Lonoke, AR

**P-42** Insect Pest Management in Cotton is Alive and Well in Tennessee. **Sandy Steckel** (ssteckel@utk.edu)<sup>1</sup> and Scott Stewart<sup>2</sup>, <sup>1</sup>Univ. of Tennessee, Jackson, TN, <sup>2</sup>The Univ. of Tennessee, Jackson, TN

**P-43** Natural Incidence of *Beauveria bassiana* on Tarnished Plant Bug Nymphs and Adults from Wild Host in the Mississippi Delta. **Maribel Portilla** (maribel.portilla@ars.usda.gov), Randall Luttrell and Katherine Parys, USDA - ARS, Stoneville, MS

**P-44** Sivanto® prime: Rapid Feeding Cessation and Control of Sucking Pests in Fruit and Vegetables. **Amanda Beaudoin** (amanda.beaudoin@bayer.com), Bayer CropScience, Research Triangle Park, NC

**P-45** Natural Levels of Parasitism on Tarnished Plant Bug Nymphs and Adults from Wild Hosts in the Mississippi Delta. **Tabatha Nelson** (tabatha.nelson@ars.usda.gov)<sup>1</sup>, Maribel Portilla<sup>2</sup>, Randall Luttrell<sup>2</sup> and Katherine Parys<sup>2</sup>, <sup>1</sup>USDA-ARS, Stoneville, MS, <sup>2</sup>USDA - ARS, Stoneville, MS

# Monday, 14 March

**P-46** Exploring Resistant Varieties for Managing Sugarcane Aphid in Louisiana Sorghum. **Fangneng Huang** (fhunag@agcenter.lsu.edu)<sup>1</sup>, David L. Kerns<sup>2</sup> and Rick Mascagni<sup>3</sup>, <sup>1</sup>Louisiana State Univ., Baton Rouge, LA, <sup>2</sup>Louisiana State Univ. Agricultural Center, Winnsboro, LA, <sup>3</sup>Louisiana State Univ. Agricultural Center, St. Joseph, LA

**P-47** Evaluating Short-Term Detection of Imidacloprid in Streams Following Soil Applications in Hemlock Systems. **Gregory J. Wiggins** (wiggybug@utk.edu), Elizabeth P. Benton, Jerome F. Grant and Paris L. Lambdin, Univ. of Tennessee, Knoxville, TN

**P-48** Feeding Preference of *Helicoverpa zea* Larvae in Soybeans. **Ian McAreavy** (Icmcare@ncsu.edu)<sup>1</sup>, Dominic Reisig<sup>2</sup>, Don Cook<sup>3</sup>, Jeremy Greene<sup>4</sup>, Michael Caprio<sup>5</sup>, Francis Reay-Jones<sup>6</sup> and Fred Musser<sup>5</sup>, <sup>1</sup>North Carolina State Univ., Raleigh, NC, <sup>2</sup>North Carolina State Univ., Plymouth, NC, <sup>3</sup>Mississippi State Univ., Stoneville, MS, <sup>4</sup>Clemson Univ., Blackville, SC, <sup>5</sup>Mississippi State Univ., Mississippi State, MS, <sup>6</sup>Clemson Univ., Florence, SC

**P-49** Comparison of Ambrosia Beetle Communities in Two Hosts with Laurel Wilt: Swampbay vs. Avocado. **Paul E. Kendra** (paul.kendra@ars.usda.gov)<sup>1</sup>, Wayne S. Montgomery<sup>1</sup>, Teresa Narvaez<sup>2</sup> and Daniel Carrillo<sup>2</sup>, <sup>1</sup>USDA - ARS, Miami, FL, <sup>2</sup>Univ. of Florida, Homestead, FL

**P-50** Prey Size Selection By the Buprestid Hunting Wasp *Cerceris fumipennis*. **Christine A. Nalepa** (christine.nalepa@ncagr.gov) and Whitney Swink, North Carolina Dept. of Agriculture, Raleigh, NC

**P-51** Host Selection, Growth, and Survival of Melonworm, *Diaphania hyalinata* L. (Lepidoptera: Crambidae), on Four Cucurbit Crops Under Laboratory Conditions. **Babu Panthi** (panthibabu@ufl.edu)<sup>1</sup>, Dakshina Seal<sup>2</sup>, Gregg Nuessly<sup>3</sup> and John Capinera<sup>1</sup>, <sup>1</sup>Univ. of Florida, Gainesville, FL, <sup>2</sup>Univ. of Florida, Homestead, FL, <sup>3</sup>Univ. of Florida, Belle Glade, FL

**P-52** Impact of Farmscaping on the Stink Bug Density over Corn. **Arun Babu** (ababu2@ncsu.edu)<sup>1</sup>, Dominic Reisig<sup>2</sup> and Wesley Everman<sup>1</sup>, <sup>1</sup>North Carolina State Univ., Raleigh, NC, <sup>2</sup>North Carolina State Univ., Plymouth, NC

**P-53** The Nuts and Bolts of 'Walnut Alert': Using Outreach to Keep the Nuts in the Trees. **Jerome F. Grant** (jgrant@utk.edu)<sup>1</sup>, Frank Hale<sup>2</sup>, Alan Windham<sup>2</sup>, Gregory J. Wiggins<sup>1</sup> and Paris L. Lambdin<sup>1</sup>, <sup>1</sup>Univ. of Tennessee, Knoxville, TN, <sup>2</sup>Univ. of Tennessee, Nashville, TN

**P-54** Monitoring and Evaluating Establishment of Introduced Parasitoids of Emerald Ash Borer in Tennessee: Panning for Parasitoids. **James Palmer** (jpalme22@vol.utk.edu), Gregory J. Wiggins and Jerome F. Grant, Univ. of Tennessee, Knoxville, TN

# Monday, 14 March

**P-55** Remote Sensing as a Tool to Assess Biological Control of Hemlock Woolly Adelgid. **Wanwan Liang** (wliang@vols.utk.edu)<sup>1</sup>, Abdul Hakeem<sup>2</sup>, Jerome F. Grant<sup>3</sup> and Gregory J. Wiggins<sup>3</sup>, <sup>1</sup>The Univ. of Tennessee, Knoxville, TN, <sup>2</sup>Texas A&M Univ., Lubbock, TX, <sup>3</sup>Univ. of Tennessee, Knoxville, TN

**P-56** Identification of Potential Wild Host Habitats for *Drosophila suzukii* and Their Distribution Around Cultivated Blueberry Farms. Lindsay Iglesias, **Oscar Liburd** (oeliburd@ufl.edu) and Sabine Grunwald, Univ. of Florida, Gainesville, FL

**P-57** Melon Thrips, *Thrips palmi* Karny, Population Abundance and Distribution in Tomato Fields in South Florida. **Dakshina Seal** (dseal@ifas.ufl.edu)<sup>1</sup>, M Razzak<sup>2</sup> and C Sabines<sup>2</sup>, <sup>1</sup>Univ. of Florida, Homestead, FL, <sup>2</sup>Univeristy of Florida, Homestead, FL

**P-58** Student and Community Perceptions of Edible Insects. **Gillian Caudill** (ardeo@uga.edu) and Marianne Shockley, Univ. of Georgia, Athens, GA

**P-59** Investigating the Effect of Native Plants on Medically Important Arthropods: An Undergraduate Research Experience. **William Dees** (wdees@mcneese.edu)<sup>1</sup>, Caleb Ardizzone<sup>1</sup>, Omar Christian<sup>1</sup>, Jill Hightower<sup>2</sup>, Cecilia Richmond<sup>1</sup> and Janet Woolman<sup>1</sup>, <sup>1</sup>McNeese State Univ., Lake Charles, LA, <sup>2</sup>Calcasieu Parish Mosquito Control, Lake Charles, LA

**P-60** Genetic Variation of the Bed Bug, *Cimex lectularius* (Hemiptera: Cimicidae), at a Fine Spatial Scale within Low-Income High-Rise Housing. **Jennifer G. Chandler** (jchand11@utk.edu), Karen M. Vail and Rebecca T. Trout Fryxell, Univ. of Tennessee, Knoxville, TN

**P-61** Dust Treatments for Crevice Applications for Brown Dog Tick Management. **Emma N. I. Weeks** (eniweeks@ufl.edu) and Brooke Cantrell, Univ. of Florida, Gainesville, FL

## LINNAEAN GAMES, FINAL ROUND

**5:00 PM – 7:00**  
Oak Forest Ballroom

## MONDAY NIGHT RECEPTION

**7:30 PM – 9:00**  
North Carolina Museum of Natural  
Sciences, Nature Research Center

**Tuesday, 15 March**

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**PROGRAM SUMMARY**  
**TUESDAY, 15 MARCH**

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|-----------------------|--|
| <b>7:00 AM-8:00</b>   | <b>Past Presidents Breakfast</b><br><i>Jimmy V's Osteria</i>   |
| <b>7:00 AM-12:00</b>  | <b>Registration</b><br><i>Oak Forest Ballroom Prefunction Area</i>   |
| <b>7:00 AM-4:00</b>   | <b>Audiovisual and Job Placement</b><br><i>Pin Oak</i>   |
| <b>8:00 AM-4:00</b>   | <b>Poster Presentations</b><br><i>Oak Forest Ballroom Prefunction Area</i>   |
| <b>8:00 AM-11:45</b>  | <b>SYMPOSIUM: Pest Issues and Management at the Interface of Natural and Managed Systems</b><br><i>Governor's Room I</i> |
| <b>8:00 AM-11:55</b>  | <b>Contributed Papers I: P-IE</b><br><i>Magnolia Room I</i>  |
| <b>8:10 AM-11:45</b>  | <b>SYMPOSIUM: Turf and Ornamental Entomology</b><br><i>Magnolia Room II</i>  |
| <b>8:30 AM-11:35</b>  | <b>STUDENT SYMPOSIUM: Advances in Understanding Southeastern Insect Biodiversity</b><br><i>Governor's Room II</i>        |
| <b>10:00 AM-10:15</b> | <b>Break</b><br><i>Oak Forest Ballroom Prefunction Area</i>  |
| <b>12:00 PM-1:30</b>  | <b>Awards Luncheon and Photo Salon</b><br><i>Oak Forest Ballroom</i>   |
| <b>1:45 PM-4:10</b>   | <b>SYMPOSIUM: Turf and Ornamental Entomology (continued)</b><br><i>Magnolia Room II</i>                                  |
| <b>1:45 PM-4:15</b>   | <b>Contributed Papers II: P-IE</b><br><i>Magnolia Room I</i>   |
| <b>1:45 PM-4:15</b>   | <b>SYMPOSIUM: Vegetable Entomology</b><br><i>Governor's Room II</i>  |
| <b>2:00 PM-4:00</b>   | <b>Contributed Papers III: MUVE, PBT, SysEB</b><br><i>Governor's Room I</i>  |
| <b>3:00 PM-3:15</b>   | <b>Break</b><br><i>Oak Forest Ballroom Prefunction Area</i>  |
| <b>4:30 PM-6:00</b>   | <b>Final Business Meeting</b><br><i>Governor's Room I</i>  |



**Tuesday, 15 March**

**POSTER PRESENTATIONS**

**8:00 AM to 4:00 PM**

Oak Forest Ballroom Prefunction Area

**All poster titles and authors are  
listed earlier in the program.**

**SYMPOSIUM**

**Pest Issues and Management  
at the Interface of Natural and  
Managed Systems**

**8:00 AM – 11:45**

Governor's Room I

**Organizers and Moderators:**

Lauren M. Diepenbrock and

Katharine Swoboda-Bhattarai

**8:00 73** Impact of Non-Managed Habitats on Orchard Arthropod Communities. **James F. Walgenbach** (Jim\_Walgenbach@ncsu.edu), North Carolina State Univ., Mills River, NC

**8:15 74** Spatio-Temporal Host Utilization of *T. tabaci* in Onion Agroecosystems. **Alana Jacobson** (alj0043@auburn.edu)<sup>1</sup>, George G. Kennedy<sup>2</sup> and Brian A. Nault<sup>3</sup>, <sup>1</sup>Auburn Univ., Auburn, AL, <sup>2</sup>North Carolina State Univ., Raleigh, NC, <sup>3</sup>Cornell Univ., Geneva, NY

**8:30 75** Dispersal of *Megacocta cribraria* from Kudzu Using a Mark-Recapture Method and Implications for Management in Soybean. **Francis Reay-Jones** (freayjo@clemson.edu)<sup>1</sup>, Ian Knight<sup>2</sup>, Dominic Reisig<sup>3</sup> and Michael Toews<sup>2</sup>, <sup>1</sup>Clemson Univ., Florence, SC, <sup>2</sup>Univ. of Georgia, Tifton, GA, <sup>3</sup>North Carolina State Univ., Plymouth, NC

**8:45 76** Tracking Early-Season Stink Bug Aggregation and Movement into Field Crops. **Dominic Reisig** (dominic\_reisig@ncsu.edu)<sup>1</sup>, Arun Babu<sup>2</sup>, Francis Reay-Jones<sup>3</sup> and Michael Toews<sup>4</sup>, <sup>1</sup>North Carolina State Univ., Plymouth, NC, <sup>2</sup>North Carolina State Univ., Raleigh, NC, <sup>3</sup>Clemson Univ., Florence, SC, <sup>4</sup>Univ. of Georgia, Tifton, GA

**9:00 77** Non-Crop Habitat Affects *Drosophila suzukii* Infestation in Commercial Blackberry Fields. **Katharine Swoboda Bhattarai** (kaswobod@ncsu.edu) and Hannah Burrack, North Carolina State Univ., Raleigh, NC

## Tuesday, 15 March

**9:15 78** The Role of Natural Habitat in Facilitating Biological Invasion of an Economic Pest of Small Fruits. **Lauren M. Diepenbrock** (laurendiepenbrock@gmail.com)<sup>1</sup>, Katharine Swoboda-Bhattarai<sup>2</sup> and Hannah Burrack<sup>1</sup>, <sup>1</sup>North Carolina State Univ., Raleigh, NC, <sup>2</sup>North Carolina State University, Raleigh, NC

**9:30 79** Non-Crop Host Infestation By a Polyphagous Fly: Seasonal Dynamics and Host Preference. **Gregory M. Loeb** (gme1@cornell.edu)<sup>1</sup> and Johanna Elsensohn<sup>2</sup>, <sup>1</sup>Cornell Univ., Geneva, NY, <sup>2</sup>North Carolina State Univ., Raleigh, NC

**9:45 80** Disadvantages to Cover Crops: Alternate Bridging Hosts for Stink Bugs. **Jeffrey A. Davis** (jeffdavis@agcenter.lsu.edu), Louisiana State Univ. AgCenter, Baton Rouge, LA

10:00 Break

**10:15 81** Trade-Offs in Habitat Management for Beneficials: Implications of Habitat Provisioning for Pest Populations. **Jason M. Schmidt** (jschmid2@uga.edu)<sup>1</sup> and Julie Peterson<sup>2</sup>, <sup>1</sup>Univ. of Georgia, Tifton, GA, <sup>2</sup>Univ. of Nebraska, North Platte, NE

**10:30 82** Stem Borer Use of Weedy Hosts: Landscape Management Implications for Sugarcane and Rice Production. **Julien M. Beuzelin** (JBeuzelin@agcenter.lsu.edu)<sup>1</sup>, Yubin Yang<sup>2</sup>, Lloyd T. Wilson<sup>2</sup>, Thomas E. Reagan<sup>3</sup> and Jing Wang<sup>2</sup>, <sup>1</sup>Louisiana State Univ. AgCenter, Alexandria, LA, <sup>2</sup>Texas A&M AgriLife Research, Beaumont, TX, <sup>3</sup>Louisiana State Univ. AgCenter, Baton Rouge, LA

**10:45 83** Biological Control of Purple Loosestrife in Natural and Managed Wetlands. **Robert N. Wiedenmann** (rwieden@uark.edu), Univ. of Arkansas, Fayetteville, AR

**11:00 84** Are We Managing Southern Pine Forests for Resilience to Abiotic and Biotic Impacts? **Kamal Gandhi** (kjgandhi@uga.edu)<sup>1</sup>, Brittany Barnes<sup>1</sup>, David Coyle<sup>1</sup>, Kier Klepzig<sup>2</sup>, Frank Koch<sup>3</sup>, Larry Morris<sup>1</sup>, John T. Nowak<sup>4</sup>, Bill Otrosina<sup>5</sup> and Bill Smith<sup>6</sup>, <sup>1</sup>Univ. of Georgia, Athens, GA, <sup>2</sup>USDA Forest Service, Asheville, NC, <sup>3</sup>USDA - Forest Service, Research Triangle Park, NC, <sup>4</sup>USDA - Forest Service, Asheville, NC, <sup>5</sup>USDA - Forest Service, Athens, GA, <sup>6</sup>USDA - Forest Service, Raleigh, GA

**11:15 85** Over the Edge: An Ambrosia Beetle's Journey from Ecosystem Service to Economic Injury. **Blair Sampson** (blair.sampson@ars.usda.gov)<sup>1</sup>, Chris Werle<sup>2</sup>, Juang Horng Chong<sup>3</sup>, Michael E. Reding<sup>4</sup> and John Adamczyk<sup>1</sup>, <sup>1</sup>USDA - ARS, Poplarville, MS, <sup>2</sup>Louisiana State Univ., Baton Rouge, LA, <sup>3</sup>Clemson Univ., Florence, SC, <sup>4</sup>USDA - ARS, Wooster, OH

**11:30 86** IPM in Agricultural, Forest and Natural Systems: The Good, the Bad, and the Bugly. **Jerome F. Grant** (jgrant@utk.edu)<sup>1</sup>, Paris L. Lambdin<sup>1</sup>, Gregory J. Wiggins<sup>1</sup> and R. Jesse Webster<sup>2</sup>, <sup>1</sup>Univ. of Tennessee, Knoxville, TN, <sup>2</sup>National Parks Service, Gatlinburg, TN

# Tuesday, 15 March

## CONTRIBUTED PAPERS I Plant-Insect Ecosystems

**8:00 AM – 11:55**

Magnolia Room I

### **Moderators:**

Xinzhi Ni and Fred Musser

**8:00 87** Effect of Planting Date on Populations of Thrips in Cotton. **Jeremy Greene** (greene4@clemson.edu)<sup>1</sup>, Francis Reay-Jones<sup>2</sup>, Francesca Stubbins<sup>1</sup>, Dan Robinson<sup>1</sup> and James Smoak<sup>1</sup>, <sup>1</sup>Clemson Univ., Blackville, SC, <sup>2</sup>Clemson Univ., Florence, SC

**8:12 88** The Impact of a New Bt Cotton Trait on Thrips (Thysanoptera: Thripidae) and Their Injury in Seedling Cotton. **Scott Graham** (sg595@msstate.edu) and Scott Stewart, The Univ. of Tennessee, Jackson, TN

**8:24 89** Terminating Insecticide Sprays for Tarnished Plant Bug in Cotton. **Mid-South Entomology Working Group** (jgore@ext.msstate.edu), Land-Grant Institutions in the Mid-South, Stoneville, MS

**8:36 90** Incorporation of Transform™ Insecticide in Tarnished Plant Bug Programs: Efficacy, Yield and Economics in Large Plot Demonstration Trials. **Larry Walton** (lwalton@dow.com)<sup>1</sup>, Robert Haygood<sup>2</sup>, Melissa Willrich Siebert<sup>3</sup>, Jeff Ellis<sup>4</sup> and John Richburg<sup>5</sup>, <sup>1</sup>Dow AgroSciences, Tupelo, MS, <sup>2</sup>Dow AgroSciences, Indianapolis, IN, <sup>3</sup>Dow AgroSciences, Greenville, MS, <sup>4</sup>Dow AgroSciences, Sterlington, LA, <sup>5</sup>Dow AgroSciences, Headland, AL

**8:48 91** Susceptibility of Field Populations of the Cotton Bollworm to Purified Cry1Ac Protein and Cotton Leaf Tissues Containing Cry1Ac Protein. **Fei Yang** (fyang@agcenter.lsu.edu)<sup>1</sup> and David L. Kerns<sup>2</sup>, <sup>1</sup>Louisiana State Univ., Baton Rouge, LA, <sup>2</sup>Louisiana State Univ. Agricultural Center, Winnsboro, LA

**9:00 92** Effectiveness of Bt Cotton Towards Bollworms and Benefit of Supplemental Oversprays. **David L. Kerns** (dkerns@agcenter.lsu.edu)<sup>1</sup>, Sebe Brown<sup>2</sup>, Angus Catchot<sup>3</sup>, Don Cook<sup>4</sup>, Jeff Gore<sup>4</sup>, Fangneng Huang<sup>5</sup>, Gus Lorenz<sup>6</sup>, Nicholas Seiter<sup>7</sup>, Scott Stewart<sup>8</sup>, Glenn Studebaker<sup>9</sup> and Fei Yang<sup>5</sup>, <sup>1</sup>Louisiana State Univ. Agricultural Center, Winnsboro, LA, <sup>2</sup>Louisiana State Univ., Winnsboro, LA, <sup>3</sup>Mississippi State Univ., Mississippi State, MS, <sup>4</sup>Mississippi State Univ., Stoneville, MS, <sup>5</sup>Louisiana State Univ., Baton Rouge, LA, <sup>6</sup>Univ. of Arkansas, Lonoke, AR, <sup>7</sup>Univ. of Arkansas, Monticello, AR, <sup>8</sup>The Univ. of Tennessee, Jackson, TN, <sup>9</sup>Univ. of Arkansas Cooperative Extension Service, Keiser, AR

## Tuesday, 15 March

**9:12 93** Impact of Twospotted Spider Mite Herbivory on Phytohormone Expression in Cotton Treated with Imidacloprid and Jasmonic Acid. **Sebe Brown** (SBrown@agcenter.lsu.edu)<sup>1</sup>, David L. Kerns<sup>2</sup> and Michael Stout<sup>3</sup>, <sup>1</sup>Louisiana State Univ., Winnsboro, LA, <sup>2</sup>Louisiana State Univ. Agricultural Center, Winnsboro, LA, <sup>3</sup>Louisiana State Univ. Agricultural Center, Baton Rouge, LA

**9:24 94** Preliminary Results of a Meta-Analysis of the Efficacy of Transgenic Cotton (*Gossypium hirsutum*) Bt (*Bacillus thuringiensis*) Events in the Midsouth Region. **Daniel Fleming** (def18@msstate.edu)<sup>1</sup>, Fred Musser<sup>1</sup> and Nathan Little<sup>2</sup>, <sup>1</sup>Mississippi State Univ., Mississippi State, MS, <sup>2</sup>USDA - ARS, Stoneville, MS

**9:36 95** Screening for Insect and Disease Resistance and Aflatoxin Accumulation in Experimental Maize Hybrids. **Xinzhi Ni** (xinzhi.ni@ars.usda.gov)<sup>1</sup>, Wenwei Xu<sup>2</sup> and W. Paul Williams<sup>3</sup>, <sup>1</sup>USDA - ARS, Tifton, GA, <sup>2</sup>Texas AgriLife Extension Service, Lubbock, TX, <sup>3</sup>USDA, Agricultural Research Service, Mississippi State, MS

**9:48 96** Southern Soybean Insect Losses: A Summary of Pest Pressure and Management Practices Since 2004. **Fred Musser** (fm61@msstate.edu)<sup>1</sup>, Angus Catchot<sup>1</sup>, Jeffrey A. Davis<sup>2</sup>, D. Ames Herbert<sup>3</sup>, Gus Lorenz<sup>4</sup>, Tim Reed<sup>5</sup>, Dominic Reisig<sup>6</sup> and Scott Stewart<sup>7</sup>, <sup>1</sup>Mississippi State Univ., Mississippi State, MS, <sup>2</sup>LSU AgCenter, Baton Rouge, LA, <sup>3</sup>Virginia Tech, Suffolk, VA, <sup>4</sup>Univ. of Arkansas, Lonoke, AR, <sup>5</sup>Alabama CES, Madison, AL, <sup>6</sup>North Carolina State Univ., Plymouth, NC, <sup>7</sup>The Univ. of Tennessee, Jackson, TN

10:00 Break

**10:15 97** A Comparison of Drop Cloth and Sweep Net Sampling in Soybean. Scott Stewart<sup>1</sup>, **Sandy Steckel** (ssteckel@utk.edu)<sup>2</sup>, Gus Lorenz<sup>3</sup>, D. Ames Herbert<sup>4</sup>, Dominic Reisig<sup>5</sup>, B. Rogers Leonard<sup>6</sup>, Kelly Tindall<sup>7</sup> and Fred Musser<sup>8</sup>, <sup>1</sup>The Univ. of Tennessee, Jackson, TN, <sup>2</sup>Univ. of Tennessee, Jackson, TN, <sup>3</sup>Univ. of Arkansas, Lonoke, AR, <sup>4</sup>Virginia Tech, Suffolk, VA, <sup>5</sup>North Carolina State Univ., Plymouth, NC, <sup>6</sup>Louisiana State Univ., Baton Rouge, LA, <sup>7</sup>Univ. of Missouri, Portageville, MO, <sup>8</sup>Mississippi State Univ., Mississippi State, MS

**10:27 98** Refinement/Validation of Corn Earworm (*Helicoverpa zea*) Thresholds for Mid-South Soybean. **Don Cook** (dcook@drec.msstate.edu)<sup>1</sup>, Brian Adams<sup>2</sup>, Angus Catchot<sup>3</sup>, Scott Stewart<sup>4</sup>, David L. Kerns<sup>5</sup>, Gus Lorenz<sup>6</sup>, Jeff Gore<sup>1</sup>, Fred Musser<sup>3</sup>, Bobby Golden<sup>1</sup> and Trent Irby<sup>3</sup>, <sup>1</sup>Mississippi State Univ., Stoneville, MS, <sup>2</sup>DuPont Pioneer, Jackson, TN, <sup>3</sup>Mississippi State Univ., Mississippi State, MS, <sup>4</sup>The Univ. of Tennessee, Jackson, TN, <sup>5</sup>Louisiana State Univ. Agricultural Center, Winnsboro, LA, <sup>6</sup>Univ. of Arkansas, Lonoke, AR

## Tuesday, 15 March

**10:39 99** Performance of Intrepid Edge™ Against Key Lepidopteran Pests in Mid-South and Southeastern U.S. Soybean. **Randy Huckaba** (rmhuckaba@dow.com)<sup>1</sup>, Larry Walton<sup>2</sup>, John Richburg<sup>3</sup>, Amanda Jacobson<sup>4</sup>, Jeff Ellis<sup>5</sup> and Robert Haygood<sup>6</sup>, <sup>1</sup>Dow AgroSciences, Wake Forest, NC, <sup>2</sup>Dow AgroSciences, Tupelo, MS, <sup>3</sup>Dow AgroSciences, Headland, AL, <sup>4</sup>Dow AgroSciences, Greenville, MS, <sup>5</sup>Dow AgroSciences, Sterlington, LA, <sup>6</sup>Dow AgroSciences, Indianapolis, IN

**10:51 100** Evolution of Resistance By *Helicoverpa zea* Infesting Insecticidal Crops in the Southern United States. **David Onstad** (david.onstad@pioneer.com), DuPont, Wilmington, DE

**11:03 101** The Role of Biocontrol in Regulating Brown Marmorated Stink Bug (*Halyomorpha halys*) Populations in North Carolina. **Emily Ogburn** (ecogburn@ncsu.edu) and James F. Walgenbach, North Carolina State Univ., Mills River, NC

**11:15 102** Floral and Non-Floral Diet Effects on *Larinus minutus*. **Beth Ferguson** (mef005@email.uark.edu), Timothy J. Kring and Robert N. Wiedenmann, Univ. of Arkansas, Fayetteville, AR

**11:27 103** Potential of Using Powdered Plant Materials to Stimulate Oviposition in Ladybirds Reared on Non-Natural Foods. **Eric Riddick** (eric.riddick@ars.usda.gov)<sup>1</sup>, Zhixin Wu<sup>1</sup>, Fred Eller<sup>2</sup> and Mark Berhow<sup>2</sup>, <sup>1</sup>USDA-ARS, Stoneville, MS, <sup>2</sup>USDA-ARS, Peoria, IL

**11:39 104** A Six-Year Study of Bee (Superfamily Apoidea) Diversity and Abundance in Georgia Apple Orchards. **Nicholas Stewart** (nstewart@ggc.edu) and Mark Schlueter, Georgia Gwinnett College, Lawrenceville, GA

### SYMPOSIUM Turf and Ornamental Entomology

**8:10 AM – 11:45**  
Magnolia Room II

**Organizer and Moderator:**  
Catharine M. Mannion

**8:10 105** Variable Attraction Among Landscape Plants for Pollinators. **S. Kristine Braman** (kbraman@uga.edu), Univ. of Georgia, Griffin, GA

**8:28 106** The Effects of Host Plant Architecture on Functional Response of *Cryptolaemus montrouzieri* Mulsant (Coleoptera: Coccinellidae). **Hechu Zhu** (hechuz@clemson.edu)<sup>1</sup> and Juang Horng Chong<sup>2</sup>, <sup>1</sup>Clemson Univ., Clemson, SC, <sup>2</sup>Clemson Univ., Florence, SC

## Tuesday, 15 March

**8:46 107** Local and Landscape Level Effects on Crape Myrtle Aphid and Natural Enemy Abundance. **Sarah Parsons** (separson@ncsu.edu) and Steven Frank, North Carolina State Univ., Raleigh, NC

**9:04 108** Impact of Cultural Practices on Ficus Whitefly in the Landscape. **Catharine M. Mannion** (cmannion@ufl.edu), Univ. of Florida, Homestead, FL

**9:22 109** Increased Temperatures and Drought May Decrease Evergreen Bagworm Abundance and Immune Response in Cities. **Warren Sconiers** (vnugos2386@gmail.com)<sup>1</sup>, Kimberly Andreassen<sup>2</sup> and Steven Frank<sup>1</sup>, <sup>1</sup>North Carolina State Univ., Raleigh, NC, <sup>2</sup>North Carolina School of Science and Mathematics, Durham, NC

**9:40 110** Impervious Surface Thresholds to Reduce Scale Infestations and Improve Tree Health. **Steven Frank** (sdfrank@ncsu.edu) and Adam Dale, North Carolina State Univ., Raleigh, NC

10:00 Break

**10:15 111** Effects and Management of Kudzu Bugs on Ornamental, Fruit and Vegetable Plants in Home Landscapes. **A Anderson** (alander5@ncsu.edu) and Steven Frank, North Carolina State Univ., Raleigh, NC

**10:33 112** Changing Turfgrass Pest Dynamics in the Southeast. **Terri Billeisen** (tlhactor@ncsu.edu) and Rick Brandenburg, North Carolina State Univ., Raleigh, NC

**10:51 113** Movement and Distribution of a New Parasitoid of Ficus Whitefly. **Muhammad Ahmed** (zaheerento@gmail.com)<sup>1</sup>, Antonio Francis<sup>2</sup>, Lance Osborne<sup>3</sup> and Catharine M. Mannion<sup>1</sup>, <sup>1</sup>Univ. of Florida, Homestead, FL, <sup>2</sup>Florida Dept. of Agriculture and Consumer Services (FDACS), Apopka, FL, <sup>3</sup>Univ. of Florida, Apopka, FL

**11:09 114** Individual Responses of the Madeira Mealybug to Nitrogen Fertilization. **Juang Horng Chong** (juanghc@clemson.edu)<sup>1</sup> and Stephanie Rhodes<sup>2</sup>, <sup>1</sup>Clemson Univ., Florence, SC, <sup>2</sup>Clemson Univ., Clemson, SC

**11:27 115** Developing IPM Strategies for Crape Myrtle Bark Scale, *Eriococcus lagerstroemiae* Kuwana (Hemiptera: Eriococcidae). **Frank Hale** (fahale@utk.edu), Univ. of Tennessee, Nashville, TN

**Tuesday, 15 March**

**STUDENT SYMPOSIUM**  
**Advances in Understanding**  
**Southeastern Insect Biodiversity**

**8:30 AM – 11:35**  
Governor's Room II

**Organizers and Moderators:**  
Lina Bernaola, Lindsay Iglesias,  
Thomas McElrath and Steven Reyna

8:30 Welcoming Remarks

**8:35 116** Sampling Terrestrial Arthropod Biodiversity: A Case Study in Arkansas. **Michael Skvarla** (MSkvarla36@gmail.com), Univ. of Maryland, College Park, MD

**8:55 117** "Collecting" in the Louisiana State Arthropod Museum: Descriptions of New Species, Notes on Taxonomic Changes and Range Extensions, and an Evaluation of Museum Holdings of *Euplectite pselaphinae* (Coleoptera: Staphylinidae). **Brittany Owens** (brittanyeowens@gmail.com), Louisiana State Univ., Baton Rouge, LA

**9:15 118** Undocumented Cryptic Beetle Diversity in the Southeastern USA: A Case Study Highlighting the Minute Clubbed Beetles of Georgia (Coleoptera: Monotomidae). **Thomas McElrath** (tmcelrat@uga.edu), Univ. of Georgia, Athens, GA

**9:35 119** Resolving Relationships of the Scrub-Lovin' Grasshoppers of the Southeastern U.S.A. (Orthoptera: Acrididae: Melanoplus: The Puer Group). **Derek Woller** (asilid@gmail.com), Texas A&M Univ., College Station, TX

10:00 Break

**10:15 120** New Records and Information on Insects in North Carolina: Perspectives from a Diagnostics Lab Entomologist. **Matthew Bertone** (matt\_bertone@ncsu.edu), North Carolina State Univ., Raleigh, NC

**10:35 121** Resolution of Two Species Complexes within *Dixa* Meigen (Diptera: Dixidae) in the Southeastern United States. **John Moulton** (jmoulton@utk.edu), Univ. of Tennessee, Knoxville, TN

**10:55 122** Documenting Pollinator Biodiversity in a Southeastern Agroecosystem. **Katherine Parys** (katherine.parys@ars.usda.gov), USDA - ARS, Stoneville, MS

**11:15 123** Soil Arthropod Abundance and Diversity in Five Cropping Systems in the Southeastern United States. **Paul Adams III** (pradams2@ncsu.edu), David Orr and Yasmin Cardoza, North Carolina State Univ., Raleigh, NC

**Tuesday, 15 March**

**AWARDS LUNCHEON  
AND PHOTO SALON**

**12:00 PM – 1:30**

**Oak Forest Ballroom**

**CONTRIBUTED PAPERS II  
Plant-Insect Ecosystems**

**1:45 PM – 4:15**

**Magnolia Room I**

**Moderators:**

**G. David Buntin and David Hall**

**1:45 124** Efficacy of Trunk Injected Imidacloprid in the Control of Asian Citrus Psyllid (Hemiptera: Liviidae). **Ki Kim** (ki@pacificaggroup.com), Florida Ag Research, Thonotosassa, FL

**1:57 125** Degradation Products of Citrus Volatile Organic Compounds (VOCs) Acting as Phagostimulants That Increase Probing Behavior of Asian Citrus Psyllid. Justin George (Justin.George@ars.usda.gov) and **Stephen L. Lapointe**, USDA, ARS, Fort Pierce, FL

**2:09 126** An Evaluation of Candidate Repellents against Asian Citrus Psyllid. **David Hall** (David.hall@ars.usda.gov)<sup>1</sup>, Dov Borovsky<sup>2</sup> and Robert Shatters<sup>1</sup>, <sup>1</sup>USDA - ARS, Ft. Pierce, FL, <sup>2</sup>USDA ARS, ORISE, Ft. Pierce, FL

**2:21 127** A Review of Corn Earworm Threshold in Grain Sorghum. **Chris Dobbins** (cdobbins@drec.msstate.edu)<sup>1</sup>, Jeff Gore<sup>1</sup>, Angus Catchot<sup>2</sup>, Don Cook<sup>1</sup> and Fred Musser<sup>2</sup>, <sup>1</sup>Mississippi State Univ., Stoneville, MS, <sup>2</sup>Mississippi State Univ., Mississippi State, MS

**2:33 128** Transform<sup>®</sup>WG Insecticide: Fit and Value in Management Programs Against Sugarcane Aphid in U.S. Grain Sorghum. **Amanda Jacobson** (ajjacobson@dow.com)<sup>1</sup>, Mike Lovelace<sup>2</sup> and Melissa Willrich Siebert<sup>1</sup>, <sup>1</sup>Dow AgroSciences, Greenville, MS, <sup>2</sup>Dow AgroSciences, Lubbock, TX

**2:45 129** Sivanto<sup>®</sup>: Protecting Sorghum from Sugarcane Aphid Damage. **Amanda Beaudoin** (amanda.beaudoin@bayer.com), Bayer CropScience, Research Triangle Park, NC

**3:00** Break



## Tuesday, 15 March

**3:15 130** Sugarcane Aphid (*Melanaphis sacchari*) on Sorghum: Studies in Georgia in 2015. **G. David Buntin** (gbuntin@uga.edu)<sup>1</sup> and Phillip M. Roberts<sup>2</sup>, <sup>1</sup>Univ. of Georgia, Griffin, GA, <sup>2</sup>Univ. of Georgia, Tifton, GA

**3:27 131** Hessian Fly Research at Fayetteville State University. **Lieceng Zhu** (lzhu@uncfsu.edu), Fayetteville State Univ., Fayetteville, NC

**3:39 132** Interaction Between Weed Management and Thrips Management on Peanut Development and Yield. **Joel Moor** (jcm563@msstate.edu)<sup>1</sup>, Jeff Gore<sup>1</sup>, Don Cook<sup>1</sup>, Angus Catchot<sup>2</sup> and Chris Dobbins<sup>1</sup>, <sup>1</sup>Mississippi State Univ., Stoneville, MS, <sup>2</sup>Mississippi State Univ., Mississippi State, MS

**3:51 133** Comparison of Female *Drosophila suzukii* (Matsumura) Reproductive Status Captured with Fermentation-Based Baits Traps and on Fruit. **Douglas McPhie** (drmcphie@ncsu.edu), Katharine Swoboda Bhattarai and Hannah Burrack, North Carolina State Univ., Raleigh, NC

**4:03 134** Investigation of Glycocidal Content of *Stevia rebaudiana* and Its Impact on Fall Armyworm (*Spodoptera frugiperda*). **Heather Lowery** (hlowery@vols.utk.edu), Jerome F. Grant, Darrell Hensley, Juan Luis Jurat-Fuentes, Lucas Hietala and Dean Kopsell, Univ. of Tennessee, Knoxville, TN

### SYMPOSIUM Turf and Ornamental Entomology (continued)

**1:45 PM – 4:10**  
Magnolia Room II

**Organizer and Moderator:**  
Catharine M. Mannion

**1:45 135** How Do You Measure the Effectiveness of a Biocontrol Agent? **Chris Hayes** (chayes@bioworksinc.com), BioWorks, Land O Lakes, FL

**2:03 136** Natur'l Oil As a Potential Control of Madeira Mealybug, *Phenacoccus madeirensis* Green (Hemiptera: Pseudococcidae), on Ornamental Cuttings. **Lisbeth Espinoza** (ldespino@ufl.edu)<sup>1</sup>, Amanda C. Hodges<sup>1</sup> and Lance Osborne<sup>2</sup>, <sup>1</sup>Univ. of Florida, Gainesville, FL, <sup>2</sup>Univ. of Florida, Apopka, FL

**2:21 137** Best Use Practices for Bioinsecticides in the Greenhouse. **Daniel Peck** (dpeck@bioworksinc.com), BioWorks Inc., Victor, NY

## Tuesday, 15 March

**2:39 138** Susceptibility of Ornamental Pepper Banker Plant Candidates to Common White Pests. **Vivek Kumar** (vivek@ufl.edu), Cindy L. McKenzie<sup>2</sup> and L. C. Stenberg<sup>1</sup>, Univ. of Florida, Apopka, FL, <sup>2</sup>USDA - ARS, N. Pierce, FL

3:00 Break

**3:15 139** Insecticide and Biopesticide Treatments Applied by Treering Chemigation for Quarantine Management of Larval Japanese Beetle and Imported Fire Ant. **Jason B. Oliver** (joliver@tnstate.edu)<sup>1</sup>, Karla Addesso<sup>1</sup>, Anne-Marie Callcott<sup>2</sup>, David Oi<sup>3</sup>, Christopher Ranger<sup>4</sup>, Michael E. Reding<sup>5</sup>, Nadeer Youssef<sup>1</sup>, Paul A. O'Neal<sup>1</sup> and James Moyseenko<sup>4</sup>, <sup>1</sup>Tennessee State Univ., McMinnville, TN, <sup>2</sup>USDA-APHIS, Biloxi, MS, <sup>3</sup>USDA, Agricultural Research Service, Gainesville, FL, <sup>4</sup>USDA-ARS, Wooster, OH, <sup>5</sup>USDA - ARS, Wooster, OH

**3:33 140** Japanese Maple Scale Activity and Management in Field Nursery Stock. **Karla Addesso** (kaddesso@blomand.net) and Adam Blalock, Tennessee State Univ., McMinnville, TN

**3:51 141** Evolution of an Emerald Ash Borer Management Strategy, 2002 – 2015. **Joe Meating**<sup>1</sup>, Anne Hayes<sup>2</sup> and Nicole Gareau<sup>3</sup>, <sup>1</sup>BioForest Technologies Inc., Sault Ste Marie, ON, Canada, <sup>2</sup>BioForest Technologies Inc., Sault Ste Marie, ON, Canada, <sup>3</sup>BioForest, Sault Ste Marie, ON, Canada

### SYMPOSIUM Vegetable Entomology

**1:45P PM – 4:15**  
Governor's Room II

**Organizers and Moderators:**  
Michelle Samuel Foo and Hugh A. Smith

**1:45 142** Effectiveness of Various Management Practices in Managing Thrips in Tomatoes and Thrips Transmitted Tomato Chlorotic Spot Virus. **Dakshina Seal** (dseal3@ufl.edu), Univ. of Florida, Homestead, FL

**2:00 143** Alternative Controls for Cucurbit Pests for Organic Producers. **Ric Bessin** (rbessin@uky.edu), Logan M. Minter, Amanda Skidmore and Mark Williams, Univ. of Kentucky, Lexington, KY

**2:15 144** Evaluation of Post-Harvest Soil Applied Chlorpyrifos for Management of Cowpea Curculio (*Chalcodermus aeneus*) - Year Two. **Alton Sparks** (asparks@uga.edu) and David Riley, Univ. of Georgia, Tifton, GA

## Tuesday, 15 March

**2:30 145** Value and Fit of Closer® Insecticide in Spray Programs for the Management of Key Invasive Species in Strawberries and Tomatoes. **Alejandro Calixto** (AACalixto@dow.com)<sup>1</sup>, Melissa Willrich Siebert<sup>2</sup>, Luis E. Gomez<sup>3</sup> and Jamey Thomas<sup>4</sup>, <sup>1</sup>Dow AgroSciences, Wesley Chapel, FL, <sup>2</sup>Dow AgroSciences, Greenville, MS, <sup>3</sup>Dow AgroSciences LLC, Indianapolis, IN, <sup>4</sup>Dow AgroSciences, LLC, Indianapolis, IN

**2:45 146** Evaluation of *Nesidiocoris tenuis* (Hemiptera; Miridae) for Control of the Whitefly *Bemisia tabaci* (Hemiptera: Aleyrodidae) in Tomato. Philip A. Stansly<sup>1</sup>, Jose Castillo<sup>1</sup> and **Amy L. Roda** (Amy.L.Roda@aphis.usda.gov)<sup>2</sup>, <sup>1</sup>Univ. of Florida, Immokalee, FL, <sup>2</sup>USDA-APHIS-PPQ, Miami, FL

3:00 Break

**3:15 147** How Effective Are Insecticides for Whitefly Vector Management in Tomato? **David Riley** (dgr@uga.edu)<sup>1</sup>, Meredith Dempsey<sup>2</sup> and Rajagopalbabu Srinivasan<sup>1</sup>, <sup>1</sup>Univ. of Georgia, Tifton, GA, <sup>2</sup>Univ. of Georgia, Athens, GA

**3:30 148** Managing Whitefly Nymphs on Greenhouse Tomato with Biopesticides. **Hugh A. Smith** (hughasmith@ufl.edu)<sup>1</sup> and Michelle Samuel-Foo<sup>2</sup>, <sup>1</sup>Univ. of Florida, Wimauma, FL, <sup>2</sup>Univ. of Florida, Gainesville, FL

**3:45 149** Transmission Modes of a Begomovirus by Whiteflies and Their Potential Impacts on Epidemics. **Rajagopalbabu Srinivasan** (babusri@uga.edu)<sup>1</sup>, Wendy G. Marchant<sup>1</sup>, Kerry M. Oliver<sup>2</sup>, Bhabesh Dutta<sup>1</sup> and David Riley<sup>1</sup>, <sup>1</sup>Univ. of Georgia, Tifton, GA, <sup>2</sup>Univ. of Georgia, Athens, GA

**4:00 150** Future Research on Biology and Management of Sweetpotato and Cucurbit Pests at the USDA-ARS U.S. Vegetable Laboratory, Charleston, SC. **Livy Williams** (livy.williams@ars.usda.gov)<sup>1</sup>, Phillip Wadl<sup>1</sup>, Alvin M. Simmons<sup>2</sup> and D. Michael Jackson<sup>2</sup>, <sup>1</sup>USDA-ARS, Charleston, SC, <sup>2</sup>USDA - ARS, Charleston, SC

**Tuesday, 15 March**

**CONTRIBUTED PAPER III**  
**Medical, Urban and Veterinary;**  
**Physiology, Biochemistry and**  
**Toxicology; Systematics, Evolution**  
**and Biodiversity**

**2:00 PM – 4:00**  
Governor's Room I

**Moderator:**  
Daniel Hahn

**2:00 151** Comparison of Susceptibility of Three Stored-Product Insects to Gaseous Ozone. **Rizana M. Mahroof** (rmahroof@scsu.edu), South Carolina State Univ., Orangeburg, SC

**2:12 152** Sexual Selection on Pheromone Phenotype in *Heliothis virescens*. **Jeremy Heath** (jjheath@ncsu.edu)<sup>1</sup>, Michiel van Wijk<sup>2</sup>, Astrid Groot<sup>2</sup> and Coby Schal<sup>1</sup>, <sup>1</sup>North Carolina State Univ., Raleigh, NC, <sup>2</sup>Univ. of Amsterdam, Amsterdam, Netherlands

**2:24 153** Sub-Lethal and Synergistic Toxicity of Imidacloprid with Different Pesticide Classes Against Honey Bees. **Yu Cheng Zhu** (YC.Zhu@ARS.USDA.GOV)<sup>1</sup>, Jianxiu Yao<sup>1</sup>, John Adamczyk<sup>2</sup> and Randall Luttrell<sup>3</sup>, <sup>1</sup>USDA-ARS, Stoneville, MS, <sup>2</sup>USDA - ARS, Poplarville, MS, <sup>3</sup>USDA - ARS, Stoneville, MS

**2:36 154** Presentation moved to SYMPOSIUM, Applied Ecology and Evolution of Social Insects, Page 50

**2:48 155** Medical Entomology Web-Based Resource. **William Dees** (wdees@mcneese.edu)<sup>1</sup>, Desmond Foley<sup>2</sup>, David Pecor<sup>3</sup>, Leopoldo M. Rueda<sup>4</sup>, Richard C. Wilkerson<sup>2</sup> and Caleb Ardizzone<sup>1</sup>, <sup>1</sup>McNeese State Univ., Lake Charles, LA, <sup>2</sup>Walter Reed Army Institute of Research, Washington, DC, <sup>3</sup>Walter Reed Biosystematics Unit, Suitland, MD, <sup>4</sup>Walter Reed Army Institute of Research, Suitland, MD

**3:00** Break

**3:15 156** Analysis of Immune Related Genes in Two Bumblebee Species Shows Decelerated Evolutionary Dynamics. **Richard Krentz** (krentzr11@students.ecu.edu), East Carolina Univ., Greenville, NC

**3:27 157** Systematics of North American Torrenticolidae (Acari: Hydrachnidiae): Unravelling the Diversity of the Most Common Stream Inhabiting Mites. **Ashley Dowling** (adowling@uark.edu), Univ. of Arkansas, Fayetteville, AR

## Tuesday, 15 March

**3:39 158** Transgenically Making Macho Males by Overexpression of Antioxidant Enzymes. **Daniel Hahn** (dahahn@ufl.edu)<sup>1</sup>, Nicholas M. Teets<sup>1</sup>, Vanessa Dias<sup>1</sup>, Marc Schetelig<sup>2</sup> and Alfred Handler<sup>3</sup>, <sup>1</sup>Univ. of Florida, Gainesville, FL, <sup>2</sup>Fraunhofer Institute for Molecular Biology and Applied Ecology, Gießen, Germany, <sup>3</sup>USDA - ARS, Gainesville, FL

### POSTER REMOVAL

**4:00 PM to 4:30**

### FINAL BUSINESS MEETING

**4:30 PM – 6:00**  
**Governor's Room I**

## Wednesday, 16 March

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### PROGRAM SUMMARY

### WEDNESDAY, 16 MARCH

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- |                      |  |
|----------------------|--|
| <b>8:00 AM-10:00</b> | <b>SYMPOSIUM: Insect-Microbe Interactions in Public Health: It's the Little Things That Matter</b><br><i>Hannover Ballroom III</i> |
| <b>8:00 AM-10:30</b> | <b>SYMPOSIUM: Applied Ecology and Evolution of Social Insects</b><br><i>Hannover Ballroom I</i>                                    |
| <b>8:00 AM-11:45</b> | <b>SYMPOSIUM: Integrated Pest Management</b><br><i>Hannover Ballroom II</i>  |
| <b>1:00 PM-5:00</b>  | <b>Tours</b>   |

**Wednesday, 16 March**

**SYMPOSIUM**  
**Insect-Microbe Interactions in**  
**Public Health: It's the Little**  
**Things That Matter**

**8:00 AM – 10:00**  
Hannover Ballroom III

**Organizer and Moderator:**  
Michael Fisher

**8:00 159** Ant Diseases: Unexplored Possibilities.  
**Roberto M. Pereira** (rpereira@ufl.edu), Univ. of Florida,  
Gainesville, FL

**8:18 160** Lethal and Sublethal Effects of  
Entomopathogenic Fungi on Filth Flies. **Emma N. I. Weeks**  
(eniweeks@ufl.edu)<sup>1</sup>, Erika T. Machtinger<sup>1</sup>, Phillip E.  
Kaufman<sup>1</sup> and Christopher J. Geden<sup>2</sup>, <sup>1</sup>Univ. of Florida,  
Gainesville, FL, <sup>2</sup>USDA - ARS, Gainesville, FL

**8:36 161** What Can Microbiome Studies Tell Us?  
Using the Microbiome for Future Discoveries and Solutions.  
**Rebecca Fryxell** (RFryxell@utk.edu), Univ. of Tennessee,  
Knoxville, TN

**8:54 162** Gut Bacteria Mediate Aggregation in the  
German Cockroach. **Ayako Katsumata** (akatsum@ncsu.edu)  
and Coby Schal, North Carolina State Univ., Raleigh, NC

**9:12 163** Differential Attraction of *Aedes aegypti* to  
the Host *Lemur catta*. **Meredith Spence**  
(mrspenc2@ncsu.edu), Michael Reiskind and Rob R. Dunn,  
North Carolina State Univ., Raleigh, NC

**9:30 164** The Gut Microbiome of the Common Bed  
Bug *Cimex lectularius* as Determined by the Host  
Environment. **Michael Fisher** (ento4life@gmail.com)<sup>1</sup>, Wes  
Watson<sup>2</sup> and Coby Schal<sup>2</sup>, <sup>1</sup>North Carolina State Univ., Cary,  
NC, <sup>2</sup>North Carolina State Univ., Raleigh, NC

**Wednesday, 16 March**

**SYMPOSIUM**  
**Applied Ecology and**  
**Evolution of Social Insects**

**8:00 AM – 10:30**  
Hannover Ballroom I

**Organizers and Moderators:**  
David Tarpy and Olav Rueppell

**8:00 165** Physiological Insights into Form and Function in Honey Bees. **Miguel Corona** (miguel.corona@ars.usda.gov), USDA-ARS Bee Research lab., Beltsville, MD

**8:15 166** Transcriptomic and Methylomic Analysis of Lethal IAPV Infection in Honey Bee Pupae. **Hongmei Li-Byarlay** (hlibyar@ncsu.edu)<sup>1</sup>, Humberto F. Boncristiani<sup>2</sup>, Micheline Strand<sup>3</sup>, David Tarpy<sup>1</sup> and Olav Rueppell<sup>4</sup>, <sup>1</sup>North Carolina State Univ., Raleigh, NC, <sup>2</sup>Univ. of North Carolina, Greensboro, Greensboro, NC, <sup>3</sup>Chemical and Biological Defense Laboratories, Durham, NC, <sup>4</sup>Univ. of North Carolina at Greensboro, Greensboro, NC

**8:30 167** Floral Pharmacies for Social Insects. **Rebecca E. Irwin** (reirwin@ncsu.edu)<sup>1</sup> and Lynn S. Adler<sup>2</sup>, <sup>1</sup>North Carolina State Univ., Raleigh, NC, <sup>2</sup>Univ. of Massachusetts, Amherst, MA

**8:45 168** Tracking Where Social Insect and Human Food Webs Intersect in Urban Environments. **Clint Penick** (capenick@ncsu.edu), Amy Savage, Steven Frank, David Tarpy and Rob R. Dunn, North Carolina State Univ., Raleigh, NC

**9:00 169** Pathogen Webs of Managed Honey Bee Colonies. **David Tarpy** (drtarpy@ncsu.edu), North Carolina State Univ., Raleigh, NC

**9:15 170** The Interactions of Worker Preferences and Queen Quality on the Outcome of Queen Replacement in Colonies of the Honey Bee, *Apis mellifera*. **Kathryn Long** (klong50@uncg.edu)<sup>1</sup>, Tuan Cao<sup>1</sup>, Jennifer Keller<sup>2</sup>, David Tarpy<sup>2</sup> and Stanley Schneider<sup>1</sup>, <sup>1</sup>Univ. of North Carolina, Charlotte, NC, <sup>2</sup>North Carolina State Univ., Raleigh, NC

**9:30 171** Hygienic Behavior in Honey Bees is Triggered by a Breed-Specific Brood Signal. **Kaira Wagoner** (kmwagone@uncg.edu) and Olav Rueppell, Univ. of North Carolina at Greensboro, Greensboro, NC

**9:45 172** Systemic Melanization in *Apis mellifera*, New Syndrome or a Neglected Symptom from a Well-Known Pathogen? **Humberto F. Boncristiani** (hfboncri@uncg.edu), Univ. of North Carolina, Greensboro, Greensboro, NC

## Wednesday, 16 March

**10:00 173** Geographic and Transgenerational Patterns of Immune Expression in Bumble Bees. **Seth Barribeau** (barribeaus14@ecu.edu), East Carolina Univ., Greenville, NC

**10:15 174** The Transmission of Deformed Wing Virus during Honey Bee Mating. **Esmail Amiri** (e.amiri79@gmail.com)<sup>1,2</sup>, Per Kryger<sup>3</sup> and Marina Meixner<sup>4</sup>,  
<sup>1</sup>Research Assistant, Slagelse, Denmark, <sup>2</sup>Postdoctoral, Greensboro, NC, <sup>3</sup>Senior Researcher, Slagelse, Denmark, <sup>4</sup>Senior Researcher, Kirchhain, Germany

**10:15 174** Honey Bees (*Aphis mellifera*) Fighting *Varroa* Mites with Behavior. **Jennifer M. Tsuruda** (jtsurud@clemson.edu), Clemson Univ. Clemson, SC

### SYMPOSIUM Integrated Pest Management

**8:00 AM – 11:45**  
Hannover Ballroom II

**Organizer and Moderator:**  
Danesha Seth Carley

**8:00 175** A New Approach to Reduce Reliance on Pesticides for the Production of High-Quality Peaches in the Southeast. **Juan Melgar** (jmelgar@clemson.edu), Clemson Univ., Clemson, SC

**8:30 176** Quantifying the Costs Associated with a School IPM Program. **Janet Hurley** (ja-hurley@tamu.edu), Texas A&M AgriLife Extension Service, Dallas, TX

**9:00 177** IPM Programs in Arkansas. **Glen Studebaker** (gstudebaker@uaex.edu), Univ. of Arkansas, Northeast Research & Extension Center, Keiser, AR

**9:30 178** Freely Available Technology for Responding to Invasive Species. **Joseph LaForest** (laforest@uga.edu), Univ. of Georgia, Tifton, GA

**10:00** Break

**10:15 179** Packaging Science and Technology to Deliver Sustainable IPM Programs for an Invasive Pest, Spotted Wing Drosophila. **Ashfaq Sial** (ashsial@uga.edu), Univ. of Georgia, Athens, GA

**10:45 180** Survey Basics for Needs and Impact Assessment: A Discussion. **Jean-Jacques Dubois** (jbdubois@ncsu.edu), North Carolina State Univ., Raleigh, NC



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| Coleoptera Staphylinidae <i>Pselaphomorphus</i>            | P-26                                     |
| Coleoptera Tenebrionidae <i>Tenebrio molitor</i>           | P-58                                     |
| Dictyoptera Rhinotermitidae <i>Reticulitermes flavipes</i> | 38                                       |
| Diptera Anthomyiidae <i>Delia platura</i>                  | 17                                       |
| Diptera Calliphoridae <i>Cochliomyia macellaria</i>        | 46                                       |
| Diptera Calliphoridae <i>Lucilia illustris</i>             | 46                                       |
| Diptera Calliphoridae <i>Phormia regina</i>                | 46                                       |
| Diptera Cecidomyiidae <i>Mayetiola destructor</i>          | 131, P-6                                 |
| Diptera Chironomidae <i>Cricotopus lebetis</i>             | 33                                       |
| Diptera Culicidae <i>Aedes triseriatus</i>                 | 24                                       |
| Diptera Culicidae <i>Aedes aegypti</i>                     | 163, P-59                                |
| Diptera Dixidae <i>Dixa meigen</i>                         | 121                                      |
| Diptera Drosophilidae <i>Drosophila melanogaster</i>       | 39                                       |
| Diptera Drosophilidae <i>Drosophila suzukii</i>            | 57, 60, 77, 78, 79, 133, P-9, P-16, P-56 |
| Diptera Muscidae <i>Haematobia irritans</i>                | 11, 29                                   |
| Diptera Muscidae <i>Musca autumnalis</i>                   | 29                                       |
| Diptera Muscidae <i>Musca domestica</i>                    | 160, P-8                                 |
| Diptera Muscidae <i>Stomoxys calcitrans</i>                | 160                                      |
| Diptera Psychodidae <i>Lutzomyia longipalpis</i>           | 36                                       |

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| Diptera Psychodidae <i>Lutzomyia verrucarum</i>         | 36                                      |
| Diptera Syrphidae <i>Toxomerus geminatus</i>            | 35, P-32                                |
| Diptera Syrphidae <i>Toxomerus marginatus</i>           | 35, P-32                                |
| Diptera Tephritidae <i>Anastrepha suspensa</i>          | 158                                     |
| Diptera Tephritidae <i>Rhagoletis pomonella</i>         | 73                                      |
| Diptera Ulidiidae <i>Chaetopsis massyla</i>             | 40                                      |
| Diptera Ulidiidae <i>Euxesta eluta</i>                  | 40                                      |
| Hemiptera Adelgidae <i>Adelges tsugae</i>               | 5, 47, 86, P-47, P-55                   |
| Hemiptera Aleyrodidae <i>Bemisia tabaci</i>             | 10, 145, 146, 147, 148, 149, P-44       |
| Hemiptera Aleyrodidae <i>Singhiella simplex</i>         | 108, 113                                |
| Hemiptera Aphididae <i>Acyrtosiphon pisum</i>           | 8                                       |
| Hemiptera Aphididae <i>Aphis glycines</i>               | 63, 65, 69, 70                          |
| Hemiptera Aphididae <i>Aphis gossypii</i>               | P-44                                    |
| Hemiptera Aphididae <i>Melanaphis sacchari</i>          | 25, 27, 128, 129, 130, P-14, P-35, P-41 |
| Hemiptera Aphididae <i>Melanocallis caryaefoliae</i>    | 21                                      |
| Hemiptera Aphididae <i>Monellia caryella</i>            | 21                                      |
| Hemiptera Aphididae <i>Monelliopsis pecanis</i>         | 21                                      |
| Hemiptera Aphididae <i>Myzus persicae</i>               | 44, P-12, P-17                          |
| Hemiptera Aphididae <i>Sarucallis kahawaluokalani</i>   | 107                                     |
| Hemiptera Aphidoidea <i>Melanaphis saachari</i>         | P-46                                    |
| Hemiptera Berytidae <i>Jalysus wickhami</i>             | P-13                                    |
| Hemiptera Calophyidae <i>Calophya terebinthifolii</i>   | 2                                       |
| Hemiptera Cimicidae <i>Cimex lectularius</i>            | 31, 58, 164, P-11, P-60                 |
| Hemiptera Eriococcidae <i>Eriococcus lagerstroemiae</i> | 115                                     |
| Hemiptera Miridae <i>Lygus lineolaris</i>               | 90                                      |
| Hemiptera Miridae <i>Lygus lineolaris</i>               | 89, P-33, P-42, P-43, P-45              |
| Hemiptera Miridae <i>Nesidiocoris tenuis</i>            | 146                                     |
| Hemiptera Miridae <i>Neurocolpus nubilus</i>            | P-42                                    |
| Hemiptera Pentatomidae <i>Acrosternum hilare</i>        | 76, P-42                                |
| Hemiptera Pentatomidae <i>Euschistus servus</i>         | 76, P-52                                |
| Hemiptera Pentatomidae <i>Halyomorpha halys</i>         | 42, 101, P-3                            |
| Hemiptera Pentatomidae <i>Nezara</i>                    | 80, 97, P-1                             |

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| <i>viridula</i>   |  |
| Hemiptera Pentatomidae <i>Piezodorus guildinii</i>                | 80   |
| Hemiptera Plataspidae <i>Megacopta cribraria</i>                  | 30, 42, 49, 50, 52, 61, 63, 64, 75, 111, P-38, P-40  |
| Hemiptera Pseudococcidae <i>Phenacoccus madeirensis</i>           | 114, 136   |
| Hemiptera Pseudococcidae <i>Planococcus citri</i>                 | 106  |
| Hemiptera Psyllidae <i>Cacopsylla tobirae</i>                     | P-36   |
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| Hymenoptera Andrenidae <i>Andrena crataegi</i>                    | 104, P-22  |
| Hymenoptera Apidae <i>Apis mellifera</i>                          | 22, 23, 26, 37, 41, 45, 153, 154, 165, 166, 168, 169, 170, 171, 172, 174, P-2, P-5, P-20, P-29, P-37 |
| Hymenoptera Apidae <i>Bombus impatiens</i>                        | 156  |
| Hymenoptera Apidae <i>Bombus sp</i>                               | 173  |
| Hymenoptera Apidae <i>Bombus terrestris</i>                       | 156  |
| Hymenoptera Apidae <i>Xylocopa virginica</i>                      | 104, P-22  |
| Hymenoptera Braconidae <i>Aphidius ervi</i>                       | 8  |
| Hymenoptera Braconidae <i>Microplitis croceipes</i>               | 51   |
| Hymenoptera Braconidae <i>Praon pequodorum</i>                    | 8  |
| Hymenoptera Braconidae <i>Spathius agrili</i>                     | P-54   |
| Hymenoptera Crabronidae <i>Cerceris fumipennis</i>                | P-50   |
| Hymenoptera Eulophidae <i>Tetrastichus planipennisi</i>           | P-54   |
| Hymenoptera Eurytomidae <i>TBA tba</i>                            | 32   |
| Hymenoptera Formicidae <i>Aphaenogaster lamellidens</i>           | P-28   |
| Hymenoptera Formicidae <i>Camponotus pennsylvanicus</i>           | P-21   |
| Hymenoptera Formicidae <i>Polyrhachis</i>                         | P-28   |
| Hymenoptera Formicidae <i>Solenopsis invicta</i>                  | 159, P-28  |
| Hymenoptera Formicidae <i>Tetramorium caespitum</i>               | 168  |
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| Hymenoptera Platygasteridae (Scelionidae) <i>Telenomus podisi</i> | 101  |
| Hymenoptera Platygasteridae (Scelionidae) <i>Trissolcus</i>       | 101  |

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|---|---|
| Hymenoptera Platygasteridae<br><i>Paratelenomus saccharalis</i> | 52  |
| Hymenoptera Platygasteridae<br><i>Trissolcus japonicus</i>      | 42  |
| Hymenoptera Pompilidae <i>Auplopus architectus</i>              | 12  |
| Hymenoptera Pompilidae <i>Auplopus caeruleus</i>                | 12  |
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| Hypocreales Cordycipitaceae<br><i>Beauveria bassiana</i>        | P-38  |
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| Lepidoptera Crambidae <i>Diaphania hyalinata</i>                | P-51  |
| Lepidoptera Crambidae <i>Diaphania nitidalis</i>                | 150   |
| Lepidoptera Crambidae <i>Eoreuma loftini</i>                    | 82  |
| Lepidoptera Crambidae <i>Parapoynx diminutalis</i>              | 33  |
| Lepidoptera Noctuidae <i>Anticarsia gemmatilis</i>              | 67  |
| Lepidoptera Noctuidae <i>Chrysodeixis includens</i>             | 67, 68, 97  |
| Lepidoptera Noctuidae <i>Helicoverpa zea</i>                    | 9, 56, 91, 92, 94, 95, 97, 98, 100, 127, P-30, P-34, P-48 |
| Lepidoptera Noctuidae <i>Heliothis virescens</i>                | P-30  |
| Lepidoptera Noctuidae <i>Heliothis virescens</i>                | 51, 94, 152, P-18, P-34                                   |
| Lepidoptera Noctuidae <i>Pseudoplusia includens</i>             | 63  |
| Lepidoptera Noctuidae <i>Spodoptera frugiperda</i>              | 59, 94, 95, 134   |
| Lepidoptera Psychidae <i>Thyridopteryx sp</i>                   | 109   |
| Lepidoptera Saturniidae <i>Dryocampa rubicunda</i>              | 13  |
| Mesostigmata Varroidae <i>Varroa destructor</i>                 | 171   |
| Myrtales Myrtaceae <i>Eugenia monteverdensis</i>                | 32  |
| Myrtales Myrtaceae <i>Myrcia splendens</i>                      | 32  |
| Orthoptera Acrididae <i>Melanoplus</i>                          | 119   |
| Orthoptera Gryllotalpidae<br><i>Scapteriscus abbreviatus</i>    | 6   |
| Orthoptera Gryllotalpidae<br><i>Scapteriscus borellii</i>       | 6   |
| Orthoptera Gryllotalpidae<br><i>Scapteriscus vicinus</i>        | 6   |
| Parasitiformes Varroidae <i>Varroa destructor</i>               | 174, P-5, P-37  |
| Rhabditida Steinernematidae                                     | 9   |

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|--|------------------------------|
| <i>Steinernema carpocapsae</i>                           |                              |
| Sapindales Anacardiaceae <i>Schinus terebinthifolia</i>  | 2                            |
| Thysanoptera Thripidae <i>Frankliniella fusca</i>        | 7, 55, 71, 87, 88, 132, P-39 |
| Thysanoptera Thripidae <i>Frankliniella occidentalis</i> | 87, 145                      |
| Thysanoptera Thripidae <i>Neohydatothrips variabilis</i> | 87                           |
| Thysanoptera Thripidae <i>Scirtothrips dorsalis</i>      | 142                          |
| Thysanoptera Thripidae <i>Thrips palmi</i>               | 53, P-57                     |
| Thysanoptera Thripidae <i>Thrips tabaci</i>              | 74                           |

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

| President        | Date                | Meeting Site    |
|------------------|---------------------|-----------------|
| W. E. Hinds      | 3-4 Feb. 1926       | 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       | 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  |

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|----------------|---------------------|------------------|
| 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      |
| 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      |
| F. A. Hale     | 19-22 Mar. 2011     | San Juan, PR     |
| N. C. Leppla   | 4-7 Mar. 2012       | Little Rock, AR  |
| G. D. Buntin   | 3-5 Mar. 2013       | Baton Rouge, LA  |
| D. Hall        | 2-4 Mar. 2014       | Greenville, SC   |
| C. Mannion     | 15-18 Mar 2015      | Biloxi, MS       |

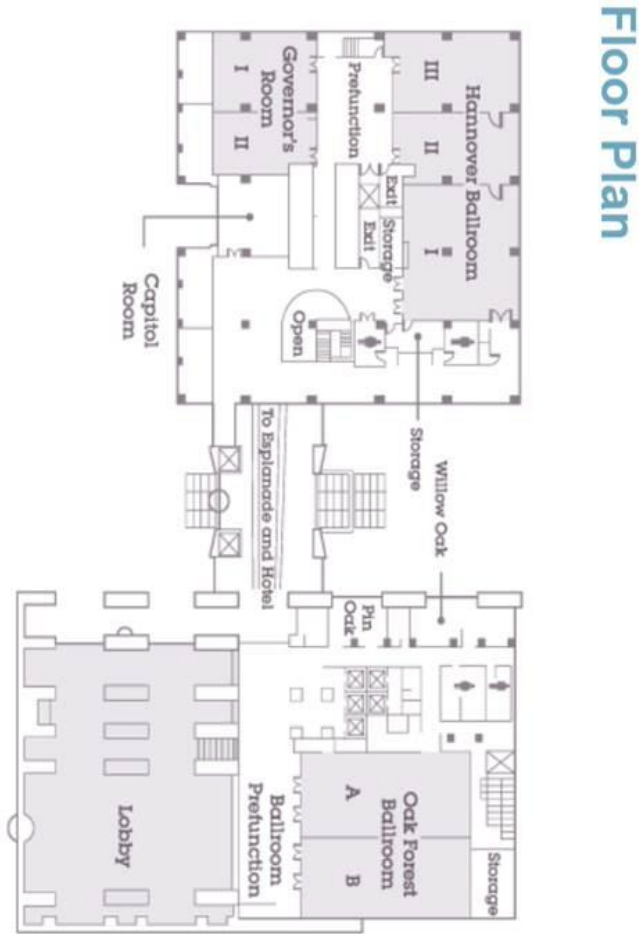
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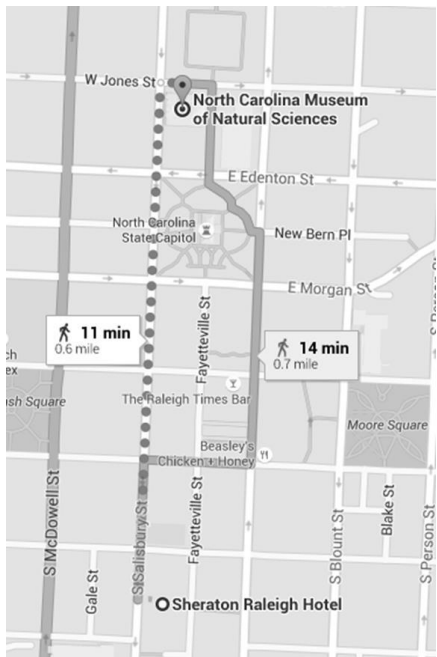
# Layout of the Sheraton Raleigh Hotel:



Magnolia Rooms I and II are on the first floor below Governor's Rooms I and II.

## Directions to Monday Night Reception at the North Carolina Museum of Natural Sciences

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# STUDENT AWARDS-2015

## ROBERT T. GAST AWARDS

### Outstanding Ph.D. Oral Presentations

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#### Session I



**Elizabeth Benton** is a PhD candidate at the University of Tennessee, specializing in pesticide optimization and risk in forest systems. She is currently completing an assessment of the hemlock woolly adelgid IPM program at Great Smoky Mountains National Park. Her work has resulted in improved pesticide longevity and dosage recommendations for hemlocks and a risk assessment of potential stream impacts.

#### Session II



**Matthew VanWeelden** is a native of Indianapolis, IN, receiving his B.S. and M.S. in Entomology at Purdue University, where he worked on foraging behavior of the odorous house ant under the supervision of Dr. Grzegorz Buczkowski. He began his Ph.D. at Louisiana State University in 2011 under the supervision of Dr. Gene Reagan, where he worked on ecology and pest management of the Mexican rice borer in cultivars of sugarcane and sorghum bred as bioenergy feedstocks. Following the completion of his degree in December 2015, Matthew accepted a position with University of Florida/IFAS Extension in Belle Glade.

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# STUDENT AWARDS-2015

## Outstanding M.S. Oral Presentations

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### Session I



**Chelsie Darnell** is a native of Union City, TN. She received her B.S degree in Plant and Soil Science with a concentration in Crop and Soil Management from the University of Tennessee at Martin. Ms. Darnell is currently working on her masters degree under Angus Catchot and Fred Musser focusing on determining the susceptibility of tobacco thrips, *Frankliniella fusca* , to the neonicotinoid class of insecticides in the mid-southern region. She is also researching varietal differences in susceptibility of cotton to feeding by tobacco thrips. Upon graduation in December of 2016, Chelsie plans to pursue a Ph.D in Agronomy.

### Session II



**Danielle Rosensteel** is originally from Pennsylvania where she received a B.S. in Biology/Chemistry from Lock Haven University of Pennsylvania in 2006. During her time at Lock Haven she studied insect respirometry, curation, and the regional analysis of arachnids. After completing her undergraduate degree, Danielle signed up to work for the USDA/APIS/PPQ. During her time there, she worked with invasive beetles in the forests of Pennsylvania. Danielle also volunteered at the Tom Ridge Environmental Center where she worked on expanding their natural history collection. In 2008, Danielle continued her education at Bloomsburg University of Pennsylvania where she received a M.Ed. in Curriculum and Instruction with a focus in Biology and Chemistry. From 2009 through 2014, she worked as a high

school biology teacher where she focused on general biology and advanced biology. While teaching she worked on various environmental education grants concentrating on aquatic insects, invasive species, and the Chesapeake Bay Watershed. Danielle recently graduated with a M.S. degree from the Department of Entomology at the University of Georgia where she worked in Ashfaq Sial's Fruit Entomology Lab. Her thesis focused on blueberry IPM, more specifically the season-long management of *Drosophila suzukii* in southeastern U.S. blueberry crops.

## **Session III**



**Tae-Young Lee** is a M.S. student in the University of Georgia Household and Structural Entomology lab under the advisement of Dr. Brian Forschler. Prior to starting my graduate studies, I have been part of the Household and Structural Entomology Lab at UGA working with termites. I have also interned at the Georgia Museum of Natural History from 2013-2014, specializing in the curation cryptophagid beetles. I have graduated from the UGA in spring of 2014 with B.S.E.S. in entomology. My research interests involve IPM of structurally important pests, particularly subterranean termites. My current project involves observing the collective decision making process in subterranean termites. My hobbies include insect collecting and studying oriental history.

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# STUDENT AWARDS-2015

## Outstanding Undergraduate Oral Presentation

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**Catherine Schlueter** is a junior at the Georgia Institute of Technology, where she is studying biomedical engineering with a biology minor. Ever since she was a little girl, Catherine has had a great sense of curiosity and a love for all types of animals. She began actively exploring the natural world as soon as she could walk. While other children ran away from “the scary insects”, Catherine charged fearlessly forward to collect them with her bare hands. Over the years, she has helped her father gather animal specimens of all types in numerous aquatic and terrestrial ecosystems all over the world. She is particularly adept at collecting flying insects such as butterflies, dragonflies, bees, and hoverflies. Her love of entomology grew in high school, where she began to conduct her own field studies with native bees and hoverflies. This led Catherine to participate in numerous scientific competitions, which resulted in her representing Georgia at the Intel International Science and Engineering Fair. She is currently working with Drs. Eric Butler and Mark Schlueter to create and test a device to measure native bee nesting and foraging habits. Upon graduation, she plans to attend graduate school and continue her exploration of engineering, entomology, and science.

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# SEB AWARDS-2015

## OUTSTANDING PH.D. DISPLAYS

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### Session I



**Sunil Paudel**, a native of Nepal, received his bachelor's degree in Agriculture in 2008 from Institute of Agriculture and Animal Science, Nepal. From spring 2011 to summer 2013, he pursued master's degree in Entomology at University of Idaho, Moscow, ID, where he worked in deriving economic models for pea aphids (*Acyrtosiphon pisum*) in lentils. He joined Louisiana State University, Soybean Entomology Lab, in August 2013 to pursue his doctoral degree under the supervision of Dr. Jeffrey A. Davis. His research focuses on the plant viruses and their effects on vector and non-vector herbivores.

### Session II



**David Owens** is a Ph.D. candidate working with Dr. Gregg Nuessly at the University of Florida's Everglades Research and Education Center in Belle Glade, Florida. He moved from Virginia to Florida in 2012 and has been working to improve silk fly pest management in sweet corn. When he is not working with silk flies or in agricultural fields, David enjoys macrophotography, insect collecting, and tasting all of the tropical fruits that grow in southern Florida.



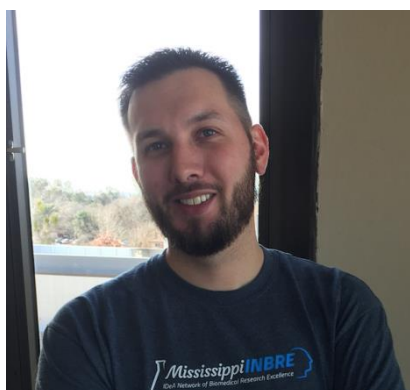
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# SEB AWARDS-2015

## OUTSTANDING M.S. DISPLAYS

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### Session I



**Gary Crispell** is a molecular biology graduate student at the University of Southern Mississippi. Mr. Crispell's research has been focused on the molecular interactions that lead to tick induced red meat hypersensitivity. He has also spent an extensive amount of time studying how *Rickettsia parkeri* can induce the expression of antioxidant genes, including superoxide dismutases in *Amblyomma maculatum*. Gary spent five years enlisted in the military before pursuing his education and is the father of three children. He plans on a career in biomedical research with an emphasis in vector-borne disease.

### Session II



**Bethany Harris** was a 2009 graduate of Griffin Christian High School. Her interest in agriculture and landscaping began as a UGA Young Scholar Student and a Georgia Master 4-Her. This led her to pursuing a degree in Environmental Science from the University of Georgia in May 2013. During this time, she was named "Who's Who Among Students" and was a part of the Griffin Ambassadors and the Student Advisory Council. She completed her Master's Degree in Entomology in August 2015 under the direction of Dr. Kris Braman and was a 2015 recipient of the Georgia Entomological Society U.E. Brady Jr. Award. In August 2015, Bethany began her studies as a Horticulture



Ph.D. student at the University of Georgia. She looks forward to working in Extension and teaching undergraduates in the future.

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## SEB AWARDS-2015

### OUTSTANDING UNDERGRADUATE DISPLAY

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**Brooke E. Cantrell** earned her bachelor's degree in Agriculture Operations Management with a concentration in Sustainability from the University of Florida in 2015. She plans to begin her master's program in Public Health at Kent State University in summer 2016.

While at the University of Florida she was given the opportunity to participate in brown dog tick research after being selected for a UF/IFAS undergraduate internship with Dr. Emma Weeks. During her internship and in her subsequent employment Brooke gained experience with indoor tick integrated pest management (IPM) including crack and crevice treatments. Her research project focused on the development of a crack and crevice treatment as an alternative to conventional pesticide applications for the brown dog tick.

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