American Society for Horticultural Science

ANNUAL CONFERENCE
August 8-11, 2016

Atlanta 2016
GENERAL INFORMATION

Conference Facilities:
All conference activities will take place at the Sheraton Hotel, Downtown Atlanta, in Atlanta, Georgia, unless otherwise stated. Please check the detailed program and schedule for exact room locations.

Registration:
The conference registration desk is located at the Rotunda Registration Counter in Level 1.
Registration will be Open During the Following Hours:
- Sunday, August 7: 3:00 PM–6:00 PM
- Monday, August 8: 7:30 AM–6:00 PM
- Tuesday, August 9: 7:30 AM–6:00 PM
- Wednesday, August 10: 7:30 AM–6:00 PM
- Thursday, August 11: 7:30 AM–3:00 PM

Posters:
Posters are located in Georgia Ballroom.
Posters are to be put up on Monday, August 7 from 2:00 - 5:00 PM.
Poster Viewing Hours:
- Tuesday, August 9: 9:00 AM–5:00 PM
- Wednesday, August 10: 9:00 AM–5:00 PM
- Thursday, August 11: 9:00 AM–3:00 PM

Exhibits:
Exhibit Booths are located in the Georgia Ballroom and Georgia Pre-Function Area.
- Exhibitor move-in: Monday, August 7: 2:00 PM-5:00 PM
- Exhibitor move-out: Thursday, August 11: 3:00 PM-5:00 PM

Exhibit Booths Open for Attendees
During the Following Hours:
- Tuesday, August 9: 9:00 AM–2:00 PM
- Wednesday, August 10: 9:00 AM–2:00 PM
- Thursday, August 11: 9:00 AM–3:00 PM

Speaker Ready Room:
Oral, Workshop and Colloquium Speakers are requested to check in at the Speaker Ready Room (Georgia Booth/Room – located across from the ASHS Registration Desk). Please note that even though you have uploaded in advance, you are still asked to check in at the Speaker Ready Room at least 24 hours in advance of your presentation to confirm that your videos and PowerPoint presentations were successfully uploaded and running properly. Updates and modifications can be made to your presentation at this time.

Speaker Ready Room Open
During the Following Hours:
- Sunday, August 7: 3:00 PM–6:00 PM
- Monday, August 8: 7:00 AM–6:00 PM
- Tuesday, August 9: 7:00 AM–6:00 PM
- Wednesday, August 10: 7:00 AM–6:00 PM
- Thursday, August 11: 7:00 AM–2:00 PM

Poster Presenter Recording Room:
ASHS is inviting/encouraging poster presenters to record their presentations. This can be done two ways; both require an uploaded PDF of your poster in the Upload Poster section of your Speaker’s Corner. You may either upload the audio part of your presentation before arriving at the conference by uploading an MP3 recording of your presentation along with the PDF; or this can be done on-site in the Poster Presenter Recording Room (Georgia Booth/Room – located across from the ASHS Registration Desk). If you elect to record onsite, please keep in mind that your audio recording will not be available until after the meeting has ended). A QR code has been assigned to your poster so that you can include the QR code on your poster. Conference attendees can then scan the code and get access to your Poster presentation in the Online Program. Poster presenters will still have to present during the conference at their assigned time, but this process will allow your recorded presentation to remain part of the ASHS archives.

All recordings will be housed on the ASHS website indefinitely. Your presentation will be accessible on our site with the rest of the ASHS technical program, giving the poster presenters the same opportunity that oral presenters hold.

Presenter Recording Room Open
During the Following Hours:
- Sunday, August 7: 3:00 PM–6:00 PM
- Monday, August 8: 7:00 AM–6:00 PM
- Tuesday, August 9: 7:00 AM–6:00 PM
- Wednesday, August 10: 7:00 AM–6:00 PM
- Thursday, August 11: 7:00 AM–2:00 PM

Georgia Pre-Function:
The Georgia Pre-Function is located just outside of the Georgia Ballroom. Exhibitor booths, a presentation area, and the career center are all located in this space. Please check the program for a scheduled listing of events.
August 8, 2016

To: The American Society of Horticultural Science

GREETINGS:

I am pleased to extend my warmest regards to the American Society of Horticultural Science (ASHS) as you host your 113th annual ASHS Conference in Atlanta. On behalf of the State of Georgia, it is a pleasure to be a part of your event.

Please allow me to welcome your professional horticulturists, academic scholars, researchers, and other attendees to the Peach State. As you may know, horticulture is an important part of our economy as Georgia is the home of the Vidalia onion, the largest pecan industry in the US, and a multi-million dollar nursery industry. As you come together for this year’s conference, I hope you discuss topics that will improve horticulture in the State of Georgia.

I commend the American Society of Horticultural Science (ASHS) for organizing this event and send my best wishes for a successful and enjoyable conference.

Sincerely,

Nathan Deal

ND:av
American Society for Horticultural Science
1018 Duke Street, Alexandria, Virginia 22314, USA
Phone 703.836.4606 Fax 703.836.2024

August 2016

Dear colleagues and friends attending the 2016 ASHS Conference:

Welcome to Atlanta and to the 113th annual meeting of the American Society for Horticultural Science. Building upon the dreams of those who gathered for the organizational and founding meeting of the ASHS in Boston, we follow the idea of gathering annually to share our science and experiences, and to build our professional networks. This year’s conference, although following a long tradition and with a strong heritage, promises to be among the best ever. The theme of this year’s conference is, “Seize the Future”.

Atlanta is a beautiful city with a rich history, being founded as a railroad terminus 180 years ago, but with the new expanding energy of the sunny south. After its destruction in the Civil War, it has risen to become a major metropolitan area that in many ways defines the Southeastern US. It has been 35 years since the ASHS last convened in Atlanta. The population of the Atlanta region has more than doubled since we last visited. It is a wonderful conference venue with an energy and enthusiasm emblematic of the ASHS.

The Technical Program committee has developed an outstanding program surrounding the conference theme. The program includes informative and enjoyable plenary sessions ranging from the importance of maintaining ecological diversity in the future, to the future of plant genetic manipulation with gene editing; a colloquium on “Farms of the Future”; a series of grants workshops to help support future research, discovery, teaching, and technology; more than 300 oral and 400 poster presentations; more than 100 hours of working group workshops and meetings; and a trade show and exposition. The conference includes wonderful time for professional networking including an opening reception and closing dinner, social events, several luncheons, a fun run/walk, and ample time in the trade show, poster sessions and in the hallways. The tours and ancillary activities of the Conference will give participants and guests a good view of the city, its history, its beauty, and its business.

It is my hope that you make the most of this conference. I am grateful for your participation and am proud of you who are presenting in oral or poster sessions, or participating in the workshops. Thank you for sharing your science, experiences, discoveries, and technologies. Take the opportunity to strengthen and expand your professional networks. Enjoy the time to renew acquaintances with colleagues and friends. This is your time to “Seize the Future” – your future.

Best wishes for a productive, informative, and enjoyable conference.

With kind regards,

Curt R. Rom
University Professor, Horticulture
President, American Society for Horticultural Science
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Thank you to the following people for their efforts in making this a successful conference.

**Awards Committee**
- Dewayne L. Ingram, Chair
- Paul Bosland
- Mary H. Meyer
- Michael A. Arnold
- Curt R. Rom

**Endowment Fund Committee**
- Paul Thomas, Chair
- Paul Read
- Carl Sams
- Brian Trader
- John L. Griffis, Jr.
- Curt R. Rom
- Edong Da
- Ellen Paparozi
- Ajay Jha
- Wayne Mackay
- Larry D. Knerr

**Collegiate Activities Committee**
- Stephanie Burnett, Chair
- Kent Kobayashi
- Rammohan Uckoo
- Katherine Warpeha
- Diana Cochran
- Kimberly Moore
- Adam Newby

**Scholarship Awards Committee**
- Stan Hokanson, Chair
- Kimberly Moore
- Jeremy Cowan
- Kauahi Perez
- Diane Beckles
- Jacob Domenghini
- Larry D. Knerr

**Outstanding Undergraduate Educator Award**
- Margaret J. McMahon, Chair
- Zora Singh
- Bridget Behe
- Derald Harp
- Kimberly Shearer-Lattier
- Bruce Dunn
- Xin Zhao
- Andrew Ristvey
- John Ruter

**William A. “Tex” Frazier Lecture Series Selection Committee**
- Craig Campbell, Chair
- John Dole
- Kim Hummer
- Susan Miyasaka

**Outstanding Extension Educator Award**
- Cheryl Boyer, Chair
- Shawn Steed
- Guanyao Wang
- Hannah Mathers
- Annette Wszelaki
- Crystal Snodgrass
- Chuck Ingels
- Connie Landis Fisk
- Eric Stafne

**Outstanding Graduate Educator Award**
- Tom Ranney, Chair
- Bruce Dunn
- Lauren Garner
- Rosa Raudales
- Shad Nelson
- Stan Hokansen
- Cauna Beyl
- Kent Kobayashi
- Margaret Pooler

**Outstanding Industry Scientist Award**
- Lance Ellis, Chair
- Yi Wang
- Aliya Momotaz
- Peter Petracek
- Eric Mattos
- Holly Little
- Thomas Colquhoun
- Heidi Kratsch

**Outstanding International Horticulturist Award**
- Genhua Niu, Chair
- Ayaj Jha
- Nnadozie Oraguzie
- Dilip Nandwani
- J. Pablo Morales-Payan
- Raul Cabrera
- Sastry Jayanty
- Bruce Schaffer
- Suping Zhou

**Screening Committees for Publication Awards:**

**Cross-Commodity Publication Award**
- Mark Gaskell, Chair
- Zhanao Deng
- Susmitha Nambuthiri
- Dario Chavez
- Nnadozie Oraguzie
- Jeffrey Brecht
- Chengyan Yue
- Stefano Musacchi

**Extension Publication Award**
- William Sciarappa, Chair
- Gail Langellotto
- Angela O'Callaghan
- Shawn Steed
- Rebecca Brown
- Mengmeng Gu
- Lucy Bradley
- David Graper

**Education Publication Award**
- Holly Scoggins, Chair
- Chad Miller
- Cathie Lavis
- Steve Newman
- Michael Olzewsiki
- Justin Moss
- Rosa Raudales
- Harlene Hatterman-Valenti

**Fruit Publication Award**
- Yan Wang, Chair
- Cheryl Hampson
- Holly Little
- Patrick Conner
- Yosef Al Shoffe
- Diana Cochran
- Rob Crosswell
- Renae Moran

**Vegetable Publication Award**
- Rhoda Burrows, Chair
- Ron Garton
- Lee Stivers
- Anong Shi
- Jonathan Egilla
- Changbin Chen
- Stephanie Wedryk
- Nancy Roe

Thank you to our sponsors:

- Ball Horticulture
- E&J Gallo
- Gylling Data Management
- Valent Biosciences
## Conference at a Glance

### Sunday, August 7, 2016

| 7:00 AM | 7:30 AM | 8:00 AM | 8:30 AM | 9:00 AM | 9:30 AM | 10:00 AM | 10:30 AM | 11:00 AM | 11:30 AM | Noon | 12:30 PM | 1:00 PM | 1:30 PM | 2:00 PM | 2:30 PM | 3:00 PM | 3:30 PM | 4:00 PM | 4:30 PM | 5:00 PM | 5:30 PM | 6:00 PM | 6:30 PM | 7:00 PM | 7:30 PM | 8:00 PM |
|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|          |         |         |         |         |         | ASHS Board of Directors Meeting: 12:00 PM-6:00 PM Athens Room | Moderator Training Session - Sunday: 4:00 PM-5:00 PM Atlanta 2 Room | Speaker Ready Room - Sunday: 3:00 PM-6:00 PM Georgia Booth Room | Poster Presenter Recording Room - Sunday: 3:00 PM-6:00 PM Georgia Booth Room | Gardens of Atlanta Tour: 8:30 AM-5:45 PM Level 1 Foyer | NE1336 Multistate Regional Project Meeting: 9:00 AM-5:00 PM Redmont Room | Registration open - Sunday: 3:00 PM-6:00 PM Rotunda Registration Counter |          |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |

### Monday, August 8, 2016

<p>| 7:00 AM | 7:30 AM | 8:00 AM | 8:30 AM | 9:00 AM | 9:30 AM | 10:00 AM | 10:30 AM | 11:00 AM | 11:30 AM | Noon | 12:30 PM | 1:00 PM | 1:30 PM | 2:00 PM | 2:30 PM | 3:00 PM | 3:30 PM | 4:00 PM | 4:30 PM | 5:00 PM | 5:30 PM | 6:00 PM | 6:30 PM | 7:00 PM | 7:30 PM | 8:00 PM |
|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
|          |         |         |         |         |         | Student Welcome Luncheon: 12:00 PM-2:00 PM Atlanta 2/3 Room | B.Y. Morrison Reception: 2:00 PM-3:00 PM Atlanta 2/3 Room | Workshop: From Farm to Pharmacy: 1:00 PM-2:30 PM Augusta Room | Herbs, Spices, and Medicinal Plants (HEMP) Working Group Business Meeting: 2:30 PM-3:00 PM Augusta Room | Commercial Horticulture (CHD) Working Group Business Meeting: 6:00 PM-7:00 PM Augusta Room |          |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |
|          |         |         |         |         |         | Horticultural Commodity Judging Contest and Plant Identification Contest Set-up: 8:00 AM-2:00 PM Capitol South Room | The Horticultural Commodity Judging Contest and Plant Identification Contest: 2:00 PM-3:00 PM Capitol South Room |          |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |         |</p>
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<td>7:00 AM</td>
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<td>8:00 AM</td>
<td>Welcome Reception; 5:00 PM-6:00 PM Garden Courtyard Pool</td>
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<td>Moderator Training Session - Monday; 12:15 PM-1:45 PM Capitol North/Center Room</td>
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<td>8:30 AM</td>
<td>B.Y. Morrison Lecture; 1:00 PM-2:00 PM Capitol North/Center Room</td>
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<td>9:00 AM</td>
<td>William A. (Tex) Frazier Lecture and ASHS Awards Ceremony; 3:00 PM-5:00 PM</td>
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<td>9:30 AM</td>
<td>Welcome Reception; 5:00 PM-6:00 PM Garden Courtyard Pool</td>
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<td>Poster Set Up; 2:00 PM-5:00 PM Georgia Ballroom</td>
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<td>Speaker Ready Room - Monday; 7:00 AM-6:00 PM Georgia Booth/Room</td>
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**Atlanta, Georgia**

**General Contractor Set Up - Monday; 8:00 AM-5:00 PM Georgia Ballroom**

**Register Presenter Recording Room - Monday; 7:00 AM-6:00 PM Georgia Booth/Room**

**Speaker Ready Room - Monday; 7:00 AM-6:00 PM Georgia Booth/Room**

**Exhibitor Set Up - Monday; 2:00 PM-5:00 PM Georgia Hall**

**Atlanta City Tour; 10:00 AM-3:00 PM Level 1 Rotory**

**CNN Studio Walking Tour; 2:30 PM-4:30 PM Level 1 Rotory**

**Using Technology in Extension Technology Session for Extension Agents; 9:00 AM-1:00 PM Macon Room**

**Oral Session—Genetics and Germplasm 1; 1:15 PM-3:00 PM Macon Room**

**Oral Session—Genetics and Germplasm 1; 1:15 PM-3:00 PM Macon Room**

**NE1336 Multistate Regional Project Meeting - Day 2; 9:00 AM-12:00 PM Piedmont Room**

**Oral Session—Genetics and Germplasm 1; 1:15 PM-3:00 PM Macon Room**

**Lady Vegetable Crop Germplasm Committee Meeting; 3:00 PM-5:00 PM Piedmont Room**

**Registrar Open - Monday; 7:30 AM-6:00 PM Rotunda Registration Counter**

**Special Symposium—Mysteries of the Voynich Code: A Meso-American Herbal; 10:30 AM-3:00 PM Savannah 1 Room**

**USDA-ARS All-Employee Meeting; 12:00 PM-1:00 PM Savannah 2 Room**

**Consulting Editors Meeting; 1:00 PM-2:00 PM Savannah 2 Room**

**Graduate Student (GRAD) Working Group Meeting; 2:00 PM-3:00 PM Savannah 2 Room**

**International Horticultural Consultants (ICON) Working Group Business Meeting; 3:00 PM-4:00 PM Savannah 3 Room**

**Crop Breeding (FRB) Working Group Business Meeting; 6:00 PM-7:00 PM Savannah 1 Room**

**Citrus Crops (FCR) Working Group Business Meeting; 6:00 PM-7:00 PM Savannah 2 Room**

**Federal Partners (FP) Working Group Business Meeting; 6:00 PM-7:00 PM Savannah 3 Room**

**Workshop—Seize Your Future Internationally: New Opportunities in Horticultural Consulting; 1:00 PM-2:30 PM Savannah 3 Room**

**Plant Science and Small Fruits (VSF) Working Group Business Meeting; 12:30 PM-1:00 PM Valdosta Room**

**Oral Session—Viticulture and Small Fruits 1; 1:00 PM-2:15 PM Valdosta Room**

**Oral Session—Viticulture and Small Fruits 1; 1:00 PM-2:15 PM Valdosta Room**

**Intellectual Property Rights (IPR) Working Group Business Meeting; 6:00 PM-7:00 PM Valdosta Room**

**Oral Session—Viticulture and Small Fruits 1; 1:00 PM-2:15 PM Valdosta Room**

**Oral Session—Viticulture and Small Fruits 1; 1:00 PM-2:15 PM Valdosta Room**

**ASHS Member Representative Meeting; 3:00 PM-4:00 PM Valdosta Room**

**ASHS Member Representative Meeting; 3:00 PM-4:00 PM Valdosta Room**

**International Horticultural Consultants (ICON) Working Group Business Meeting; 3:00 PM-4:00 PM Savannah 3 Room**

**LANCE Conference**
## Conference at a Glance

**Tuesday, August 9, 2016**

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<th>Time</th>
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<td>9:00 AM</td>
<td>Administrators Working Group Breakfast</td>
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<td>10:00 AM</td>
<td>Extension Division Advisory Council Meeting; 8:00 AM-10:00 AM Atlanta 4 Room</td>
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<td>11:00 AM</td>
<td>Horticulture Hall of Fame Selection Committee Meeting; 2:00 PM-5:00 PM Atlanta 4 Room</td>
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<tr>
<td>12:00 PM</td>
<td>Horticultural Landmarks Selection Committee Meeting; 4:00 PM-5:00 PM Atlanta 4 Room</td>
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<tr>
<td>1:00 PM</td>
<td>Featured Speaker Luncheon; Commissioner Gary W. Black, 12:00 PM-2:00 PM Atlanta 23 Room</td>
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<td>2:00 PM</td>
<td>Public Horticulture (PUBHORT) Working Group Business Meeting; 4:00 PM-5:00 PM Atlanta 5 Room</td>
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<td>3:00 PM</td>
<td>Local Food Systems (LOCSY) Working Group Business Meeting; 6:00 PM-7:00 PM Atlanta 5 Room</td>
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<td>4:00 PM</td>
<td>Photograph (FOTO) Working Group Business Meeting; 6:00 PM-7:00 PM Atlanta 5 Room</td>
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### Oral Session-Postharvest 1; 8:00 AM-10:00 AM
- Oral Session-Organic Horticulture 1; 10:00 AM-11:15 AM Augusta Room
- Oral Session-Undergraduate Student 1; 11:45 AM-1:00 PM Augusta Room
- Oral Session-Teaching Methods; 1:45 PM-3:45 PM Augusta Room
- Oral Session-Consumer Horticultural Master Gardeners and Public Horticulture; 4:00 PM-5:45 PM Augusta Room
- Oral Session-Postharvest 1; 8:00 AM-10:00 AM Atlanta 5 Room
- Oral Session-Organic Horticulture 1; 10:00 AM-11:15 AM Atlanta 5 Room
- Oral Session-Undergraduate Student 1; 11:45 AM-1:00 PM Atlanta 5 Room
- Oral Session-Teaching Methods; 1:45 PM-3:45 PM Atlanta 5 Room
- Oral Session-Consumer Horticultural Master Gardeners and Public Horticulture; 4:00 PM-5:45 PM Atlanta 5 Room

### Workshop-The Challenges of Rose Rosette Disease (RRD): An Update of the Combating RRD SCR Project
- Oral Session-Growth Chambers and Controlled Environments; 8:00 AM-9:45 AM Capitol South Room
- Oral Session-Growth Chambers and Controlled Environments; 8:00 AM-9:45 AM Capitol North Room
- Oral Session-Pomology 1; 10:15 AM-12:15 PM Capitol North Room
- Ornamentals/Landscapes and Turf (OLT) Working Group Business Meeting; 9:30 AM-10:00 AM Capitol Center Room
- Workshop-Coordinating Researchers and Stakeholder Advocacy for Greater Impact; 10:15 AM-12:15 PM Capitol North Room
- Special Session-Fund Your Future: Opportunities from National Competitive Programs; 2:00 PM-6:00 PM Capitol North Room
- Ornamentals/ Landscapes and Turf (OLT) Working Group Business Meeting; 9:30 AM-10:00 AM Capitol Center Room
- Workshop-Coordinating Researchers and Stakeholder Advocacy for Greater Impact; 10:15 AM-12:15 PM Capitol North Room
- Special Session-Fund Your Future: Opportunities from National Competitive Programs; 2:00 PM-6:00 PM Capitol North Room

### Poster Hall Open - Tuesday; 9:00 AM-5:00 PM Georgia Ballroom
- Poster Session-Undergraduate Student 1; 9:30 AM-11:00 AM Georgia Ballroom
- Poster Session-Irradiation; 9:30 AM-11:00 AM Georgia Ballroom
- Poster Session-Undergraduate Student 2; 1:45 PM-3:45 PM Georgia Ballroom
- Poster Session-Irradiation; 9:30 AM-11:00 AM Georgia Ballroom
- Poster Session-Undergraduate Student 1; 9:30 AM-11:00 AM Georgia Ballroom
- Poster Session-Irradiation; 9:30 AM-11:00 AM Georgia Ballroom
- Poster Session-Undergraduate Student 2; 1:45 PM-3:45 PM Georgia Ballroom
- Poster Session-Irradiation; 9:30 AM-11:00 AM Georgia Ballroom

### Other Rooms
- Speaker Ready Room - Tuesday; 7:00 AM-6:00 PM Georgia Ballroom
- Poster Presenter Recording Room - Tuesday; 7:00 AM-6:00 PM Georgia Booth/Room

### Additional Information
- Graduate Student Activities Committee (GAC) Meeting; 9:00 AM-10:00 AM Georgia 14 Room
- Graduate Student Activities Committee (GAC) Meeting; 9:00 AM-10:00 AM Georgia 14 Room
- Graduate Student Activities Committee (GAC) Meeting; 9:00 AM-10:00 AM Georgia 14 Room
- Grad Student Poster Competition; 6:00 PM-9:00 PM Georgia Ballroom
- Grad Student Poster Competition; 6:00 PM-9:00 PM Georgia Ballroom
- Grad Student Poster Competition; 6:00 PM-9:00 PM Georgia Ballroom
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>7:00 AM</td>
<td>Exhibitors Open - Tuesday; 9:00 AM-2:00 PM</td>
</tr>
<tr>
<td>7:30 AM</td>
<td>Pi Alpha Xi Photography Contest Award Presentations; 11:00 AM-12:00 PM</td>
</tr>
<tr>
<td>8:00 AM</td>
<td>Exhibitors’ Workshop-New Innovations in Commercial Horticultural Applications; 2:00 PM-5:00 PM</td>
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<tr>
<td>8:00 AM</td>
<td>Oral Session-Genetics &amp; Germplasm 2; 8:00 AM-10:00 AM</td>
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<tr>
<td>8:30 AM</td>
<td>Oral Session-Product Quality, Safety, and Health Properties; 10:15 AM-12:00 PM</td>
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<tr>
<td>9:00 AM</td>
<td>Pi Alpha Xi Pi Alpha Xi Meeting; 11:45 AM-12:15 PM</td>
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<tr>
<td>9:00 AM</td>
<td>Workshop-Developing International Collaborations in Horticultural Sciences; 8:00 AM-9:30 AM</td>
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<tr>
<td>9:30 AM</td>
<td>Workshop-Developing International Collaborations in Horticultural Sciences; 9:30 AM-10:00 AM</td>
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<tr>
<td>10:00 AM</td>
<td>Workshop-Sustainable Horticultural Practices in Asian Countries; 10:15 AM-11:45 AM</td>
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<tr>
<td>10:30 AM</td>
<td>Workshop-Group Chair and Chair-elect Business Meeting; 9:00 AM-10:00 AM</td>
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<tr>
<td>11:00 AM</td>
<td>Workshop-Group Chair and Chair-elect Business Meeting; 10:15 AM-12:15 PM</td>
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<tr>
<td>11:30 AM</td>
<td>Workshop-Orchid Biotechnology; 4:00 PM-5:30 PM</td>
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<tr>
<td>Noon</td>
<td>Workshop-Orchid Biotechnology; 4:00 PM-5:30 PM</td>
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<tr>
<td>12:00 PM</td>
<td>Workshop-Plant and Postharvest 2; 1:45 PM-3:45 PM</td>
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<tr>
<td>12:30 PM</td>
<td>Workshop-Plant and Postharvest 2; 1:45 PM-3:45 PM</td>
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<tr>
<td>1:00 PM</td>
<td>Workshop-Innovative Applications of Computers in Horticulture; 1:45 PM-3:15 PM</td>
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<td>Workshop-Innovative Applications of Computers in Horticulture; 1:45 PM-3:15 PM</td>
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<td>2:00 PM</td>
<td>Workshop-Orchid Biotechnology; 4:00 PM-5:30 PM</td>
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<td>Workshop-Innovative Applications of Computers in Horticulture; 1:45 PM-3:15 PM</td>
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<td>Workshop-Innovative Applications of Computers in Horticulture; 1:45 PM-3:15 PM</td>
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<td>Workshop-Innovative Applications of Computers in Horticulture; 1:45 PM-3:15 PM</td>
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<td>Workshop-Innovative Applications of Computers in Horticulture; 1:45 PM-3:15 PM</td>
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<td>8:00 PM</td>
<td>Workshop-Innovative Applications of Computers in Horticulture; 1:45 PM-3:15 PM</td>
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</tbody>
</table>

**Speakers**
- LANCE G. A. C.
- R. S. B. L.
- J. H. D. H.
- M. K. H. M.
- A. S. R. D.
- T. D. H. T.
- H. L. C. H.
- D. J. H. D.
- J. H. D. H.
- M. K. H. M.
- A. S. R. D.
- T. D. H. T.
- H. L. C. H.
- D. J. H. D.
- J. H. D. H.
- M. K. H. M.
- A. S. R. D.
- T. D. H. T.
- H. L. C. H.
- D. J. H. D.
### Conference at a Glance

**Wednesday, August 10, 2016**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
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<tbody>
<tr>
<td>7:00 AM</td>
<td>PI Alpha Xi Luncheon and Annual Meeting; 12:00 PM-2:00 PM Atlanta 3 Room</td>
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<tr>
<td>8:00 AM</td>
<td>Workshop: Horticulture Industry in India: Opportunities and Challenges; 8:00 AM-9:30 AM Atlanta 4/5 Room</td>
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<tr>
<td>9:00 AM</td>
<td>Oral Session: Vegetable Crops Management 2; 8:00 AM-9:30 AM Augusta Room</td>
</tr>
<tr>
<td>10:00 AM</td>
<td>Workshop: Priorities of Pomology; 8:00 AM-10:00 AM Capitol North Room</td>
</tr>
<tr>
<td>11:00 AM</td>
<td>Workshop: Teaching and Research within the Field of Urban Horticulture; 8:00 AM-9:30 AM Capitol South Room</td>
</tr>
</tbody>
</table>
| Noon          | Oral Session: Growth

### Conference Program

- **Oral Session**: Improvement in Weed Control and Soil Nutrition Enhance C. Natural Resistance to HLB Disease; 10:15 AM-12:15 PM Augusta Room
- **Special Session**: How to Write an Award-winning Grant for Horticulture, Plant Science, and Food Systems; 10:15 AM-12:15 PM Capitol North Room
- **Teaching Methods**: Teaching Methods (TCWG) Working Group Business Meeting; 11:45 AM-12:15 PM Capitol South Room
- **Specialty Crop Research Initiative Project Director Workshop**: 1:00 PM-4:00 PM Capitol South Room
- **Workshop**: The Biology of Precision Breeding and its Application to Plant Genetic Improvement; 4:00 PM-5:30 PM Capitol Center Room
- **SCRI Project Meeting**: 6:00 PM-8:00 PM Capitol Center Room

**Poster Hall Open**: Wednesday, 9:00 AM-5:00 PM Georgia Ballroom
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>7:00 AM</td>
<td>Poster Sessions; 7:00 PM-5:45 PM Georgia Ballroom</td>
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<tr>
<td>7:30 AM</td>
<td>Poster Presenter Recording Room - Wednesday; 7:00 AM-6:00 PM Georgia Booth/Room</td>
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<tr>
<td>8:00 AM</td>
<td>Speaker Ready Room - Wednesday; 7:00 AM-6:00 PM Georgia Booth/Room</td>
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<tr>
<td>8:30 AM</td>
<td>Career Track: The Importance of being a Professional Mentor; 9:00 AM</td>
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<tr>
<td>9:00 AM</td>
<td>Special Session: Beginning Semi-automated Data Collection in Breeding Programs; 10:00 AM-11:30 AM Georgia Hall Pre-Function</td>
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<tr>
<td>9:30 AM</td>
<td>Career Track: Resume Review 2; 12:00 PM-1:00 PM Georgia Hall Pre-Function</td>
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<tr>
<td>10:00 AM</td>
<td>Exhibitors’ Workshop: New Innovations in Commercial Horticultural Applications; 2:00 PM-5:00 PM Georgia Hall Pre-Function</td>
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<td>10:30 AM</td>
<td>Georgia Ballroom</td>
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<td>11:00 AM</td>
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<td>1:00 PM-1:45 PM</td>
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<td>12:00 PM</td>
<td>Georgia Booth/Room</td>
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<tr>
<td>12:15 PM</td>
<td>Georgia Pre-Function</td>
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<tr>
<td>12:45 PM</td>
<td>Exhibits Open - Wednesday; 9:00 AM-2:00 PM Georgia Hall Pre-Function</td>
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<tr>
<td>1:00 PM</td>
<td>Career Center - Wednesday; 9:00 AM-5:00 PM Georgia Hall Pre-Function</td>
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<tr>
<td>1:30 PM</td>
<td>Poster Sessions; 1:00 PM-1:45 PM Georgia Ballroom</td>
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<tr>
<td>2:00 PM</td>
<td>Poster Presenter Recording Room - Wednesday; 7:00 AM-6:00 PM Georgia Booth/Room</td>
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<tr>
<td>2:30 PM</td>
<td>Speaker Ready Room - Wednesday; 7:00 AM-6:00 PM Georgia Booth/Room</td>
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<td>3:00 PM</td>
<td>Career Track: The Importance of being a Professional Mentor; 9:00 AM</td>
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<tr>
<td>3:30 PM</td>
<td>Special Session: Beginning Semi-automated Data Collection in Breeding Programs; 10:00 AM-11:30 AM Georgia Hall Pre-Function</td>
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<tr>
<td>4:00 PM</td>
<td>Career Track: Resume Review 2; 12:00 PM-1:00 PM Georgia Hall Pre-Function</td>
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<tr>
<td>4:30 PM</td>
<td>Exhibitors’ Workshop: New Innovations in Commercial Horticultural Applications; 2:00 PM-5:00 PM Georgia Hall Pre-Function</td>
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<td>Georgia Ballroom</td>
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<td>1:00 PM-1:45 PM</td>
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<td>Georgia Booth/Room</td>
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<td>7:00 PM</td>
<td>Georgia Pre-Function</td>
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<tr>
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<td>Exhibits Open - Wednesday; 9:00 AM-2:00 PM Georgia Hall Pre-Function</td>
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<tr>
<td>8:00 PM</td>
<td>Career Center - Wednesday; 9:00 AM-5:00 PM Georgia Hall Pre-Function</td>
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<tr>
<td>7:00 AM</td>
<td>American Pomological Society (APS) Annual Business Meeting; 10:30 AM-12:00 PM Atlanta 3 Room</td>
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<tr>
<td>7:30 AM</td>
<td>Propagation (PROP) Working Group Business Meeting; 12:15 PM-1:15 PM Atlanta 4/5 Room</td>
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<tr>
<td>8:00 AM</td>
<td>Workshop on Sensors-based Technology for Ecophysiologial Research of Horticultural Crop Production Systems; 10:00 AM-12:00 PM Augusta Room</td>
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<tr>
<td>8:30 AM</td>
<td>Crop Physiology (CRPP) Working Group Business Meeting; 12:00 PM-12:30 PM Augusta Room</td>
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<tr>
<td>9:00 AM</td>
<td>Workshop Methods and Opportunities in Rhizosphere Research and Management; 2:00 PM-3:30 PM Augusta Room</td>
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<tr>
<td>9:30 AM</td>
<td>Root Growth and Rhizosphere Dynamics (RHIZ) Working Group Business Meeting; 3:30 PM-4:00 PM Augusta Room</td>
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<tr>
<td>10:00 AM</td>
<td>Featured Speaker: Dr. Jian-Kang Zhu; 9:30 AM-10:30 AM Capitol Center/South</td>
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<tr>
<td>10:30 AM</td>
<td>Featured Speaker: Craig A. Campbell; 12:00 PM-2:00 PM Atlanta 2 Room</td>
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<tr>
<td>11:00 AM</td>
<td>Project Leaders - National Strawberry Sustainability Initiative Program; 2:00 PM-4:00 PM Atlanta 3 Room</td>
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<tr>
<td>11:30 AM</td>
<td>Oral Session- Herbs, Spices, and Medicinal Plants 2; 10:45 AM-12:15 PM Atlanta 2 Room</td>
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<tr>
<td>12:00 PM</td>
<td>Featured Speaker: Dr. Jian-Kang Zhu; 9:30 AM-10:30 AM Capitol Center/South</td>
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<tr>
<td>12:30 PM</td>
<td>Workshop on Herbicide Drift and Carcinogenicity on Horticultural Crops; 2:00 PM-3:30 PM Capitol South Room</td>
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<tr>
<td>1:00 PM</td>
<td>Workshop in Methods and Opportunities in Rhizosphere Research and Management; 2:00 PM-3:30 PM Augusta Room</td>
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<tr>
<td>1:30 PM</td>
<td>Weed Control and Pest Management (WCPM) Working Group Business Meeting; 3:30 PM-4:00 PM Capitol South Room</td>
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<tr>
<td>2:00 PM</td>
<td>Career, Assistance, and Graduate School Fair; 12:00 PM-4:00 PM Capitol North Room</td>
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<tr>
<td>2:30 PM</td>
<td>Career Track - Career and Recruiter Talks; 10:30 AM-12:30 PM Georgia Hall Pre-Function</td>
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<tr>
<td>3:00 PM</td>
<td>Exhibition Booth Move Out - Thursday; 3:00 PM-5:00 PM Georgia Hall Pre-Function</td>
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<tr>
<td>3:30 PM</td>
<td>Exhibitor Move Out - Thursday; 3:00 PM-5:00 PM Georgia Hall Pre-Function</td>
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<tr>
<td>4:00 PM</td>
<td>Exhibitor Move Out - Thursday; 3:00 PM-5:00 PM Georgia Hall Pre-Function</td>
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<td>Exhibitor Move Out - Thursday; 3:00 PM-5:00 PM Georgia Hall Pre-Function</td>
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<tr>
<td>5:00 PM</td>
<td>Exhibitor Move Out - Thursday; 3:00 PM-5:00 PM Georgia Hall Pre-Function</td>
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</table>
### Conference at a Glance

#### Thursday, Continued

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00 AM</td>
<td>Produce Quality, Safety, and Health Properties Workshop—Sanitizing Solutions; 10:30 AM-12:00 PM Macon Room</td>
</tr>
<tr>
<td>8:00 AM</td>
<td>Workshop—Washing Your Produce—Sanitizing Solutions, 10:30 AM-12:00 PM Macon Room</td>
</tr>
<tr>
<td>9:00 AM</td>
<td>Workshop—Asserting the Relevancy and Impact of Postharvest Programs Around the World; 1:15 PM-3:15 PM Macon Room</td>
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<tr>
<td>10:00 AM</td>
<td>Postharvest (PH) Working Group Business Meeting; 1:15 PM-3:15 PM Macon Room</td>
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<tr>
<td>11:00 AM</td>
<td>Oral Session—Fruit Breeding 2; 10:30 AM-12:30 PM Savannah 1 Room</td>
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<tr>
<td>12:00 PM</td>
<td>Oral Session—Hands-on E-Technology Workshop for Extension Educators; 1:15 PM-3:45 PM Savannah 1 Room</td>
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<tr>
<td>1:00 PM</td>
<td>Registration Open—Thursday; 7:30 AM-3:00 PM Rotunda Registration Counter</td>
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<tr>
<td>2:00 PM</td>
<td>National Initiative for Consumer Horticulture (NICH) Meeting; 12:30 PM-1:30 PM Savannah 2/3 Room</td>
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<tr>
<td>3:00 PM</td>
<td>Oral Session—Consumer Horticulture and Master Gardeners; 3:30 PM-5:15 PM Savannah 1 Room</td>
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<tr>
<td>4:00 PM</td>
<td>Oral Session—Vegetable Crops Management 3; 10:30 AM-12:00 PM Savannah 2/3 Room</td>
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</tbody>
</table>

#### Registration

- Graduate and Undergraduate Student Morning Gathering—Thursday; 7:00 AM-8:00 AM The Deli
- International Symposium on Germplasm of Ornamentals; 8:00 AM-5:00 PM Valdosta Room
SUNDAY, AUGUST 7

CONFERENCE SCHEDULE

Sunday, August 7

8:30 AM – 5:45 PM
Gardens of Atlanta Tour..........................................................Level 1 Foyer

9:00 AM – 5:00 PM
NE1336 Multistate Regional Project Meeting.............................Piedmont Room

12:00 PM – 6:00 PM
ASHS Board of Directors Meeting..........................................Athens Room

3:00 PM – 6:00 PM
Speaker Ready Room - Sunday.............................................Georgia Booth/Room
Poster Presenter Recording Room - Sunday...............................Georgia Booth/Room
Registration open - Sunday..................................................Rotunda Registration Counter

Monday, August 8

7:00 AM – 6:00 PM
Poster Presenter Recording Room - Monday..............................Georgia Booth/Room
Speaker Ready Room - Monday.............................................Georgia Booth/Room

7:30 AM – 9:00 AM
Conference Opening Event - 5K Fun Run/Walk/Breakfast..............

7:30 AM – 6:00 PM
Registration Open - Monday..................................................Rotunda Registration Counter

8:00 AM – 2:00 PM
Horticultural Commodity Judging Contest and
Plant Identification Contest Set-up...........................................Capitol South Room
### MONDAY, AUGUST 8

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td><strong>8:00 AM – 5:00 PM</strong></td>
<td>General Contractor Set Up - Monday.</td>
<td>Georgia Ballroom</td>
</tr>
<tr>
<td><strong>9:00 AM – 12:00 PM</strong></td>
<td>Colloquium: Farms of the Future: Controlled-Environment Agriculture.</td>
<td>Capitol North/Center Room</td>
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<tr>
<td></td>
<td>NE1336 Multistate Regional Project Meeting - Day 2</td>
<td>Piedmont Room</td>
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<tr>
<td><strong>9:00 AM – 1:00 PM</strong></td>
<td>Using Technology in Extension: Technology Session for Extension Agents.</td>
<td>Macon Room</td>
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<td><strong>10:00 AM – 3:00 PM</strong></td>
<td>Atlanta City Tour. Upcoming.</td>
<td>Level 1 Foyer</td>
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<td>USDA-ARS All-Employee Meeting.</td>
<td>Savannah 2 Room</td>
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<td><strong>12:00 PM – 2:00 PM</strong></td>
<td>Student Welcome Luncheon.</td>
<td>Atlanta 2/3 Room</td>
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<td><strong>12:15 PM – 12:45 PM</strong></td>
<td>Moderator Training Session - Monday.</td>
<td>Capitol North/Center Room</td>
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<tr>
<td><strong>12:30 PM – 1:00 PM</strong></td>
<td>Viticulture and Small Fruits (VSF) Working Group Business Meeting.</td>
<td>Valdosta Room</td>
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<td><strong>1:00 PM – 2:00 PM</strong></td>
<td>B.Y. Morrison Lecture.</td>
<td>Capitol North/Center Room</td>
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<td>Consulting Editors Meeting.</td>
<td>Savannah 2 Room</td>
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<tr>
<td><strong>1:00 PM – 2:15 PM</strong></td>
<td>Oral Session-Viticulture and Small Fruits 1.</td>
<td>Valdosta Room</td>
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<tr>
<td><strong>1:00 PM – 2:30 PM</strong></td>
<td>Workshop-From Farm to Pharmacy.</td>
<td>Augusta Room</td>
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<td>Workshop-Seize Your Future Internationally: New Opportunities in Horticultural Consulting</td>
<td>Savannah 3 Room</td>
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August 8-11, 2016  Atlanta, Georgia
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>1:00 PM – 3:00 PM</td>
<td>Special Symposium–Mysteries of the Voynich Codex:</td>
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<td>A Meso-American Herbal ...................................................... Savannah 1 Room</td>
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<tr>
<td>1:15 PM – 3:00 PM</td>
<td>Oral Session–Genetics and Germplasm 1 ...................................... Macon Room</td>
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<tr>
<td>2:00 PM – 3:00 PM</td>
<td>B.Y. Morrison Reception ....................................................... Atlanta 4/5 Room</td>
</tr>
<tr>
<td>2:00 PM – 3:00 PM</td>
<td>The Horticultural Commodity Judging Contest and Plant Identification Contest ................................................... Capitol South Room</td>
</tr>
<tr>
<td>2:00 PM – 3:00 PM</td>
<td>Graduate Student (GRAD) Working Group Business Meeting .................. Savannah 2 Room</td>
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<tr>
<td>2:00 PM – 5:00 PM</td>
<td>Poster Set Up .............................................................................. Georgia Ballroom</td>
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<tr>
<td>2:00 PM – 5:00 PM</td>
<td>Exhibitor Set-Up - Monday ................................................................ Georgia Hall Pre-Function</td>
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<tr>
<td>2:30 PM – 3:00 PM</td>
<td>Herbs, Spices, and Medicinal Plants (HSMP) Working Group Business Meeting ...................................................... Augusta Room</td>
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<tr>
<td>2:30 PM – 3:00 PM</td>
<td>International Horticultural Consultants (ICON) Working Group Business Meeting .................................................. Savannah 3 Room</td>
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<tr>
<td>2:30 PM – 3:00 PM</td>
<td>ASHS Member Representative Meeting ............................................. Valdosta Room</td>
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<tr>
<td>2:30 PM – 4:30 PM</td>
<td>CNN Studio Walking Tour ................................................................... Level 1 Foyer</td>
</tr>
<tr>
<td>3:00 PM – 5:00 PM</td>
<td>William A. (‘Tex’) Frazier Lecture and ASHS Awards Ceremony .............. Capitol North/Center Room</td>
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<tr>
<td>3:00 PM – 5:00 PM</td>
<td>Leafy Vegetable Crop Germplasm Committee Meeting ................................ Piedmont Room</td>
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<tr>
<td>5:00 PM – 6:00 PM</td>
<td>Welcome Reception ............................................................................. Garden Courtyard Pool</td>
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<tr>
<td>6:00 PM – 7:00 PM</td>
<td>Seed and Stand Establishment (SSEST) Working Group Business Meeting ........ Atlanta 2/3 Room</td>
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<td></td>
<td>Commercial Horticulture (CHEX) Working Group Business Meeting ........ Augusta Room</td>
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<td></td>
<td>Fruit Breeding (FRBR) Working Group Business Meeting .................... Savannah 1 Room</td>
</tr>
</tbody>
</table>
Citrus Crops (CITR) Working Group Business Meeting .......................... Savannah 2 Room
Federal Partners (FP) Working Group Business Meeting ........................ Savannah 3 Room
Intellectual Property Rights (IPR) Working Group Business Meeting ........... Valdosta Room

6:00 PM – 9:00 PM

Scholars Ignite Competition ............................................................... Macon Room

Tuesday, August 9

7:00 AM – 8:00 AM

Graduate and Undergraduate Student Morning Gathering - Tuesday ........... The Deli

7:00 AM – 6:00 PM

Poster Presenter Recording Room - Tuesday ........................................... Georgia Booth/Room
Speaker Ready Room - Tuesday ......................................................... Georgia Booth/Room

7:30 AM – 6:00 PM

Registration Open - Tuesday ............................................................... Rotunda Registration Counter

8:00 AM – 9:00 AM

Extension Division Advisory Council Meeting ........................................ Atlanta 4 Room

8:00 AM – 9:30 AM

Workshop-The Challenges of Rose Rosette Disease (RRD): An Update of the Combating RRD SCRI Project ........................................... Capitol North Room
Workshop-Landscaping with Ecological Function ..................................... Capitol Center Room
Workshop-Developing International Collaborations in Horticultural Sciences ................................................................. Savannah 2 Room

8:00 AM – 9:45 AM

Oral Session-Postharvest 1 ................................................................. Augusta Room
Oral Session-Growth Chambers and Controlled Environments 1 .............. Capitol South Room

8:00 AM – 10:00 AM

Administrators Working Group Breakfast .............................................. Atlanta 2/3 Room
American Pomological Society (APS) Executive and Advisory Board Meeting . Atlanta 5 Room
Oral Session-Genetics & Germplasm 2 ................................................ Macon Room
## TUESDAY, AUGUST 9

### 8:15 AM – 10:00 AM

**Oral Session-Vegetable Crops Management 1** .................................................. Valdosta Room

### 9:00 AM – 10:00 AM

- **Journal of the ASHS Editorial Board Meeting** ................................................... Atlanta 4 Room
- **Collegiate Activities Committee (CAC) Meeting** .............................................. Georgia 14 Room
- **THE NATIONAL PLANT SYSTEMS INITIATIVE: Research and Training to Foster Breakthroughs in Agriculture, Food, Health, and the Environment** .................................................. Savannah 1 Room
- **Working Group Chairs and Chairs-elect Business Meeting** ................................ Savannah 3 Room

### 9:00 AM – 2:00 PM

**Exhibits Open - Tuesday** .................................................................................. Georgia Hall Pre-Function

### 9:00 AM – 5:00 PM

**Poster Hall Open - Tuesday** ............................................................................ Georgia Ballroom

### 9:30 AM – 10:00 AM

- **Ornamental Plant Breeding (OPB) Working Group Business Meeting** ............ Capitol North Room
- **Ornamentals/Landscape and Turf (O/LT) Working Group Business Meeting** .......... Capitol Center Room
- **International Horticultural Issues & Networking (IHIN) Working Group Business Meeting** ................................................. Savannah 2 Room

### 9:30 AM – 11:00 AM

**Poster Session-Undergraduate Student 1** ......................................................... Georgia Ballroom

### 10:00 AM – 11:00 AM

- **HortTechnology Editorial Board Meeting** ....................................................... Atlanta 4 Room
- **International Division Advisory Council Meeting** ................................................. Atlanta 5 Room
- **Graduate Student Activities Committee Meeting** .............................................. Georgia 14 Room
- **Career Track-Resume Review 1** ........................................................................ Georgia Hall Pre-Function

### 10:00 AM – 11:15 AM

**Oral Session-Organic Horticulture 1** ................................................................. Augusta Room
<table>
<thead>
<tr>
<th>Time</th>
<th>Session/Event</th>
<th>Room</th>
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<tbody>
<tr>
<td>10:15 AM – 11:45 AM</td>
<td>Workshop-Advancing Technology Adoption and Achieving Extension Impact: A Working Group Success Story</td>
<td>Capitol Center Room</td>
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<td>Workshop-Pollinators: Understanding Consumer Attitudes and Identifying Insect-beneficial Plants</td>
<td>Savannah 1 Room</td>
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<td>Workshop-Developing, Producing, and Expanding the Footprint of Bioenergy Crops and Technologies for Commercialization</td>
<td>Savannah 2 Room</td>
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<td>Workshop-Sustainable Horticultural Practices in Asian Countries.</td>
<td>Savannah 3 Room</td>
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<tr>
<td>10:15 AM – 12:00 PM</td>
<td>Oral Session- Produce Quality, Safety, and Health Properties</td>
<td>Macon Room</td>
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<td>Oral Session- Plant Biotechnology</td>
<td>Valdosta Room</td>
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<td>10:15 AM – 12:15 PM</td>
<td>Workshop-Coordinating Researcher and Stakeholder Advocacy for Greater Impact</td>
<td>Capitol North Room</td>
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<td>Oral Session- Pomology 1</td>
<td>Capitol South Room</td>
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<td>11:00 AM – 12:00 PM</td>
<td>Education Division Advisory Council Meeting</td>
<td>Atlanta 4 Room</td>
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<td>William A. “Tex” Frazier Lecture Series Selection Committee</td>
<td>Atlanta 5 Room</td>
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<td>Certified Professional Horticulturist (CPH) Board Meeting</td>
<td>Georgia 14 Room</td>
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<td>Pi Alpha Xi Photography Contest Award Presentations</td>
<td>Georgia Hall Pre-Function</td>
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<td>11:45 AM – 12:15 PM</td>
<td>Nursery Crops (NUR) Working Group Business Meeting</td>
<td>Capitol Center Room</td>
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<td>Marketing and Economics (MKEC) Working Group Business Meeting</td>
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<td>BioEnergy (BioE) Working Group Business Meeting</td>
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<td>Working Group of Asian Horticulture (WGAH) Business Meeting</td>
<td>Savannah 3 Room</td>
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<td>11:45 AM – 1:00 PM</td>
<td>Oral Session- Undergraduate Student 1</td>
<td>Augusta Room</td>
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<td>12:00 PM – 1:00 PM</td>
<td>Research Division Advisory Council Meeting</td>
<td>Atlanta 4 Room</td>
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<td>Environmental Stress Physiology (STRS) Working Group Business Meeting</td>
<td>Atlanta 5 Room</td>
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<tr>
<td>12:00 PM – 2:00 PM</td>
<td>Featured Speaker Luncheon: Commissioner Gary W. Black</td>
<td>Atlanta 2/3 Room</td>
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<td>12:15 PM – 1:00 PM</td>
<td>Poster Session-Postharvest 1 .............................................. Georgia Ballroom</td>
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<td>Poster Session-Tropical Horticultural Crops .................................. Georgia Ballroom</td>
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<td>Poster Session-Bioenergy .................................................................. Georgia Ballroom</td>
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<td>Poster Session-Genetics and Germplasm 1 ....................................... Georgia Ballroom</td>
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<td>Poster Session-Vegetable Crops Management 1 .................................. Georgia Ballroom</td>
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<td>Poster Session-Growth Chambers and Controlled Environments 1 ............ Georgia Ballroom</td>
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<td>Poster Session-Organic Horticulture 1 .......................................... Georgia Ballroom</td>
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<td>Poster Session-Growth Regulators in Fruit and Nut Production ............ Georgia Ballroom</td>
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<td>1:00 PM – 1:45 PM</td>
<td>Poster Session - Teaching Methods ............................................... Georgia Ballroom</td>
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<td>Poster Session-Ornamental Plant Breeding 1 .................................... Georgia Ballroom</td>
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<td>Poster Session - Vegetable Crops Management 2 ................................ Georgia Ballroom</td>
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<td>Poster Session - Vegetable Breeding ............................................. Georgia Ballroom</td>
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<td>Poster Session - Commercial Horticulture ..................................... Georgia Ballroom</td>
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<td>Poster Session - Propagation 1 .................................................. Georgia Ballroom</td>
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<td>Poster Session-Pomology 1 ............................................................ Georgia Ballroom</td>
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<td>1:00 PM – 2:00 PM</td>
<td>Nominations and Elections Committee Meeting ................................... Atlanta 4 Room</td>
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<td>Endowment Fund Committee Meeting ............................................... Atlanta 5 Room</td>
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<td>Special Session-The Latest News and Research on Cannabis ................. Georgia Hall Pre-Function</td>
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<td>1:45 PM – 3:00 PM</td>
<td>Oral Session-International Horticultural Issues &amp; Networking .............. Savannah 1 Room</td>
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<tr>
<td>1:45 PM – 3:15 PM</td>
<td>Oral Session-Computer Applications in Horticulture ........................ Savannah 2 Room</td>
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<td>Workshop- Novel Challenges and Opportunities in Tropical Ornamental Horticulture: Orchids As a Model Crop Savannah 3 Room</td>
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<td>1:45 PM – 3:45 PM</td>
<td>Oral Session - Teaching Methods .................................................. Augusta Room</td>
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<td>Oral Session - Postharvest 2 ...................................................... Macon Room</td>
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<td>2:00 PM – 3:00 PM</td>
<td>Fellows Screening Committee Meeting ........................................... Atlanta 4 Room</td>
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<td>Annual Conference Technical Program Committee Meeting .................... Atlanta 5 Room</td>
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<tr>
<td>2:00 PM – 3:45 PM</td>
<td>Oral Session-Human Issues in Horticulture</td>
<td>Capitol Center Room</td>
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<td>Oral Session-Ornamentals/Landscape and Turf 1</td>
<td>Valdosta Room</td>
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<tr>
<td>2:00 PM – 4:00 PM</td>
<td>Root and Bulb Vegetable Crop Germplasm Committee (RBV-CGC)</td>
<td>Georgia 14 Room</td>
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<tr>
<td>2:00 PM – 5:00 PM</td>
<td>Exhibitors’ Workshop-New Innovations in Commercial Horticultural Applications 1</td>
<td>Georgia Hall Pre-Function</td>
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<tr>
<td>2:00 PM – 6:00 PM</td>
<td>Special Session—Fund Your Future: Opportunities from National Competitive Programs</td>
<td>Capitol North Room</td>
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<tr>
<td>2:30 PM – 3:45 PM</td>
<td>Oral Session-Citrus Crops.</td>
<td>Capitol South Room</td>
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<tr>
<td>3:00 PM – 4:00 PM</td>
<td>Horticulture Hall of Fame Selection Committee.</td>
<td>Atlanta 4 Room</td>
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<td>Membership Committee Meeting</td>
<td>Atlanta 5 Room</td>
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<tr>
<td>3:15 PM – 3:45 PM</td>
<td>Tropical Horticultural Crops (TROP) Working Group Business Meeting</td>
<td>Savannah 3 Room</td>
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<tr>
<td>3:30 PM – 5:00 PM</td>
<td>Workshop-Innovative Applications of Computers in Horticulture</td>
<td>Savannah 2 Room</td>
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<tr>
<td>3:45 PM – 5:45 PM</td>
<td>Workshop-Student Career: Speed-dating on Career Options, 4th Edition</td>
<td>Savannah 1 Room</td>
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<tr>
<td>4:00 PM – 5:00 PM</td>
<td>Horticultural Landmarks Selection Committee Meeting</td>
<td>Atlanta 4 Room</td>
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<td>Certified Horticulturist (CH) Board Meeting</td>
<td>Atlanta 5 Room</td>
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<td>4:00 PM – 5:15 PM</td>
<td>Oral Session-Nursery Crops 1</td>
<td>Capitol Center Room</td>
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<tr>
<td>4:00 PM – 5:30 PM</td>
<td>Eastern Broccoli Project Team Meeting, Poster Session-Undergraduate Student 2, Oral Session-Environmental Stress Physiology 1</td>
<td>Georgia 14 Room, Georgia Ballroom, Macon Room</td>
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<tr>
<td>4:00 PM – 5:45 PM</td>
<td>Oral Session-Consumer Horticulture/Master Gardeners and Public Horticulture</td>
<td>Augusta Room</td>
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<td>4:00 PM – 6:00 PM</td>
<td>Oral Session-Pomology 2</td>
<td>Capitol South Room</td>
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<tr>
<td>5:00 PM – 5:30 PM</td>
<td>Computer Applications in Horticulture (COMP) Working Group Business Meeting</td>
<td>Savannah 2 Room</td>
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<tr>
<td>5:00 PM – 6:00 PM</td>
<td>Public Horticulture (PUBHORT) Working Group Business Meeting</td>
<td>Atlanta 5 Room</td>
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<tr>
<td>5:30 PM – 6:00 PM</td>
<td>Floriculture (FLOR) Working Group Business Meeting, Invasive Plants Research (INPR) Working Group Business Meeting</td>
<td>Savannah 3 Room, Valdosta Room</td>
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<tr>
<td>6:00 PM – 8:00 PM</td>
<td>Early Career Competition</td>
<td>Valdosta Room</td>
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<tr>
<td>6:00 PM – 9:00 PM</td>
<td>Graduate Student Poster Competition</td>
<td>Georgia Ballroom</td>
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<tr>
<td>6:30 PM – 8:30 PM</td>
<td>American Pomological Society Fruit Showcase</td>
<td>Dahlberg Hall</td>
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**Wednesday, August 10**

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<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tr>
<td>7:00 AM – 8:00 AM</td>
<td>Graduate and Undergraduate Student Morning Gathering - Wednesday</td>
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<td>7:00 AM – 6:00 PM</td>
<td>Speaker Ready Room - Wednesday</td>
<td>Georgia Booth/Room</td>
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<td>Poster Presenter Recording Room - Wednesday</td>
<td>Georgia Booth/Room</td>
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<tr>
<td>7:30 AM – 6:00 PM</td>
<td>Registration Open - Wednesday</td>
<td>Rotunda Registration Counter</td>
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<td>8:00 AM – 9:15 AM</td>
<td>Oral Session-Growth Chambers and Controlled Environments 2</td>
<td>Capitol Center Room</td>
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<td>Oral Session-Nursery Crops 2</td>
<td>Savannah 1 Room</td>
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<tr>
<td>8:00 AM – 9:30 AM</td>
<td>Workshop-Horticulture Industry in India: Opportunities and Challenges</td>
<td>Atlanta 4/5 Room</td>
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<td>Oral Session-Vegetable Crops Management 2</td>
<td>Augusta Room</td>
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<td>Workshop-Teaching and Researching within the Field of Urban Horticulture</td>
<td>Capitol South Room</td>
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<td>8:00 AM – 10:00 AM</td>
<td>Workshop-Pioneers of Pomology</td>
<td>Capitol North Room</td>
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<td>Crucifer Crop Germplasm Committee Meeting</td>
<td>Georgia 14 Room</td>
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<td>Oral Session-Postharvest 3</td>
<td>Macon Room</td>
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<td>Oral Session-Water Utilization and Management</td>
<td>Savannah 2/3 Room</td>
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<tr>
<td>8:00 AM – 1:00 PM</td>
<td>International Symposium on Germplasm of Ornamentals - Wednesday</td>
<td>Valdosta Room</td>
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<td>9:00 AM – 9:30 AM</td>
<td>Career Track-The Importance of being a Professional Mentor</td>
<td>Georgia Hall Pre-Function</td>
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<tr>
<td>9:00 AM – 10:00 AM</td>
<td>SR-ASHS Executive Committee Meeting</td>
<td>Atlanta 3 Room</td>
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<tr>
<td>9:00 AM – 2:00 PM</td>
<td>Exhibits Open - Wednesday</td>
<td>Georgia Hall Pre-Function</td>
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<tr>
<td>9:00 AM – 5:00 PM</td>
<td>Poster Hall Open - Wednesday</td>
<td>Georgia Ballroom</td>
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<td>Career Center - Wednesday</td>
<td>Georgia Hall Pre-Function</td>
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<tr>
<td>9:30 AM – 10:00 AM</td>
<td>Association of Horticulturists of Indian Origin (AHIO) Working Group Business Meeting</td>
<td>Atlanta 4/5 Room</td>
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<td>Human Issues in Horticulture (HIH) Working Group Business Meeting</td>
<td>Capitol South Room</td>
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<tr>
<td>9:30 AM – 11:15 AM</td>
<td>Poster Session-Undergraduate Student 3</td>
<td>Georgia Ballroom</td>
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<td>Oral Session-Propagation</td>
<td>Savannah 1 Room</td>
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<tr>
<td>9:45 AM – 11:15 AM</td>
<td>Oral Session-Herbs, Spices, &amp; Medicinal Plants 1</td>
<td>Capitol Center Room</td>
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<td>10:00 AM – 11:00 AM</td>
<td>Emeriti (EMER) Working Group Business Meeting</td>
<td>Atlanta 3 Room</td>
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<tr>
<td>10:00 AM – 11:30 AM</td>
<td>Special Session-Beginning Semi-automated Data Collection in Breeding Programs</td>
<td>Georgia Hall Pre-Function</td>
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<td>10:15 AM – 11:15 AM</td>
<td>Oral Session-Floriculture 1</td>
<td>Savannah 2/3 Room</td>
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<td>10:15 AM – 11:45 AM</td>
<td>Workshop-Developing Soft Skills in Tomorrow’s Leaders</td>
<td>Capitol South Room</td>
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<td>10:15 AM – 12:15 PM</td>
<td>Oral Session-Improvements in Weed Control and Soil Nutrition</td>
<td>Augusta Room</td>
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<td>Enhance Citrus Natural Resistance to HLB Disease</td>
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<td>Special Session-How to Write an Award-winning Grant for Horticulture, Plant Science, and Food Systems</td>
<td>Capitol North Room</td>
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<td>Oral Session-Viticulture and Small Fruits 2</td>
<td>Macon Room</td>
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<td>11:00 AM – 12:00 PM</td>
<td><em>HortScience</em> Editorial Board Meeting</td>
<td>Atlanta 3 Room</td>
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<td>History of Horticultural Science (HIST) Working Group Business Meeting</td>
<td>Georgia 14 Room</td>
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<tr>
<td>11:30 AM – 12:45 PM</td>
<td>Oral Session-Undergraduate Student 2</td>
<td>Capitol Center Room</td>
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<td>Oral Session-Temperate Tree Nut Crops</td>
<td>Savannah 1 Room</td>
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<tr>
<td>11:45 AM – 12:15 PM</td>
<td>Teaching Methods (TCHG) Working Group Business Meeting</td>
<td>Capitol South Room</td>
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<td>12:00 PM – 1:00 PM</td>
<td>Industry Division Advisory Council Meeting</td>
<td>Atlanta 3 Room</td>
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<td>Career Track-Resume Review 2</td>
<td>Georgia Hall Pre-Function</td>
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<tr>
<td>12:00 PM – 1:30 PM</td>
<td>Featured Speaker Luncheon: Elizabeth (Beth) Mitcham</td>
<td>Atlanta 4/5 Room</td>
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<tr>
<td>12:00 PM – 2:00 PM</td>
<td>Pi Alpha Xi Luncheon and Annual Meeting</td>
<td>Atlanta 2 Room</td>
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### Wednesday, August 10

#### 12:15 PM – 1:00 PM
- **Poster Session - Growth Chambers and Controlled Environments 2**
- **Poster Session - Human Issues in Horticulture**
- **Poster Session - Propagation 2**
- **Poster Session - Photography**
- **Poster Session - Fruit Breeding**
- **Poster Session - Ornamental Plant Breeding 2**
- **Poster Session - Organic Horticulture 2**
- **Poster Session - Postharvest 2**
- **Poster Session - Genetics and Germplasm 2**
- **Poster Session - Consumer Horticulture and Master Gardeners**

All sessions take place in Georgia Ballroom.

#### 12:30 PM – 1:30 PM
- **HortIM Program Launch Overview**

Macon Room.

#### 12:45 PM – 1:45 PM
- **Temperate Tree Nut Crops (NUTS) Working Group Business Meeting**

Savannah 1 Room.

#### 1:00 PM – 1:45 PM
- **Poster Session - Ornamentals/Landscape and Turf 1**
- **Poster Session - Environmental Stress Physiology**
- **Poster Session - Weed Control & Pest Management**
- **Poster Session - Floriculture 1**
- **Poster Session - Marketing and Economics**
- **Poster Session - Nursery Crops**
- **Poster Session - Computer Applications in Horticulture**
- **Poster Session - Viticulture and Small Fruits**

All sessions take place in Georgia Ballroom.

#### 1:00 PM – 2:00 PM
- **Production and Harvest Mechanization (MECH) Working Group Business Meeting**

Georgia 14 Room.

#### 1:00 PM – 4:00 PM
- **Specialty Crop Research Initiative Project Director Workshop**

Capitol South Room.

#### 1:45 PM – 3:15 PM
- **Workshop-Impact of Rootstocks on Mineral Nutrition**
- **Oral Session-Ornamental Plant Breeding 1**

Macon Room and Savannah 1 Room.
<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:45 PM – 3:45 PM</td>
<td>Oral Session-Vegetable Breeding</td>
<td>Augusta Room</td>
</tr>
<tr>
<td></td>
<td>Special Session – Career Development Tool - Gaining International Presence for Promotion and Tenure</td>
<td>Capitol North Room</td>
</tr>
<tr>
<td>2:00 PM – 3:00 PM</td>
<td>Scholarship Awards Committee Meeting</td>
<td>Atlanta 3 Room</td>
</tr>
<tr>
<td>2:00 PM – 3:30 PM</td>
<td>Oral Session-Environmental Stress Physiology 2</td>
<td>Savannah 2/3 Room</td>
</tr>
<tr>
<td></td>
<td>Oral Session-Plant Nutrient Management 1</td>
<td>Valdosta Room</td>
</tr>
<tr>
<td>2:00 PM – 3:45 PM</td>
<td>Oral Session-Fruit Breeding 1</td>
<td>Capitol Center Room</td>
</tr>
<tr>
<td>2:00 PM – 5:00 PM</td>
<td>Exhibitors’ Workshop – New Innovations in Commercial Horticultural Applications 2</td>
<td>Georgia Hall Pre-Function</td>
</tr>
<tr>
<td>3:00 PM – 4:00 PM</td>
<td>Water Utilization and Management (WUM)</td>
<td>Atlanta 3 Room</td>
</tr>
<tr>
<td>3:15 PM – 3:45 PM</td>
<td>Pomology (POM) Working Group Business Meeting</td>
<td>Macon Room</td>
</tr>
<tr>
<td>3:30 PM – 4:30 PM</td>
<td>Undergraduate (UG) Working Group Business Meeting</td>
<td>Atlanta 4/5 Room</td>
</tr>
<tr>
<td>3:30 PM – 5:15 PM</td>
<td>Oral Session-Marketing and Economics</td>
<td>Savannah 1 Room</td>
</tr>
<tr>
<td>3:45 PM – 5:15 PM</td>
<td>Workshop-Yes Virginia, There Really Is an Economic Impact of Consumer Horticulture</td>
<td>Savannah 2/3 Room</td>
</tr>
</tbody>
</table>
## WEDNESDAY, AUGUST 10

### 4:00 PM – 5:30 PM

- **Oral Session-Growth Chambers and Controlled Environments 3**  
  Augusta Room
- **Workshop-Food Safety: Routes of Contamination on the Fresh Produce and the National Implementation of Food Safety Modernization Act (FSMA)**  
  Capitol North Room
- **Workshop-The Biology of Precision Breeding and Its Application to Plant Genetic Improvement**  
  Capitol Center Room

### 4:00 PM – 5:45 PM

- **Oral Session-Organic Horticulture 2**  
  Macon Room
- **Oral Session-Ornamentals/Landscape and Turf 2**  
  Valdosta Room

### 4:15 PM – 6:00 PM

- **Oral Session-Pomology 3**  
  Capitol South Room

### 4:30 PM – 5:30 PM

- **Association of Collegiate Branches (ACB) Annual Business Meeting**  
  Atlanta 4/5 Room

### 5:00 PM – 8:30 PM

- **Aquarium Social Event**  
  Level 1 Foyer

### 5:15 PM – 5:45 PM

- **Consumer Horticulture and Master Gardeners (CHMG) Working Group Business Meeting**  
  Savannah 2/3 Room

### 5:30 PM – 6:00 PM

- **Vegetable Crops Management (VCM) Working Group Business Meeting**  
  Capitol North Room
- **Genetics and Germplasm (GG) Working Group Business Meeting**  
  Capitol Center Room

### 6:00 PM – 7:00 PM

- **Vegetable Breeding (VGBR) Working Group Business Meeting**  
  Augusta Room

### 6:00 PM – 8:00 PM

- **SCRI Project Meeting**  
  Capitol Center Room
## Thursday, August 11

### 7:00 AM – 8:00 AM

Graduate and Undergraduate Student Morning Gathering - Thursday

The Deli

### 7:00 AM – 2:00 PM

Speaker Ready Room - Thursday

Poster Presenter Recording Room - Thursday

Georgia Booth/Room

### 7:30 AM – 3:00 PM

Registration Open - Thursday

Rotunda Registration Counter

### 8:00 AM – 9:30 AM

Presidential Address and ASHS Annual Business Meeting

Capitol Center/South

### 8:00 AM – 5:00 PM

International Symposium on Germplasm of Ornamentals

Valdosta Room

### 9:00 AM – 1:00 PM

Certified Horticulturist Examination

Georgia 14 Room

### 9:00 AM – 3:00 PM

Poster Hall Open - Thursday

Exhibits Open - Thursday

Georgia Ballroom

Georgia Hall Pre-Function

### 9:30 AM – 10:30 AM

Featured Speaker: Dr. Jian-Kang Zhu

Capitol Center/South

### 10:30 AM – 12:00 PM

American Pomological Society (APS) Annual Business Meeting

Atlanta 3 Room

Workshop-Sensor-based Technology for Ecophysiological Research of Horticultural Crop Production Systems

Augusta Room

Workshop-Washing Your Produce—Sanitizing Solutions

Macon Room

Oral Session-Vegetable Crops Management 3

Savannah 2/3 Room
### 10:30 AM – 12:30 PM

- **Career Track - Career and Recruiter Talks**
  - Location: Georgia Hall Pre-Function
- **Oral Session - Fruit Breeding 2**
  - Location: Savannah 1 Room

### 10:45 AM – 12:15 PM

- **Oral Session - Herbs, Spices, and Medicinal Plants 2**
  - Location: Atlanta 4/5 Room

### 11:15 AM – 12:15 PM

- **Oral Session - Ornamental Plant Breeding 2**
  - Location: Capitol South Room

### 12:00 PM – 12:30 PM

- **Crop Physiology (CRPP) Working Group Business Meeting**
  - Location: Augusta Room
- **Produce Quality, Safety, and Health Properties (QUAL) Working Group Business Meeting**
  - Location: Macon Room

### 12:00 PM – 2:00 PM

- **Featured Speaker Luncheon: Craig A. Campbell**
  - Location: Atlanta 2 Room

### 12:00 PM – 4:00 PM

- **Career, Assistantship, and Graduate School Fair**
  - Location: Capitol North Room

### 12:15 PM – 1:15 PM

- **Propagation (PROP) Working Group Business Meeting**
  - Location: Atlanta 4/5 Room

### 12:30 PM – 1:15 PM

- **Poster Session - Herbs, Spices, and Medicinal Plants**
  - Location: Georgia Ballroom
- **Poster Session - Temperate Tree Nut Crops**
  - Location: Georgia Ballroom
- **Poster Session - Produce Quality, Safety, and Health Properties**
  - Location: Georgia Ballroom
- **Poster Session - Plant Biotechnology**
  - Location: Georgia Ballroom
- **Poster Session - Local Food Systems**
  - Location: Georgia Ballroom
- **Poster Session - Citrus Crops**
  - Location: Georgia Ballroom
- **Poster Session - Plant Nutrient Management**
  - Location: Georgia Ballroom
- **Poster Session - Plasticulture**
  - Location: Georgia Ballroom
- **Poster Session - Genetics and Germplasm 3**
  - Location: Georgia Ballroom

### 12:30 PM – 1:30 PM

- **National Iniative for Consumer Horticulture (NICH) Meeting**
  - Location: Savannah 2/3 Room
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:15 PM – 2:00 PM</td>
<td><strong>Poster Session - Ornamentals/Landscape and Turf 2</strong> ..........................</td>
<td>Georgia Ballroom</td>
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<td><strong>Poster Session - Waste Utilization in Horticulture</strong> ........................</td>
<td>Georgia Ballroom</td>
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<td><strong>Poster Session - Crop Physiology</strong> ...............................................</td>
<td>Georgia Ballroom</td>
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<td><strong>Poster Session - Water Utilization and Management</strong> ..........................</td>
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<tr>
<td></td>
<td><strong>Poster Session - Vegetable Crops Management 3</strong> ................................</td>
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<td></td>
<td><strong>Poster Session - International Horticultural Issues &amp; Networking</strong> ........</td>
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<td><strong>Poster Session - Floriculture 2</strong> ..................................................</td>
<td>Georgia Ballroom</td>
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<td></td>
<td><strong>Poster Session - Postharvest 3</strong> ...................................................</td>
<td>Georgia Ballroom</td>
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<td><strong>Poster Session - Pomology 2</strong> ..........................................................</td>
<td>Georgia Ballroom</td>
</tr>
</tbody>
</table>

| 1:15 PM – 2:45 PM | **Workshop-Hands-on E-Technology Workshop for Extension Educators** .......... | Savannah 1 Room        |

| 1:45 PM – 3:15 PM | **Workshop-Arduino: Building and Programming Simple Measurement and Control Systems** | Atlanta 4/5 Room |
|                  | **Workshop-Asserting the Relevancy and Impact of Postharvest Programs Around the World** | Macon Room        |

| 2:00 PM – 3:00 PM | **Career Track-Resume Review 3** ..................................................... | Georgia Hall Pre-Function |

| 2:00 PM – 3:30 PM | **Workshop-Methods and Opportunities in Rhizosphere Research and Management** | Augusta Room          |
|                  | **Workshop-Herbicide Drift and Carryover to Horticultural Crops** ............. | Capitol South Room    |

| 2:00 PM – 4:00 PM | **Project Leaders – National Strawberry Sustainability Initiative Program** | Atlanta 3 Room        |

| 2:45 PM – 3:15 PM | **eXtension (EEXT) Working Group Business Meeting** .............................. | Savannah 1 Room        |

<p>| 3:00 PM – 5:00 PM | <strong>Poster Removal</strong> ........................................................................ | Georgia Ballroom        |
|                  | <strong>Exhibitor Move Out - Thursday</strong> ................................................... | Georgia Hall Pre-Function |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>3:15 PM – 3:45 PM</td>
<td>Growth Chambers and Controlled Environments (CE) Working Group Business Meeting</td>
<td>Atlanta 4/5 Room</td>
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<tr>
<td></td>
<td>Postharvest (PH) Working Group Business Meeting</td>
<td>Macon Room</td>
</tr>
<tr>
<td>3:30 PM – 4:00 PM</td>
<td>Root Growth and Rhizosphere Dynamics (RHIZ) Working Group Business Meeting</td>
<td>Augusta Room</td>
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<tr>
<td></td>
<td>Weed Control and Pest Management (WCPM) Working Group Business Meeting</td>
<td>Capitol South Room</td>
</tr>
<tr>
<td>3:30 PM – 5:15 PM</td>
<td>Oral Session-Consumer Horticulture and Master Gardeners</td>
<td>Savannah 1 Room</td>
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<tr>
<td>4:00 PM – 5:15 PM</td>
<td>Oral Session-Floriculture 2</td>
<td>Macon Room</td>
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<td>Oral Session-Plant Nutrient Management 2</td>
<td>Savannah 2/3 Room</td>
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<tr>
<td>6:00 PM – 10:00 PM</td>
<td>Closing Dinner and Speakers</td>
<td></td>
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</tbody>
</table>
Exhibitor booths are located in the Georgia Pre-function and the Georgia Ballroom.

Open to attendees:
Tuesday, August 9th .......................... 9 a.m. – 2 p.m.
Wednesday, August 10th ................. 9 a.m. – 2 p.m.
Thursday, August 11th ..................... 9 a.m. – 3 p.m.

 Booth #14
CID Bio-Science
1554 NE 3rd Avenue, Camas, WA 98607 USA
cid-inc.com

CID Bio-Science designs, engineers, and manufactures instruments for plant scientists. From photosynthesis analysis and leaf area measurement, to leaf spectroscopy and root imaging, our portable, durable tools provide the data you need wherever you need it—from inside the lab to out in the field. To learn more or make an appointment to meet with us, visit Booth #14, or contact us at sales@cid-inc.com.”

 Booth #2
Apogee Instruments
721 W 1800 N, Logan, UT Logan UT 84321 USA
www.apogeeinstruments.com

Apogee Instruments (Logan, Utah) was founded in 1996 by Dr. Bruce Bugbee, a professor of crop physiology at Utah State University. The company focuses on providing high-quality, cost-effective instrumentation for research and commercial applications in horticulture, meteorology, sustainable food production, and renewable energy. Apogee Instruments is a first-time exhibitor at ASHS, and will be featuring several new products including: a new quantum sensor with an improved spectral response; an affordable linear chlorophyll concentration meter; a rugged field spectroradiometer; and a full line of infrared radiometers for plant temperature measurement.

 Booth #5
Bio Chambers Inc.
477 Jarvis Avenue, Winnipeg, MB R2W 3A8 Canada
www.biochambers.com

BioChambers is a leading manufacturer of reach-in and walk-in plant growth chambers that range from small bench top units providing 8ft² of growth area to large multi-tier walk-in rooms that provide a growth area exceeding 400ft². Each chamber is integrated with our easy to use control system that provides lighting level, photo-period, temperature and fan speed control as standard features, and humidity and CO₂ control as optional features. We invite you to visit us at our booth and see how we can help create ideal environments for your research needs.

 Booth #13
CABI/CSIRO
22883 Quicksilver Drive, Sterling, VA 20166 USA
www.styluspub.com

CABI is a not-for-profit international organization that improves people’s lives by providing information and applying scientific expertise to solve problems in agriculture and the environment.

 Booth #16
Conviron
590 Berry Street, Winnipeg, MB R3H 0R9 Canada
www.conviron.com

Conviron’s reach-in plant growth chambers, walk-in rooms and Argus Control Systems (a Conviron company) provide precise, uniform, and repeatable control of temperature, light, humidity, CO₂ and other environmental conditions. All environmental parameters can be remotely programmed, monitored and analyzed with unparalleled accuracy and convenience. With a staff that includes engineers, technicians and controls experts, Conviron is well equipped to supply both standard and custom applications for our clients around the world. Learn more at www.conviron.com or contact us at info@conviron.com.
Booth #6
CRC Press/Taylor & Francis Group

6000 Broken Sound Pkwy #300, Boca Raton, FL 33487 USA
www.crcpress.com

CRC Press is a premier publisher of scientific and technical content, reaching around the globe to collect essential reference material and the latest advances in food quality and safety to make them available to researchers, academics, professionals, and students. CRC Press products include world-class references, handbooks, and textbooks as well as the award-winning netBASE eBook collections. CRC Press is a member of Taylor & Francis Group, an Informa business. For more information, visit www.crcpress.com

Booth #7
LI-COR Biosciences

4647 Superior Street, Lincoln, NE 68504 USA
www.licor.com/env

Please visit LI-COR’s booth (#7) and ask our Applications Scientists to demonstrate the latest instrumentation for environmental research, including the new LI-6800 Portable Photosynthesis System. True to its heritage, the LI-6800 is a technological innovation that can reveal the mechanisms of photosynthesis through gas exchange and chlorophyll fluorescence, creating research opportunities for plant biologists around the world. LI-COR will also feature the LI-1500 Light Sensor Logger with optional GPS, the LAI-2200C Plant Canopy Analyzer with sun-scattering corrections, and newly redesigned light sensors with an improved water-shedding design, a detachable base, and multiple output options.

Booth #11
Decagon Devices

2365 NE Hopkins Court, Pullman, WA 99301 USA
www.decagon.com

Decagon is the world leader in research grade instrumentation for irrigation scheduling, fertigation and plant stress management. Whether you’re looking to measure soil-water interactions or canopy characteristics we have the instrument for you. Stop by our booth #11 to see our new line of spectral reflectance sensors, soil moisture and salinity sensors, and water potential sensors.

Booth #12
PP Systems

110 Haveshill Road, Suite 301, Amesbury, MA 01913 USA
www.ppsystems.com

Stop by and see our popular CIRAS-3 Portable Photosynthesis & Chlorophyll Fluorescence Measurement system. Also on display is our NEW EGM-5 Portable CO₂ gas analyzer and soil CO₂ efflux system. We will also feature our latest range of CO₂ and CO₂/H₂O gas analyzers for the lab and field. PP Systems is also the proud distributor for Hanstech Instruments (chlorophyll fluorometers & oxygen electrodes); Skye Instruments (light sensors); Gill Instruments (anemometers & weather stations); & bbe Moldaenke (algae). www.ppsystems.com

Booth #4
Gylling Data Management

405 Martin Boulevard, Brookings, SD 57006 USA
www.gdmdata.com

Gylling Data Management, providing research management software since 1982 including:

ARM Tablet Data Collector: enter and analyze assessments, take plot pictures, and record trial GPS locations.

ARM: establish, manage, analyze, and report information for crop experiments including field and greenhouse protocols and trials.

ARM ST: summarize and report a trial series across locations and/or years; links with ARM Trial Database to select trials based on information in any trial data entry field.
Spectrum Technologies has been manufacturing affordable, leading-edge agricultural measurement technology for researchers, educators and growers around the world for almost 30 years. Our weather, soil / water, plant nutrition, IPM instrumentation and web-based data-management systems gather valuable data to report and enable informed and profitable decisions. We offer a full line of instruments to measure weather, soil moisture, soil compaction, light, nutrient levels, disease pressure and other factors directly affecting plant health and development. Comprehensive software and data management utilities allow users to view live data, send alerts, graph data, generate reports, maps and more.

Canadian Sphagnum Peat Moss Association
6 rue Iberville, Rivière-du-Loup, QC G5R3Y7 Canada www.tourbehorticole.com

The CSPMA is an association of horticultural peat moss producers and related enterprises devoted to promoting the sustainable management of Canadian peatlands and the industry. We provide support and advocacy for our members and leadership in environmental and social stewardship and economic well-being related to the use of Canadian peatland resources. Visit us to discover the true nature of peat and discuss about our latest initiatives in responsible peat production and sustainable peatland management.

Waypoint Analytical, Inc.
Anaheim, CA 92807 USA www.waypointanalytical.com

Waypoint Analytical, Inc. is a corporation committed to providing timely and innovative solutions to our customers.

We aim to assist our clients in improving production of their crops and/or products. We are dedicated to continued expansion of our analytical, consulting and diagnostic services. We offer the following professional services:

- Soil, plant, water and amendment analysis
- Fertility evaluation and disease diagnosis
- Recommendations and troubleshooting
- Reliable lab work and practical solutions

Environmental Growth Chambers
510 East Washington Street, Chagrin Falls, OH 44022 USA

Environmental Growth Chambers (EGC) is celebrating over sixty years of experience in the design and manufacture of controlled environment chambers. EGC has the largest selection of plant growth chambers for agriculture research of any company worldwide. We also produce tissue culture chambers, walk-in controlled environment rooms, lighted and refrigerated incubators, day-lit chambers, root zone cabinets, microprocessor, and central computer systems for control and monitoring. Please stop by to discuss your upcoming projects. We welcome your visit to our website at www.egc.com.
<table>
<thead>
<tr>
<th>Title</th>
<th>Day/Time</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASHS WORKING GROUP ACTIVITIES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using Technology in Extension: Technology Session for Extension Agents</td>
<td>Monday, 9:00 AM - 1:00 PM</td>
<td>Macon Room</td>
</tr>
<tr>
<td>Viticulture and Small Fruits (VSF) Working Group Business Meeting</td>
<td>Monday, 12:30 PM - 1:00 PM</td>
<td>Valdosta Room</td>
</tr>
<tr>
<td>Graduate Student (GRAD) Working Group Business Meeting</td>
<td>Monday, 2:00 PM - 3:00 PM</td>
<td>Savannah 2 Room</td>
</tr>
<tr>
<td>Herbs, Spices, and Medicinal Plants (HSMP) Working Group Business Meeting</td>
<td>Monday, 2:30 PM - 3:00 PM</td>
<td>Augusta Room</td>
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<tr>
<td>International Horticultural Consultants (ICON) Working Group Business Meeting</td>
<td>Monday, 2:30 PM - 3:00 PM</td>
<td>Savannah 3 Room</td>
</tr>
<tr>
<td>Citrus Crops (CITR) Working Group Business Meeting</td>
<td>Monday, 6:00 PM - 7:00 PM</td>
<td>Savannah 2 Room</td>
</tr>
<tr>
<td>Commercial Horticulture (CHEX) Working Group Business Meeting</td>
<td>Monday, 6:00 PM - 7:00 PM</td>
<td>Augusta Room</td>
</tr>
<tr>
<td>Federal Partners (FP) Working Group Business Meeting</td>
<td>Monday, 6:00 PM - 7:00 PM</td>
<td>Savannah 3 Room</td>
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<tr>
<td>Fruit Breeding (FRBR) Working Group Business Meeting</td>
<td>Monday, 6:00 PM - 7:00 PM</td>
<td>Savannah 1 Room</td>
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<tr>
<td>Intellectual Property Rights (IPR) Working Group Business Meeting</td>
<td>Monday, 6:00 PM - 7:00 PM</td>
<td>Savannah 3 Room</td>
</tr>
<tr>
<td>Seed and Stand Establishment (SSEST) Working Group Business Meeting</td>
<td>Monday, 6:00 PM - 7:00 PM</td>
<td>Atlanta 2/3 Room</td>
</tr>
<tr>
<td>Extension Division Advisory Council Meeting</td>
<td>Tuesday, 8:00 AM - 9:00 AM</td>
<td>Atlanta 4 Room</td>
</tr>
<tr>
<td>Administrators Working Group Breakfast</td>
<td>Tuesday, 8:00 AM - 10:00 AM</td>
<td>Atlanta 2/3 Room</td>
</tr>
<tr>
<td>Working Group Chairs and Chairs-elect Business Meeting</td>
<td>Tuesday, 9:00 AM - 10:00 AM</td>
<td>Savannah 3 Room</td>
</tr>
<tr>
<td>International Horticultural Issues &amp; Networking (IHIN) Working Group Business Meeting</td>
<td>Tuesday, 9:30 AM - 10:00 AM</td>
<td>Savannah 2 Room</td>
</tr>
<tr>
<td>Ornamental Plant Breeding (OPB) Working Group Business Meeting</td>
<td>Tuesday, 9:30 AM - 10:00 AM</td>
<td>Capitol North Room</td>
</tr>
<tr>
<td>Ornamentals/Landscape and Turf (O/LT) Working Group Business Meeting</td>
<td>Tuesday, 9:30 AM - 10:00 AM</td>
<td>Capitol Center Room</td>
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<tr>
<td>International Division Advisory Council Meeting</td>
<td>Tuesday, 10:00 AM - 11:00 AM</td>
<td>Atlanta 5 Room</td>
</tr>
<tr>
<td>Education Division Advisory Council Meeting</td>
<td>Tuesday, 11:00 AM - 12:00 PM</td>
<td>Atlanta 4 Room</td>
</tr>
<tr>
<td>BioEnergy (BioE) Working Group Business Metting</td>
<td>Tuesday, 11:45 AM - 12:15 PM</td>
<td>Savannah 2 Room</td>
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<tr>
<td>Nursery Crops (NUR) Working Group Business Meeting</td>
<td>Tuesday, 11:45 AM - 12:15 PM</td>
<td>Capitol Center Room</td>
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<tr>
<td>Marketing and Economics (MKEC) Working Group Business Meeting</td>
<td>Tuesday, 11:45 AM - 12:15 PM</td>
<td>Savannah 1 Room</td>
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<tr>
<td>Working Group of Asian Horticulture (WGAH) Business Meeting</td>
<td>Tuesday, 11:45 AM - 12:15 PM</td>
<td>Savannah 3 Room</td>
</tr>
<tr>
<td>Environmental Stress Physiology (STRS) Working Group Business Meeting</td>
<td>Tuesday, 12:00 PM - 1:00 PM</td>
<td>Atlanta 5 Room</td>
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<tr>
<td>Research Division Advisory Council Meeting</td>
<td>Tuesday, 12:00 PM - 1:00 PM</td>
<td>Atlanta 4 Room</td>
</tr>
<tr>
<td>Featured Speaker Luncheon: Commissioner Gary W. Black</td>
<td>Tuesday, 12:00 PM - 2:00 PM</td>
<td>Atlanta 2/3 Room</td>
</tr>
<tr>
<td>Special Session--Fund Your Future: Opportunities from National Competitive Programs</td>
<td>Tuesday, 2:00 PM - 6:00 PM</td>
<td>Capitol North Room</td>
</tr>
<tr>
<td>Tropical Horticultural Crops (TROP) Working Group Business Meeting</td>
<td>Tuesday, 3:15 PM - 3:45 PM</td>
<td>Savannah 3 Room</td>
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<tr>
<td>ASHS WORKING GROUP ACTIVITIES and ASHS WORKING GROUP ACTIVITIES</td>
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<tr>
<td><strong>Computer Applications in Horticulture (COMP) Working Group Business Meeting</strong></td>
<td>Tuesday, 5:00 PM - 5:30 PM</td>
<td>Savannah 2 Room</td>
</tr>
<tr>
<td><strong>Public Horticulture (PUBHORT) Working Group Business Meeting</strong></td>
<td>Tuesday, 5:00 PM - 6:00 PM</td>
<td>Atlanta 5 Room</td>
</tr>
<tr>
<td><strong>Floriculture (FLOR) Working Group Business Meeting</strong></td>
<td>Tuesday, 5:30 PM - 6:00 PM</td>
<td>Savannah 3 Room</td>
</tr>
<tr>
<td><strong>Invasive Plants Research (INPR) Working Group Business Meeting</strong></td>
<td>Tuesday, 5:30 PM - 6:00 PM</td>
<td>Valdosta Room</td>
</tr>
<tr>
<td><strong>Local Food Systems (LOCSY) Working Group Business Meeting</strong></td>
<td>Tuesday, 5:00 PM - 7:00 PM</td>
<td>Atlanta 4 Room</td>
</tr>
<tr>
<td><strong>Organic Horticulture (ORGH) Working Group Business Meeting</strong></td>
<td>Tuesday, 6:00 PM - 7:00 PM</td>
<td>Macon Room</td>
</tr>
<tr>
<td><strong>Photography (FOTO) Working Group Business Meeting</strong></td>
<td>Tuesday, 6:00 PM - 7:00 PM</td>
<td>Atlanta 5 Room</td>
</tr>
<tr>
<td><strong>Plant Biotechnology (BTCH) Working Group Business Meeting</strong></td>
<td>Tuesday, 6:00 PM - 7:00 PM</td>
<td>Capitol Center Room</td>
</tr>
<tr>
<td><strong>Plant Growth Regulation (PGR) Working Group Business Meeting</strong></td>
<td>Tuesday, 6:00 PM - 7:00 PM</td>
<td>Augusta Room</td>
</tr>
<tr>
<td><strong>Plant Nutrient Management (PNM) Working Group Business Meeting</strong></td>
<td>Tuesday, 6:00 PM - 7:00 PM</td>
<td>Savannah 2 Room</td>
</tr>
<tr>
<td><strong>Plasticulture (PLAST) Working Group Business Meeting</strong></td>
<td>Tuesday, 6:00 PM - 7:00 PM</td>
<td>Savannah 1 Room</td>
</tr>
<tr>
<td><strong>Association of Horticulturists of Indian Origin (AHIO) Working Group Business Meeting</strong></td>
<td>Wednesday, 9:30 AM - 10:00 AM</td>
<td>Atlanta 4/5 Room</td>
</tr>
<tr>
<td><strong>Human Issues in Horticulture (HIH) Working Group Business Meeting</strong></td>
<td>Wednesday, 9:30 AM - 10:00 AM</td>
<td>Capitol South Room</td>
</tr>
<tr>
<td><strong>Emeriti (EMER) Working Group Business Meeting</strong></td>
<td>Wednesday, 10:00 AM - 11:00 AM</td>
<td>Atlanta 3 Room</td>
</tr>
<tr>
<td><strong>Special Session-How to Write an Award-winning Grant for Horticulture, Plant Science, and Food Systems</strong></td>
<td>Wednesday, 10:15 AM - 12:15 PM</td>
<td>Capitol North Room</td>
</tr>
<tr>
<td><strong>History of Horticultural Science (HIST) Working Group Business Meeting</strong></td>
<td>Wednesday, 11:00 AM - 12:00 PM</td>
<td>Georgia 14 Room</td>
</tr>
<tr>
<td><strong>Teaching Methods (TCHG) Working Group Business Meeting</strong></td>
<td>Wednesday, 11:45 AM - 12:15 PM</td>
<td>Capitol South Room</td>
</tr>
<tr>
<td><strong>Industry Division Advisory Council Meeting</strong></td>
<td>Wednesday, 12:00 PM - 1:00 PM</td>
<td>Atlanta 3 Room</td>
</tr>
<tr>
<td><strong>Featured Speaker Luncheon: Elizabeth (Beth) Mitcham</strong></td>
<td>Wednesday, 12:00 PM - 1:30 PM</td>
<td>Atlanta 4/5 Room</td>
</tr>
<tr>
<td><strong>Temperate Tree Nut Crops (NUTS) Working Group Business Meeting</strong></td>
<td>Wednesday, 12:45 PM - 1:45 PM</td>
<td>Savannah 1 Room</td>
</tr>
<tr>
<td><strong>Production and Harvest Mechanization (MECH) Working Group Business Meeting</strong></td>
<td>Wednesday, 1:00 PM - 2:00 PM</td>
<td>Georgia 14 Room</td>
</tr>
<tr>
<td><strong>Special Session-Career Development Tool–Gaining International Presence for Promotion and Tenure</strong></td>
<td>Wednesday, 1:45 PM - 3:45 PM</td>
<td>Capitol North Room</td>
</tr>
<tr>
<td><strong>Water Utilization and Management (WUM) Working Group Business Meeting</strong></td>
<td>Wednesday, 3:00 PM - 4:00 PM</td>
<td>Atlanta 3 Room</td>
</tr>
<tr>
<td><strong>Pomology (POM) Working Group Business Meeting</strong></td>
<td>Wednesday, 3:15 PM - 3:45 PM</td>
<td>Macon Room</td>
</tr>
<tr>
<td><strong>Undergraduate (UG) Working Group Business Meeting</strong></td>
<td>Wednesday, 3:30 PM - 4:30 PM</td>
<td>Atlanta 4/5 Room</td>
</tr>
<tr>
<td><strong>Consumer Horticulture and Master Gardeners (CHMG) Working Group Business Meeting</strong></td>
<td>Wednesday, 5:15 PM - 5:45 PM</td>
<td>Savannah 2/3 Room</td>
</tr>
<tr>
<td><strong>Genetics and Germplasm (GG) Working Group Business Meeting</strong></td>
<td>Wednesday, 5:30 PM - 6:00 PM</td>
<td>Capitol Center Room</td>
</tr>
<tr>
<td><strong>Vegetable Crops Management (VCM) Working Group Business Meeting</strong></td>
<td>Wednesday, 5:30 PM - 6:00 PM</td>
<td>Capitol North Room</td>
</tr>
<tr>
<td><strong>Vegetable Breeding (VGBR) Working Group Business Meeting</strong></td>
<td>Wednesday, 6:00 PM - 7:00 PM</td>
<td>Augusta Room</td>
</tr>
<tr>
<td><strong>Crop Physiology (CRPP) Working Group Business Meeting</strong></td>
<td>Thursday, 12:00 PM - 12:30 PM</td>
<td>Augusta Room</td>
</tr>
<tr>
<td><strong>Produce Quality, Safety, and Health Properties (QUAL) Working Group Business Meeting</strong></td>
<td>Thursday, 12:00 PM - 12:30 PM</td>
<td>Macon Room</td>
</tr>
<tr>
<td>Event</td>
<td>Date/Time</td>
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</tr>
<tr>
<td>Propagation (PROP) Working Group Business Meeting</td>
<td>Thursday, 12:15 PM - 1:15 PM</td>
<td>Atlanta 4/5 Room</td>
</tr>
<tr>
<td>eXtension (EEXT) Working Group Business Meeting</td>
<td>Thursday, 2:45 PM - 3:15 PM</td>
<td>Savannah 1 Room</td>
</tr>
<tr>
<td>Growth Chambers and Controlled Environments (CE) Working Group Business Meeting</td>
<td>Thursday, 3:15 PM - 3:45 PM</td>
<td>Atlanta 4/5 Room</td>
</tr>
<tr>
<td>Postharvest (PH) Working Group Business Meeting</td>
<td>Thursday, 3:15 PM - 3:45 PM</td>
<td>Macon Room</td>
</tr>
<tr>
<td>Root Growth and Rhizosphere Dynamics (RHIZ) Working Group Business Meeting</td>
<td>Thursday, 3:30 PM - 4:00 PM</td>
<td>Augusta Room</td>
</tr>
<tr>
<td>Weed Control and Pest Management (WCPM) Working Group Business Meeting</td>
<td>Thursday, 3:30 PM - 4:00 PM</td>
<td>Capitol South Room</td>
</tr>
</tbody>
</table>

**BREAKFAST, LUNCHEONS, BREAKS, DINNERS, RECEPTIONS**

<table>
<thead>
<tr>
<th>Event</th>
<th>Date/Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Welcome Luncheon</td>
<td>Monday, 12:00 PM - 2:00 PM</td>
<td>Atlanta 2/3 Room</td>
</tr>
<tr>
<td>B.Y. Morrison Reception</td>
<td>Monday, 2:00 PM - 3:00 PM</td>
<td>Atlanta 4/5 Room</td>
</tr>
<tr>
<td>Welcome Reception</td>
<td>Monday, 5:00 PM - 6:00 PM</td>
<td>Garden Courtyard Pool</td>
</tr>
<tr>
<td>Administrators Working Group Breakfast</td>
<td>Tuesday, 8:00 AM - 10:00 AM</td>
<td>Atlanta 2/3 Room</td>
</tr>
<tr>
<td>Featured Speaker Luncheon: Commissioner Gary W. Black</td>
<td>Tuesday, 12:00 PM - 2:00 PM</td>
<td>Atlanta 2/3 Room</td>
</tr>
<tr>
<td>Featured Speaker Luncheon: Elizabeth (Beth) Mitcham</td>
<td>Wednesday, 12:00 PM - 1:30 PM</td>
<td>Atlanta 4/5 Room</td>
</tr>
<tr>
<td>Pi Alpha Xi Luncheon and Annual Meeting</td>
<td>Wednesday, 12:00 PM - 2:00 PM</td>
<td>Atlanta 2 Room</td>
</tr>
<tr>
<td>Featured Speaker Luncheon: Craig A. Campbell</td>
<td>Thursday, 12:00 PM - 2:00 PM</td>
<td>Atlanta 2 Room</td>
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</table>

**COMMITTEES**

<table>
<thead>
<tr>
<th>Committee</th>
<th>Date/Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASHS Board of Directors Meeting</td>
<td>Sunday, 12:00 PM - 6:00 PM</td>
<td>Athens Room</td>
</tr>
<tr>
<td>Consulting Editors Meeting</td>
<td>Monday, 1:00 PM - 2:00 PM</td>
<td>Savannah 2 Room</td>
</tr>
<tr>
<td>ASHS Member Representative Meeting</td>
<td>Monday, 2:30 PM - 3:00 PM</td>
<td>Valdosta Room</td>
</tr>
<tr>
<td>Journal of the ASHS Editorial Board Meeting</td>
<td>Tuesday, 9:00 AM - 10:00 AM</td>
<td>Atlanta 4 Room</td>
</tr>
<tr>
<td>Collegiate Activities Committee (CAC) Meeting</td>
<td>Tuesday, 9:00 AM - 10:00 AM</td>
<td>Georgia 14 Room</td>
</tr>
<tr>
<td>HortTechnology Editorial Board Meeting</td>
<td>Tuesday, 10:00 AM - 11:00 AM</td>
<td>Atlanta 4 Room</td>
</tr>
<tr>
<td>Graduate Student Activities Committee Meeting</td>
<td>Tuesday, 10:00 AM - 11:00 AM</td>
<td>Georgia 14 Room</td>
</tr>
<tr>
<td>Certified Professional Horticulturist (CPH) Board Meeting</td>
<td>Tuesday, 11:00 AM - 12:00 PM</td>
<td>Georgia 14 Room</td>
</tr>
<tr>
<td>William A. “Tex” Frazier Lecture Series Selection Committee</td>
<td>Tuesday, 11:00 AM - 12:00 PM</td>
<td>Atlanta 5 Room</td>
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<tr>
<td>Endowment Fund Committee Meeting</td>
<td>Tuesday, 1:00 PM - 2:00 PM</td>
<td>Atlanta 5 Room</td>
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<tr>
<td>Nominations and Elections Committee Meeting</td>
<td>Tuesday, 1:00 PM - 2:00 PM</td>
<td>Atlanta 4 Room</td>
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<tr>
<td>Annual Conference Technical Program Committee Meeting</td>
<td>Tuesday, 2:00 PM - 3:00 PM</td>
<td>Atlanta 5 Room</td>
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<tr>
<td>Fellows Screening Committee Meeting</td>
<td>Tuesday, 2:00 PM - 3:00 PM</td>
<td>Atlanta 4 Room</td>
</tr>
<tr>
<td>Horticulture Hall of Fame Selection Committee</td>
<td>Tuesday, 3:00 PM - 4:00 PM</td>
<td>Atlanta 4 Room</td>
</tr>
<tr>
<td>Membership Committee Meeting</td>
<td>Tuesday, 3:00 PM - 4:00 PM</td>
<td>Atlanta 5 Room</td>
</tr>
<tr>
<td>Certified Horticulturist (CH) Board Meeting</td>
<td>Tuesday, 4:00 PM - 5:00 PM</td>
<td>Atlanta 5 Room</td>
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</table>
### GRADUATE EVENTS

<table>
<thead>
<tr>
<th>Event</th>
<th>Date/Time</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>Horticultural Landmarks Selection Committee Meeting</td>
<td>Tuesday, 4:00 PM - 5:00 PM</td>
<td>Atlanta 4 Room</td>
</tr>
<tr>
<td>HortScience Editorial Board Meeting</td>
<td>Wednesday, 11:00 AM - 12:00 PM</td>
<td>Atlanta 3 Room</td>
</tr>
<tr>
<td>Scholarship Awards Committee Meeting</td>
<td>Wednesday, 2:00 PM - 3:00 PM</td>
<td>Atlanta 3 Room</td>
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</tbody>
</table>

### MEETINGS OF AFFILIATED ORGANIZATIONS

<table>
<thead>
<tr>
<th>Event</th>
<th>Date/Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Welcome Luncheon</td>
<td>Monday, 12:00 PM - 2:00 PM</td>
<td>Atlanta 2/3 Room</td>
</tr>
<tr>
<td>Graduate Student (GRAD) Working Group Business Meeting</td>
<td>Monday, 2:00 PM - 3:00 PM</td>
<td>Savannah 2 Room</td>
</tr>
<tr>
<td>Scholars Ignite Competition</td>
<td>Monday, 6:00 PM - 9:00 PM</td>
<td>Macon 2 Room</td>
</tr>
<tr>
<td>Graduate and Undergraduate Student Morning Gathering - Tuesday</td>
<td>Tuesday, 7:00 AM - 8:00 AM</td>
<td>The Deli</td>
</tr>
<tr>
<td>Graduate Student Poster Competition</td>
<td>Tuesday, 6:00 PM - 9:00 PM</td>
<td>Georgia Ballroom</td>
</tr>
<tr>
<td>Graduate and Undergraduate Student Morning Gathering - Wednesday</td>
<td>Wednesday, 7:00 AM - 8:00 AM</td>
<td>The Deli</td>
</tr>
<tr>
<td>Special Session-How to Write an Award-winning Grant for Horticulture, Plant Science, and Food Systems</td>
<td>Wednesday, 10:15 AM - 12:15 PM</td>
<td>Capitol North Room</td>
</tr>
<tr>
<td>Graduate and Undergraduate Student Morning Gathering - Thursday</td>
<td>Thursday, 7:00 AM - 8:00 AM</td>
<td>The Deli</td>
</tr>
<tr>
<td>Event</td>
<td>Date/Time</td>
<td>Location</td>
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</tr>
<tr>
<td>American Pomological Society (APS) Annual Business Meeting</td>
<td>Thursday, 10:30 AM - 12:00 PM</td>
<td>Atlanta 3 Room</td>
</tr>
<tr>
<td>National Initiative for Consumer Horticulture (NICH) Meeting</td>
<td>Thursday, 12:30 PM - 1:30 PM</td>
<td>Savannah 2/3 Room</td>
</tr>
<tr>
<td>Project Leaders - National Strawberry Sustainability Initiative Program</td>
<td>Thursday, 2:00 PM - 4:00 PM</td>
<td>Atlanta 3 Room</td>
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</table>

**POSTER COMPETITION**

<table>
<thead>
<tr>
<th>Event</th>
<th>Date/Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Graduate Student Poster Competition</strong></td>
<td>Tuesday, 6:00 PM - 9:00 PM</td>
<td>Georgia Ballroom</td>
</tr>
</tbody>
</table>

**REGISTRATION / EXHIBITS/JOB SERVICE/ POSTER HALL / GENERAL SCHEDULING**

<table>
<thead>
<tr>
<th>Event</th>
<th>Date/Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poster Presenter Recording Room - Sunday</td>
<td>Sunday, 3:00 PM - 6:00 PM</td>
<td>Georgia Booth/Room</td>
</tr>
<tr>
<td>Registration open - Sunday</td>
<td>Sunday, 3:00 PM - 6:00 PM</td>
<td>Rotunda Registration Counter</td>
</tr>
<tr>
<td>Speaker Ready Room - Sunday</td>
<td>Sunday, 3:00 PM - 6:00 PM</td>
<td>Georgia Booth/Room</td>
</tr>
<tr>
<td>Poster Presenter Recording Room - Monday</td>
<td>Monday, 7:00 AM - 6:00 PM</td>
<td>Georgia Booth/Room</td>
</tr>
<tr>
<td>Speaker Ready Room - Monday</td>
<td>Monday, 7:00 AM - 6:00 PM</td>
<td>Georgia Booth/Room</td>
</tr>
<tr>
<td>Registration Open - Monday</td>
<td>Monday, 7:30 AM - 6:00 PM</td>
<td>Rotunda Registration Counter</td>
</tr>
<tr>
<td>General Contractor Set Up - Monday</td>
<td>Monday, 8:00 AM - 5:00 PM</td>
<td>Georgia Ballroom</td>
</tr>
<tr>
<td>Moderator Training Session - Monday</td>
<td>Monday, 12:15 PM - 12:45 PM</td>
<td>Capitol North/Center Room</td>
</tr>
<tr>
<td>Exhibitor Set-Up - Monday</td>
<td>Monday, 2:00 PM - 5:00 PM</td>
<td>Georgia Hall Pre-Function</td>
</tr>
<tr>
<td>Poster Set Up</td>
<td>Monday, 2:00 PM - 5:00 PM</td>
<td>Georgia Ballroom</td>
</tr>
<tr>
<td>William A. (‘Tex’) Frazier Lecture and ASHS Awards Ceremony</td>
<td>Monday, 3:00 PM - 5:00 PM</td>
<td>Capitol North/Center Room</td>
</tr>
<tr>
<td>Poster Presenter Recording Room - Tuesday</td>
<td>Tuesday, 7:00 AM - 6:00 PM</td>
<td>Georgia Booth/Room</td>
</tr>
<tr>
<td>Speaker Ready Room - Tuesday</td>
<td>Tuesday, 7:00 AM - 6:00 PM</td>
<td>Georgia Booth/Room</td>
</tr>
<tr>
<td>Registration Open - Tuesday</td>
<td>Tuesday, 7:30 AM - 6:00 PM</td>
<td>Rotunda Registration Counter</td>
</tr>
<tr>
<td>Exhibits Open - Tuesday</td>
<td>Tuesday, 9:00 AM - 2:00 PM</td>
<td>Georgia Hall Pre-Function</td>
</tr>
<tr>
<td>Poster Hall Open - Tuesday</td>
<td>Tuesday, 9:00 AM - 5:00 PM</td>
<td>Georgia Ballroom</td>
</tr>
<tr>
<td>Poster Presenter Recording Room - Wednesday</td>
<td>Wednesday, 7:00 AM - 6:00 PM</td>
<td>Georgia Booth/Room</td>
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<tr>
<td>Speaker Ready Room - Wednesday</td>
<td>Wednesday, 7:00 AM - 6:00 PM</td>
<td>Georgia Booth/Room</td>
</tr>
<tr>
<td>Registration Open - Wednesday</td>
<td>Wednesday, 7:30 AM - 6:00 PM</td>
<td>Rotunda Registration Counter</td>
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<tr>
<td>Exhibits Open - Wednesday</td>
<td>Wednesday, 9:00 AM - 2:00 PM</td>
<td>Georgia Hall Pre-Function</td>
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<tr>
<td>Poster Hall Open - Wednesday</td>
<td>Wednesday, 9:00 AM - 5:00 PM</td>
<td>Georgia Ballroom</td>
</tr>
<tr>
<td>Poster Presenter Recording Room - Thursday</td>
<td>Thursday, 7:00 AM - 2:00 PM</td>
<td>Georgia Booth/Room</td>
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<tr>
<td>Event</td>
<td>Date and Time</td>
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</tr>
<tr>
<td>Speaker Ready Room - Thursday</td>
<td>Thursday, 7:00 AM - 2:00 PM</td>
<td>Georgia Booth/Room</td>
</tr>
<tr>
<td>Registration Open - Thursday</td>
<td>Thursday, 7:30 AM - 3:00 PM</td>
<td>Rotunda Registration Counter</td>
</tr>
<tr>
<td>Presidential Address and ASHS Annual Business Meeting</td>
<td>Thursday, 8:00 AM - 9:30 AM</td>
<td>Capitol Center/South</td>
</tr>
<tr>
<td>Exhibits Open - Thursday</td>
<td>Thursday, 9:00 AM - 3:00 PM</td>
<td>Georgia Hall Pre-Function</td>
</tr>
<tr>
<td>Poster Hall Open - Thursday</td>
<td>Thursday, 9:00 AM - 3:00 PM</td>
<td>Georgia Ballroom</td>
</tr>
<tr>
<td>Exhibitor Move Out - Thursday</td>
<td>Thursday, 3:00 PM - 5:00 PM</td>
<td>Georgia Hall Pre-Function</td>
</tr>
<tr>
<td>Poster Removal</td>
<td>Thursday, 3:00 PM - 5:00 PM</td>
<td>Georgia Ballroom</td>
</tr>
<tr>
<td>Conference Opening Event - 5K Fun Run/Walk/Breakfast</td>
<td>Monday, 7:30 AM - 9:00 AM</td>
<td>Macon Room</td>
</tr>
<tr>
<td>Using Technology in Extension: Technology Session for Extension Agents</td>
<td>Monday, 9:00 AM - 1:00 PM</td>
<td>Capitol North/Center Room</td>
</tr>
<tr>
<td>B.Y. Morrison Lecture</td>
<td>Monday, 1:00 PM - 2:00 PM</td>
<td>Capitol North/Center Room</td>
</tr>
<tr>
<td>William A. (‘Tex’) Frazier Lecture and ASHS Awards Ceremony</td>
<td>Monday, 3:00 PM - 5:00 PM</td>
<td>Capitol North/Center Room</td>
</tr>
<tr>
<td>The National Plant Systems Initiative: Research and Training to Foster Breakthroughs in Agriculture, Food, Health, and the Environment</td>
<td>Tuesday, 9:00 AM - 10:00 AM</td>
<td>Savannah 1 Room</td>
</tr>
<tr>
<td>Special Session–Fund Your Future: Opportunities from National Competitive Programs</td>
<td>Tuesday, 2:00 PM - 6:00 PM</td>
<td>Capitol North Room</td>
</tr>
<tr>
<td>Early Career Competition</td>
<td>Tuesday, 6:00 PM - 8:00 PM</td>
<td>Valdosta Room</td>
</tr>
<tr>
<td>Special Session-How to Write an Award-winning Grant for Horticulture, Plant Science, and Food Systems</td>
<td>Wednesday, 10:15 AM - 12:15 PM</td>
<td>Capitol North Room</td>
</tr>
<tr>
<td>HortIM Program Launch Overview</td>
<td>Wednesday, 12:30 PM - 1:30 PM</td>
<td>Macon Room</td>
</tr>
<tr>
<td>Specialty Crop Research Initiative Project Director Workshop</td>
<td>Wednesday, 1:00 PM - 4:00 PM</td>
<td>Capitol South Room</td>
</tr>
<tr>
<td>Special Session-Career Development Tool--Gaining International Presence for Promotion and Tenure</td>
<td>Wednesday, 1:45 PM - 3:45 PM</td>
<td>Capitol North Room</td>
</tr>
<tr>
<td>Aquarium Social Event</td>
<td>Wednesday, 5:00 PM - 8:30 PM</td>
<td>Level 1 Foyer</td>
</tr>
<tr>
<td>Presidential Address and ASHS Annual Business Meeting</td>
<td>Thursday, 8:00 AM - 9:30 AM</td>
<td>Capitol Center/South</td>
</tr>
<tr>
<td>Certified Horticulturist Examination</td>
<td>Thursday, 9:00 AM - 1:00 PM</td>
<td>Georgia 14 Room</td>
</tr>
<tr>
<td>Featured Speaker: Dr. Jian-Kang Zhu</td>
<td>Thursday, 9:30 AM - 10:30 AM</td>
<td>Capitol Center/South</td>
</tr>
<tr>
<td>Closing Dinner and Speakers</td>
<td>Thursday, 6:00 PM - 10:00 PM</td>
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<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
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</thead>
<tbody>
<tr>
<td>Gardens of Atlanta Tour</td>
<td>Sunday, 8:30 AM - 5:45 PM</td>
<td>Level 1 Foyer</td>
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<tr>
<td>Atlanta City Tour</td>
<td>Monday, 10:00 AM - 3:00 PM</td>
<td>Level 1 Foyer</td>
</tr>
<tr>
<td>CNN Studio Walking Tour</td>
<td>Monday, 2:30 PM - 4:30 PM</td>
<td>Level 1 Foyer</td>
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</table>

## UNDERGRADUATE EVENTS

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Welcome Luncheon</td>
<td>Monday, 12:00 PM - 2:00 PM</td>
<td>Atlanta 2/3 Room</td>
</tr>
<tr>
<td>The Horticultural Commodity Judging Contest and Plant Identification Contest</td>
<td>Monday, 2:00 PM - 3:00 PM</td>
<td>Capitol South Room</td>
</tr>
<tr>
<td>Graduate and Undergraduate Student Morning Gathering - Tuesday</td>
<td>Tuesday, 7:00 AM - 8:00 AM</td>
<td>The Deli</td>
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<tr>
<td>Graduate and Undergraduate Student Morning Gathering - Wednesday</td>
<td>Wednesday, 7:00 AM - 8:00 AM</td>
<td>The Deli</td>
</tr>
<tr>
<td>Undergraduate (UG) Working Group Business Meeting</td>
<td>Wednesday, 3:30 PM - 4:30 PM</td>
<td>Atlanta 4/5 Room</td>
</tr>
<tr>
<td>Graduate and Undergraduate Student Morning Gathering - Thursday</td>
<td>Thursday, 7:00 AM - 8:00 AM</td>
<td>The Deli</td>
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</table>
2016 ASHS AWARD WINNERS

ASHS Fellow: Jeanine Davis

Dr. Jeanine Davis has advanced horticulture as a viable industry and way of life to a new generation through science-based research and extension of organic and sustainable farming and has launched a rebirth of medicinal herbs and hops as a U.S. horticultural industry. Her contributions, skills, and stamina have woven the fabric for the success of these non-traditional endeavors and have helped establish North Carolina as a mecca for new growers to succeed and adopt horticulture as a way of life.

Jeanine Davis
North Carolina State University

ASHS Fellow: Jeffrey Norrie

Dr. Norrie was born and raised in rural Canada, attained his BSc from Mount Allison (Biology, 1985), MSc from Dalhousie (Biology-Agriculture, 1988), and PhD from Laval (Plant Science, 1992) in Quebec City. Through his formal training, Jeff developed a strong background in marine and plant physiology, environment-plant hormone interactions and greenhouse crop nutrition. He also has extensive experience in soil amendments and fertility management. For the past 20 years, Jeff has blended his marine and agricultural experience together as Senior Manager, Agricultural Research and Innovation for Acadian Seaplants Limited (ASL). Jeff oversees an extensive program in international fundamental and applied research, and provides technical support on marine-plant products and extracts to internal and external audiences. Fluent in French and Spanish, his networking, seminars and projects take him into over 40 countries. Widely published, he is Adjunct Associate at Dalhousie University, is Past-President of the Nova Scotia Institute of Agrologists and the Plant Growth Regulation Society of America, and is past Industry Division Vice President with the American Society for Horticultural Science. Jeff continues to sit on several professional committees and is a tireless advocate for horticultural science and collaborative research. His passion remains in connecting grower concerns with researcher solutions and helping to integrate marine-plant technologies into sustainable crop management programs. In addition to his professional life, Jeff is very active in community affairs having served in leadership roles as a coach, administrator, and volunteer in amateur hockey, baseball, and soccer associations.

Jeffrey Norrie
Acadian Seaplants Limited
Dr. Kimberly A. Moore is Professor of Environmental Horticulture at the University of Florida. She is located at the Fort Lauderdale Research and Education Center, where she maintains a 70% teaching and 30% research appointment. Moore received her PhD and MS degrees in Horticulture from Iowa State University and her BS degree in Environmental Science and Botany, with a minor in Chemistry from Eastern Illinois University.

Throughout her career, Dr. Moore has maintained an enthusiastic, deep passion for horticulture and the desire to make a meaningful contribution to the discipline. Her impressive teaching schedule has included developing both college and graduate level courses in horticultural science, horticulture business management, plant nutrition, plant propagation, and organic chemistry. Moore's dedication to excellence has resulted in a consistent record of outstanding teaching evaluations from both her peers and her students.

In addition to developing a high-quality teaching program, which was followed by the successful transition to an online teaching format, Dr. Moore has maintained a productive research program with an excellent record of publication in peer-reviewed journals. Her research focus is on developing nutritional management strategies for greenhouse crops, specifically the use of alternative growing substrates and the impacts of wastewater and salt water on containerized ornamental plant growth.

Beyond Dr. Moore's impressive teaching contributions which entail teaching an average of 8 credit hours each spring semester, 9 credit hours each fall, and 1 credit hour each summer term, advising over 55 undergraduate students and 8 graduate students, she has also maintained a distinguished record of service in the College of Agricultural and Life Sciences at the University of Florida, the American Society for Horticultural Science (ASHS), and numerous other associations.

In recognition of Moore's exceptional contributions to horticulture, she was awarded the North America College and Teachers of Agriculture (NACTA) Fellow in 2011; the NACTA Southern Regional Outstanding Teacher Award in 2014; the ASHS Outstanding Graduate Educator Award in 2014; and the University of Florida Academy of Distinguished Teaching Scholars in 2014. The following year, in recognition of her outstanding leadership skills while serving on numerous ASHS committees (Scholarship Awards Committee, Education Advisory Council, Collegiate Activities Committee, Floriculture Working Group, and Teaching Methods Working Group) as well as her 15 years of service an Associate/Consulting Editor for HortTechnology, Dr. Moore was elected to the ASHS Board of Directors where she currently serves as the Member-at-Large representative.
ASHS Fellow: Kent Kobayashi

Dr. Kent Kobayashi is an Associate Professor in the Tropical Plant & Soil Sciences Department at the University of Hawaii at Manoa. He received a BS degree in Entomology from the University of Hawaii at Manoa and a MAg degree in Agronomic Crop Science, BS degree in Horticulture, and a PhD degree in Horticulture from Oregon State University. He has been at the University of Hawaii at Manoa since 1982.

Dr. Kobayashi’s research focuses on light quality effects on hydroponic vegetables and tropical ornamental plants. His studies have included the comparison of fluorescent and light-emitting diode lighting and the effects of photosensitive shadecloth and photosensitive plastic film. His primary interest centers on whole plant growth, how plant dry matter is partitioned to the different parts of the plants. His work has included orchids, anthuriums, chrysanthemums, lettuce, chili peppers, tomatoes, watercress, and micropropagation. He developed a small self-contained non-circulating hydroponic system for use on shelving with artificial lighting. Dr. Kobayashi mentored the Girl Scouts of Hawaii International Space Station Project Teams for two years on their project on growing arugula on the ISS. His earlier work dealt with modeling dormancy and cold hardiness and modeling of tropical fruit trees.

Dr. Kobayashi was one of the early pioneers in developing a microcomputer-based hypermedia/hypertext information delivery system for crops in Hawaii called the Farmer’s Bookshelf. This was prior to the early 1990s. First developed for the Macintosh, this system was later moved to IBM-compatible microcomputers. With collaborators, the Farmer’s Bookshelf was expanded to include features such as calculating macadamia nut spoilage, recommending ground covers, recommending landscaping trees, and predicting phosphorus requirements. His extension work covers the use of mobile devices and mobile apps (applications) for extension and teaching. Early in his career Dr. Kobayashi developed a graduate-level course on crop modeling. Initially using a mainframe computer with the CSMP simulation language, students later used the relational diagram visually oriented Macintosh/PC based simulation language STELLA. Over the years, he has taken on teaching an undergraduate course on tropical production systems, a graduate course on communications in the sciences, and team teaching a graduate course on plant growth and development. Dr. Kobayashi has attended numerous education conferences and workshops to keep up with the latest teaching pedagogy. As such, he now uses the flipped classroom technique along with bring your own device (BYOD), small group discussion, and active learning.
ASHS Horticulture Hall of Fame: Frank A. Blazich

Frank's greatest passion was developing and training graduate students to become scientists that hold faculty or leadership positions at major research universities, botanical gardens and arboreta, or teaching positions at community colleges or Cooperative Extension programs. Many students and faculty will remember his meticulous editing, hands-on approach to research, tireless work ethic, and outright demand for competence, all of whom are better scientists, teachers, and writers as a result. Frank took great pride in his graduate students' achievements and was named NC State University Alumni Distinguished Graduate Professor. His life is celebrated by his former students and his achievements are legendary.

ASHS Scholars Award: David Denton

My goal is to develop and market ornamental plants for the Southeastern US that will be easy to grow and inexpensive to the mass market. To acquire the education for this goal, I am majoring in Horticulture at NC State University.

At age 14, I built a small hobby greenhouse. I started vegetable seedlings, but my interest quickly turned towards a weedy annual that grew in my parents' yard, Impatiens balsamina.

I colonized a new garden bed with two seedlings, which soon multiplied in the years following. The natural variation that arose with each generation fascinated me and sparked my interest in plant breeding.

I began selecting for double petal form and more drought tolerance. To a limited extent, I also made hand crosses. This species variation and ease of growth has prompted me on a mission towards bringing it back into mainstream cultivation.

By the time I began attending NC State, I already had several seed strains that I had established. In the Spring of 2015, Dr. Kraus and Diane Mays provided me the greenhouse space to conduct evaluations of those seed strains and select individual plants for hand pollination. Dr. Werner was also very helpful in providing me guidance and insight throughout this project.
There were 100 plants grown, and many of those plants had great ornamental promise, except for the large size. Hence the goal for the next generation was to compact the size of the vegetative growth without compromising the floral growth.

In the Fall of 2015, a total of 120 plants were grown that were crosses of the 10 best-performing large-flowering plants and dwarf types. The best 8 of those 120 plants were used as female parents and crossed with two different multicolor plants. My hope is to create a compact, large-flowering plant that has variegated flowers.

This project is still a work in progress and it has further helped fuel my interest in plant breeding. In the future, I am considering the possibility of pursuing a graduate education and then seeking employment as an ornamental plant breeder.

**ASHS Scholars Award: Lauren D. Kilpatrick**

Plants and the study of our environment have always fascinated me and I have 10 years of experience studying them through many opportunities. When I joined 4-H in 2004, I was introduced to Gardening and Horticulture has a project. It quickly became my main project and has remained that throughout my 10-year 4-H career. In 2006, my mom decided to take classes and become a Master Gardener. This allowed me to learn even more by attending multiple gardening workshops on a wide range of topics through the years. Likewise, I have been able to give back to my community by assisting the Denton County Master Gardeners with the many outreach programs they provide. One project that I have been involved in for the past seven years that I am particularly proud of is Science With Attitude (SWAt), a teacher in-service training, where I help the Denton County Master Gardeners and many Denton County teachers learn how to use the Junior Master Gardener as well as other Horticulture and Nature Curricula in the classroom. I know that the work we do is making a difference in the elementary schools in Denton and neighboring school districts. I also learned so much by working with all these inspiring and talented educators. All of these opportunities have helped me realize that horticulture fits my interests and goals perfectly as there will always be new challenges and opportunities to learn.

This academic year, 2015-2016, I am serving as the Greenhouse Manager for the Texas A&M Horticulture Club. My duties as Greenhouse Manager include growing and taking care of the La Bahia Pecan trees, general greenhouse upkeep, planning, purchasing and growing plants for the Texas A&M Horticulture Club Spring plant sale as well as coordinating member driven greenhouse work days. In addition to becoming an officer, I was also selected this past summer to attend and compete in the American Society for Horticultural Science conference held in New Orleans. I was most recently selected to attend and compete in the Southern Region-American Society for Horticultural Science meeting held this February in San Antonio. I am looking forward to coordinating more activities and accepting leadership roles over the semester and in coming years as a member of different organizations and in my future career as a horticulturist.
Outstanding Extension Educator: Gary Knox

Dr. Knox’s research and Extension programs focus on two areas, plant evaluation and plant-pest interactions. Goals of his plant evaluation program are to identify, evaluate, and distribute landscape plants to benefit the Green Industry, minimize impacts from pests/diseases and invasive plants, conserve native species, and improve plant diversity for the Green Industry and Florida gardeners. To display and promote plants, Dr. Knox is working with the nonprofit volunteer group, Gardening Friends of the Big Bend, Inc., to develop Gardens of the Big Bend as a series of botanical and teaching gardens.

Dr. Knox explores plant-pest interactions in collaboration with plant pathologists, entomologists, horticulturists and stakeholders from Florida and throughout the Southeast. Resulting research and Extension resources pertain to nursery sustainability, Integrated Pest Management (IPM), and diseases/pests associated with camellia, crapemyrtle, hydrangea, magnolia, and rose.

Outstanding Graduate Educator: Marc van Iersel

Dr. Marc van Iersel started as an assistant professor at Griffin Campus of the University of Georgia in 1995. He started a floriculture research program, where he used physiological principles to develop sustainable production practices for floriculture producers. In 2002, Marc transferred to the Athens Campus of the University of Georgia, where he started to teach in addition to his research. In 2006, he was promoted to full professor and became graduate coordinator.

Although he has maintained a productive research program, his biggest impact may be through advising graduate students. He has served as (co-) advisor of ten Master's and eight PhD students. His advising philosophy is simple: to provide opportunities for growth and professional development, while encouraging students to do the best job they possibly can. His students conduct high quality research, while building a strong CV. The success of this approach is clear:

His students have published approximately 40 peer-reviewed papers as lead authors, while Marc has co-authored an additional 15 papers with other students as lead author. They have won numerous awards, including in competitions organized by ASHS, ISHS, the Southern Nursery Association, and other scientific and grower meetings. Marc’s students have gone on to successful careers, with seven of them employed as faculty members or instructors at universities in the US and South Korea. Others have gone on to careers in industry. Because of Marc’s strong background in plant physiology, instrumentation, measurement techniques, and automation, he has served on 41 graduate student committees, including those for students at Virginia Tech and Clemson.

Marc has developed three new graduate courses: advanced plant nutrition, measurement and control in plant and soil science, and advanced plant physiology, which he co-teaches. He has also taught our graduate seminar class and two split-level undergraduate/graduate courses.
Marc consistently gets outstanding teaching evaluations and his teaching has had a direct impact on many students. That is perhaps most evident from his measurement and control course, where students build complex measurement and control systems to automate data collection and environmental control tasks. Most students who take this course subsequently apply these techniques in their own research. His courses combine basic science with practical applications.

Marc has been graduate coordinator since 2006. He assists departmental faculty with recruiting and helps our faculty handle difficult situations with students. Although his primary responsibility as graduate coordinator is to the graduate program as a whole, he has also become an ombudsman, counselor, and friend of many of our graduate students. Our students feel comfortable discussing professional and personal problems with Marc. His willingness to listen to, and if needed advise, our graduate students has helped to create an atmosphere of trust, respect, and collegiality. As a result, he has had a very positive impact on the graduate program of the Department of Horticulture of the University of Georgia.

Outstanding International Horticulturist: Julia Kornegay

Dr. Julia Kornegay is a Professor and Director of the Graduate Program in the Department of Horticultural Science at NC State University, and the former Department Head. Prior positions include Director of Fairchild Tropical Botanical Garden in Miami, Florida, and Leader of the Bean Program, and Bean Breeder at the International Center for Tropical Agriculture (CIAT) in Cali, Colombia. Her research has focused on the breeding and genetic improvement of common bean for Latin American and Africa, and, more recently, on germplasm evaluation and disease-resistance breeding of floricultural crops. Her work at CIAT resulted in the release of over 30 bean varieties that are grown commercially in eight countries; development of the Pan Africa Bean Research Alliance (PABRA) of 11 countries in Eastern and Southern Africa; the highly successful Seeds of Hope program to help Rwandan farmers recover from the 1993 civil war; and the development of the Caribbean Botanic Garden for Conservation network of 30 botanical gardens and arboreta. In 1996, Dr. Kornegay was formally recognized by the governments of Colombia, Ecuador, Peru, and Bolivia for her work in increasing bean production and research capacity in the Andean Region.

Dr. Kornegay is a member of the Board on Agriculture and Natural Resources at the National Academy of Sciences, where she chaired the committee that wrote the 2010 report Toward Sustainable Agricultural Systems in the 21st Century. She presently serves as the Chair of the Technical and Management Committee for the Legume International Lab supported by USAID. Dr. Kornegay has served on numerous professional boards, federal grant panels, national and international program review teams, and has received numerous awards. Her BS is in Horticultural Science and MS in Plant Pathology from NC State University, and her PhD is from Cornell University in Plant Breeding and Genetics. She has chaired or served as a committee member of eight MS and PhD committees since 2011. Dr. Kornegay is an avid gardener and her home garden has been on the Garden Conservancy Open Days tour and has been visited by many gardening groups. She presently teaches three courses: Public Garden Administration, Professional Presentation Skills for incoming graduate students in Horticultural Science, and Home Food Production.
Thomas G. Ranney is the JC Raulston Distinguished Professor of Horticultural Science at NC State University where he leads a research program at the Mountain Horticultural Crops Research and Extension Center in Mills River, NC. His research program focuses on the evaluation, selection, production, and development of new landscape and bioenergy crops. These efforts combine practical, applied plant breeding with in-depth research on plant production, physiology, cytogenetics, reproductive biology, and crop improvement. His lab has produced a broad array of research publications (82 refereed) contributing significantly to the field of horticultural science. His team has also developed a diverse range of valuable new cultivars (36 patents in the making) that have resulted in economic development and competitive advantages for the horticultural industry while generating millions of dollars in retail value. His program has especially studied strategies for developing non-invasive plant materials that has led to the development and introduction of important new seedless cultivars. His lab has been supported with grants and gifts (over $5.3 million) from national and regional agencies and partnerships with commodity groups and private companies.

He has helped train many students (38 graduate students and 13 undergraduate interns) who have become successful faculty members, scientists, teachers, horticulturists, and plant breeders across the country. Tom is active in outreach activities and professional service with an international speaking schedule and many leadership roles in academic and professional societies including the American Society for Horticultural Science. He has received many awards including Research Friend of Extension, NC Cooperative Extension Service; Porter Henegar Memorial Award: For Outstanding Contributions to Environmental Horticulture Research, Southern Nursery Association; H. Marc Cathey Award: Recognizing Outstanding Scientific Research that has Enriched the Field of Horticulture, American Horticultural Society; Fellow, International Plant Propagator’s Society, Eastern Region; Outstanding Contributions to the Horticulture Industry, North Carolina Nursery and Landscape Association; Julian C. Miller, Sr. Distinguished Research Award, Southern Region American Society for Horticultural Science; JC Raulston Distinguished Professor, NC State University; and the Extension Educational Aids, Distinguished Achievement Award for Nursery Crops, Outstanding Ornamentals Publication (twice), Outstanding Graduate Educator, and Fellow awards from the American Society for Horticultural Science.

Tom lives his motto of “Growing a greener and more prosperous world.”
Outstanding Undergraduate Educator: Mack Thetford

Mack Thetford
University of Florida

Dr. Thetford co-teaches two state-wide web-based courses on plant propagation and Annual and Perennial Gardening and oversees the UF/IFAS Milton Gardens on the campus of Pensacola State College. Dr. Thetford’s teaching program includes courses in Plant Propagation, Plant Identification, Annual and Perennial Gardening, Dendrology and Plant Communities of the Florida Panhandle. His personal research interests center around two major areas. The first area is development of propagation and production protocols with emphasis on native plants – particularly uncommon coastal species useful for dune restoration efforts. The second area of interest is evaluation of ornamental species for low input landscapes. He is also presently working with researchers to learn more about a rare coastal bee species associated with the Florida native wildflower *Balduina angustifolia* (Honeycomb Flower) and collaborating on research to learn more about the reproductive biology and management of the invasive Japanese Climbing Fern. In 2014 Dr. Thetford began initial field evaluations of Pomegranate and Olives in conjunction with Dr. Wes Wood. When not getting his hands dirty with plants, Dr. Thetford restores turn-of-the-20th-century Gulf Coast Florida houses.

Mack Thetford is an associate professor of Environmental Horticulture at the West Florida Research and Education Center in Milton, Florida, and also serves as the director of the Milton Teaching Gardens. He grew up in Alabama, received his BS and MS in Ornamental Horticulture from Auburn University, and his PhD in Horticulture Science from North Carolina State University.

His teaching program focuses on plant propagation and plant identification and the development and delivery of distance education programs and courses. He co-teaches distance courses in plant propagation, plant identification and annual and perennial gardening and on-site courses in dendrology and plant communities of the Florida panhandle. He and coauthors have been recognized by the Association for Communication Excellence for development of their Plant Propagation Website.

His current research interests center around development of propagation, production and out planting techniques for native plant species - particularly uncommon coastal species endemic to the Florida panhandle and species critical to endangered beach mice and an endemic monolectic coastal bee (Hesperapis oraria). The collaborative research program also focuses on application of horticultural principles for the development of techniques to advance ecological restoration of plant communities in natural and semi-natural landscapes. Thetford participates in projects to evaluate ornamental or native species for low input landscapes, evaluation of invasive potential of ornamental plant species and characterization of the ecology of coastal plant species. Additional collaborative research investigates the potential to manage the invasive Japanese Climbing Fern with herbicides and develop a greater understanding of the factors that influence the fern reproductive biology.

Thetford has a strong record of mentoring undergraduate and graduate students and an excellent record of publication in peer-reviewed journals. He has chaired or co-chaired numerous graduate committees and mentored numerous undergraduate research interns at the West Florida Research and Education Center.

Thetford has served as Chair of the International Plant Propagator’s Society Southern Region of North American Student Research Paper Competition since 2006 and was recognized as an IPPS-SRNA Fellow in 2014. He is member of the North American Colleges and Teachers of Agriculture, has served as a reviewer for HortTechnology and currently serves as an Associate Editor for the Native Plants Journal.
2016 ASHS PUBLICATION AWARDS

**Outstanding Cross Commodity Publication Award**

*An Image-based Method to Study the Fruit Tree Canopy and the Pruning Biomass Production in a Peach Orchard*

HortScience 50(12):1809–1817

**Publication Authors:** Jaume Lordan, Miquel Pascual, Francisco Fonseca, Victor Montilla, Josep Papió, Josep Rufat and Josep Villar

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**Outstanding Ornamental Publication Award**

*Inventory, Descriptions, and Keys to Segregation and Identification of Liriopogons Cultivated in the Southeastern United States*

HortScience 50(7):957-993

**Publication Authors:** Paul Fantz, Dennis Carey, Tony Avent and Jason Lattier

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**Outstanding Fruit Publication Award**

*Sweet Cherry Skin Has a Less Negative Osmotic Potential than the Flesh*


**Publication Authors:** Eckhard Grimm and Moritz Knoche

---

**Outstanding Extension Publication Award**

*Goss's Wilt Incidence in Sweet Corn in Independent of Transgenic Traits and Glyphosate*

HortScience 50(12):1791–1794

**Publication Authors:** Martin Williams, Carl A. Bradley, Jude E. Maul and Krishna N. Reddy

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**Outstanding Education Publication Award**

*Integrating Hoop House Construction into an Undergraduate General Education Plant Science Course*

HortTechnology 25(2):247-252

**Publication Authors:** Mark Uchanski, Kulbhushan Grover, Dawn VanLeeuwen and Ryan Goss

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**Outstanding Vegetable Publication Award**

*Diallel Crossing Among Doubled Haploids of Cucumber Reveals Significant Reciprocal-cross Differences*


**Publication Authors:** Jia Shen, Rob Dirks and Michael Havey
Sunday, August 7, 2016

8:30 AM – 5:45 PM  Level 1 Foyer

Gardens of Atlanta Tour
Coordinator: Sheri Dorn

Leaves hotel promptly at 8:30 a.m. Please arrive at the Level 1 Foyer 15 minutes prior to departure time.
Fee: $115.00 per person - Admission fees and lunch cost included.
Advance registration required.

Please note that in case of insufficient registered participants, the tour will be cancelled and you will be fully refunded.

8:30 am -10:20 am Fern Garden of the World at Georgia Perimeter College
(http://www.gpcnativegarden.org/fern_garden.htm). This is your opportunity to see one of the largest collections of temperate zone ferns in the US (more species of ferns than any other US garden), including native and non-native temperate ferns. The gardens also include three new xeric fern beds.

10:50 am - 12:00 pm Clough Commons at Georgia Tech
From the Fern Garden, we will travel to Clough Commons at Georgia Tech (http://clough.gatech.edu/sustainability.html) to check out their Roof Garden. Clough Commons is designed to be a sustainable building and is the first building on the GT campus (and one of the first in Atlanta) to have a completely usable Roof Garden. This landscape terrace has 39 species of native plants, uses rooftop solar panels as a renewable energy source, and includes a 1.4 million gallon cistern (one of the largest in the US) for water harvesting, resulting in 89% projected water reuse for toilet flushing and water efficient landscaping. Don't miss getting to see this spot!

12:30 pm – 2 pm Cator Woolford Gardens at the Frazer Center

We'll stop for lunch at the Cator Woolford Gardens at the Frazer Center (http://www.frazercenter.org/inclusive-community/gardens/) in downtown. This is a rare opportunity to see these gardens that were originally part of the estate of Cator Woolford, cofounder of EquiFax, Inc. One of the few remaining historic estates in Metro Atlanta, the gardens include a ceremony lawn, bamboo garden, court yard, original mansion, atrium (floor to ceiling windows and glass mosaic mural), and 39 acres of mature hardwood forest. We won't see it all, but we catch a glimpse of this rare beauty!

2:30 pm – 5 pm Atlanta History Center

Our tour then heads to the Atlanta History Center where the red carpet treatment begins! Enjoy garden tours (http://www.atlantahistorycenter.com/explore/goizueta-gardens) guided by staff and opportunity to visit 7 other exhibits and the historic homes. AHC is 22 acres of gardens and trails with 6 distinct gardens showing the horticultural history of Atlanta including the Quarry Garden (3 acres, about 600 species of plants native to pre-settlement Georgia, many that are rare and/or endangered such as the Franklin Tree, yaupon holly, and native azaleas), the Smith Garden (representative of the 1860s, includes a vegetable garden, corn and cotton, and old fashioned ornamental flowers such as love-lies-bleeding and rose campion), the Swan House Gardens and Grounds (boxwood garden and fountain), and more.

Our day concludes by returning to the Sheraton in early evening. Come prepared to enjoy this terrific garden sites with comfortable attire, walking shoes, and your hat! Oh, and don't forget your camera! There's sure to be something stunning along the way!

9:00 AM – 5:00 PM  Piedmont Room

NE1336 Multistate Regional Project Meeting
Coordinator: Randolph Beaudry

12:00 PM – 6:00 PM  Athens Room

ASHS Board of Directors Meeting
Chair: Michael Arnold

3:00 PM – 6:00 PM  Georgia Booth/Room

Poster Presenter Recording Room - Sunday

ASHS is inviting/encouraging poster presenters to record their presentations. This can be done two ways; both require an uploaded PDF of your poster in the Upload Poster section of your Speaker's Corner. You may either upload the audio part of your presentation before arriving at the conference by uploading an MP3 recording of your presentation along with the PDF; or this can be done on-site in the Georgia Booth at the conference (if you decide to record onsite, please keep in mind that your audio recording will not be available until after the meeting has ended). A QR code has been assigned to your poster so that you can include the QR code on your poster. Conference attendees can then scan the code and get access to your Poster presentation in the Online Program. Poster presenters will still have to present during the conference at their assigned time, but this process will allow your recorded presentation to remain part of the ASHS archives. All recordings will be housed on the ASHS website indefinitely. Your presentation will be accessible on our site with the rest of the ASHS technical program, giving the poster presenters the same opportunity that oral presenters hold.
3:00 PM – 6:00 PM  Rotunda Registration Counter

Registration open - Sunday

3:00 PM – 6:00 PM  Georgia Booth/Room

Speaker Ready Room - Sunday

Oral, Workshop and Colloquium Speakers are requested to check in at the Speaker Ready Room. Please note that even though you have uploaded in advance, you are still asked to check in at the Speaker Ready Room at least 24 hours in advance of your presentation to confirm that your videos and PowerPoint presentations were successfully uploaded and running properly. Updates and modifications can be made to your presentation at this time.

.4:00 PM – 5:00 PM  Atlanta 2 Room

Moderator Training Session - Sunday

Presidings: Carl Sams and Dennis Ray

An overview of the processes and duties as a moderator of sessions at the ASHS Annual Conference.

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**Horticultural Science Titles from CABI**

- **Crop Production Science in Horticulture Series: Citrus**
  - 2nd Edition
  - L. G. Albrigo, M. Rogers, and L. W. Timmer
  - Paper, 978 1 84593 815 4, $75.00
  - Aug 2016

- **Tropical and Subtropical Fruits Postharvest**
  - Physiology and Technology
  - Sunil Pareek, A. Keith Thompson, Dharini Sivakumar, Noureddine Benekbia, and Mohammed El-Otmani
  - Cloth, 978 1 78064 292 5, $295.00
  - Jun 2016

- **Environmental Horticulture**
  - Science and Management of Green Landscapes
  - Ross Cameron and James Hitchmough
  - Paper, 978 1 78064 138 6, $75.00
  - Apr 2016

- **Biocontrol of Major Grapevine Diseases**
  - Leading Research
  - Edited by Stéphane Compant and Florence Mathieu
  - Cloth, 978 1 78064 712 8, $160.00
  - May 2016

- **Tropical and Subtropical Fruits Postharvest**
  - Physiology and Technology
  - Sunil Pareek, A. Keith Thompson, Dharini Sivakumar, Noureddine Benekbia, and Mohammed El-Otmani
  - Cloth, 978 1 78064 292 5, $295.00
  - Jun 2016

- **Water Dynamics in Plant Production**
  - 2nd Edition
  - Wilfred Ehlers and Michael Goss
  - Paper, 978 1 78064 382 3, $75.00
  - Apr 2016

- **Handbook of Mites of Economic Plants**
  - Identification, Bio-ecology and Control
  - Vincenzo Vacante
  - Cloth, 978 1 84593 994 6, $350.00
  - Feb 2016

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at the CABI booth or online at www.StylusPub.com.

Offer expires September 15, 2016.
### Monday, August 8, 2016

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<tr>
<td>7:30 AM – 9:00 AM</td>
<td>(Centennial Olympics Park)</td>
<td><strong>Conference Opening Event - 5K Fun Run/Walk/Breakfast</strong></td>
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<td><strong>Horticultural Commodity Judging Contest and Plant Identification Contest Set-up</strong></td>
</tr>
<tr>
<td>8:00 AM – 5:00 PM</td>
<td>Georgia Ballroom</td>
<td><strong>General Contractor Set Up - Monday</strong></td>
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<tr>
<td>9:00 AM – 12:00 PM</td>
<td>Capitol North/Center Room</td>
<td><strong>Colloquium-Farms of the Future: Controlled-Environment Agriculture</strong></td>
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**Sponsor:** Floriculture (FLOR)  
**Coordinator:** Chris Currey

Food crop production in protected environments increased by 44% between 1999 and 2014, and the landscape of commercial greenhouse production is changing. The aims of this colloquium are to discuss how greenhouse production is changing and what types of food crops are being produced in greenhouses and controlled environments, including transitioning into food crop production, organic production, strawberry production, mushroom production, and aquaponic production systems. This colloquium will complement last year’s colloquium on vertical farming, but it will be expanded to discuss the crops and production systems that are relevant to non-ornamental horticulturists interested in greenhouse and controlled-environment crop production.

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<tr>
<th>Time</th>
<th>Location</th>
<th>Event Description</th>
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<tbody>
<tr>
<td>9:00 AM</td>
<td>Piedmont Room</td>
<td><strong>Introduction</strong></td>
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<tr>
<td>9:05 AM</td>
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<td><strong>Resource Use Efficiency in Controlled Environment Agriculture</strong></td>
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<tr>
<td>9:40 AM</td>
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<td><strong>Controlled Environments for Production of Value-added Food Crops and Transplants</strong></td>
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<tr>
<td>10:15 AM</td>
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<td><strong>Improving Efficiency, Reducing Risk: Making Sense of Uncontrolled Environments</strong></td>
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<td>10:50 AM</td>
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<td><strong>Thinking Sociologically about Controlled Environment Agriculture: Challenges and Opportunities</strong></td>
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<tr>
<td>11:25 AM</td>
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<td><strong>Discussion</strong></td>
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<tr>
<td>9:00 AM – 12:00 PM</td>
<td>Piedmont Room</td>
<td><strong>NE1336 Multistate Regional Project Meeting - Day 2</strong></td>
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<tr>
<td>9:00 AM – 1:00 PM</td>
<td>Macon Room</td>
<td><strong>Using Technology in Extension: Technology Session for Extension Agents</strong></td>
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**Coordinator:** Randolph Beaudry

This technology session is designed to provide extension professionals the tools needed to incorporate technology into their education toolkits. Learn the why and how of a wide variety of digital technologies and discover ways to expand audiences and teach effectively.

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<tr>
<td>9:00 AM</td>
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<td><strong>Driving Your Technology Decisions with Educational Best Practice</strong></td>
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<tr>
<td>9:30 AM</td>
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<td><strong>Helping the Green Industry Navigate the Challenge of Social Media</strong></td>
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<tr>
<td>10:00 AM</td>
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<td><strong>0 to 1,000 Followers: Building a Social Media Presence in the Green Industry</strong></td>
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</table>

Chris Currey*  
Marc van Iersel*  
Chieri Kubota*  
John Lea-Cox*  
Michael Carolan*  
Emily Barton*, Thomas W. Ilvento and Susan Barton  
Cheryl Boyer*  
Jared Hoyle*
10:30 AM Break
10:45 AM Increasing Engagement Using Digital Communication Technologies
   Eric Stafne*
11:15 AM Modern Communication, Effective Extension and Technology Limiting Cultures
   Judson Reid*
11:45 AM # Extension
   James Brosnan*
12:25 PM Engaging the Millennial Generation
   Elizabeth Barton*
12:55 PM Post session Genius Lunch

10:00 AM – 3:00 PM Level 1 Foyer
Atlanta City Tour
Leaves hotel promptly at 10 am. Please arrive at the Level 1 Lobby 15 minutes prior to departure time.
Fee: $50.00 per person. Lunch is not included. Advance registration is required. Please note that in case of insufficient registered participants, the tour will be cancelled and you will be fully refunded.

Learn all about Atlanta’s humble beginnings as a watering hole to becoming the capitol of the south! Hear about Atlanta’s rise from the ashes to a city hosting multiple Fortune 500 companies.

Tour Highlights: Hear about the home of the Braves at Turner Field, see Atlanta’s Olympic history at the Centennial Olympic Park. Visit the Martin Luther King Visitor Center and resting place. Drive by The Varsity, the largest fast food drive-in restaurant in the world, which has been visited by four US presidents. See the real gold atop the Georgia State Capitol, and drive down historic Peachtree Street, home to the Fabulous Fox Theater.

This tour will have multiple stops including one for lunch, but lunch is not included in the tour fee.

12:00 PM – 1:00 PM Savannah 2 Room
USDA-ARS All-Employee Meeting

12:00 PM – 2:00 PM Atlanta 2/3 Room
Student Welcome Luncheon
Speakers: Alex Rajewski, Dylan Neuhaus and Curt Rom
$20 - Advance Registration Required

Students are an enormous part of ASHS. We are the future (and often current) leaders in the Society. We are the workforce behind much of the research that is done. And there are a lot of us at ASHS! Whether you are a long-time ASHS member or this is your first year, be sure to attend the Student Luncheon. The GRAD working group leaders will be there talking about ways to get involved with ASHS and make the most of the conference. We will also be planning some casual outings. and it's a great chance to get to know other students.

12:15 PM – 12:45 PM Capitol North/Center Room
Moderator Training Session - Monday
Presidings: Dennis Ray and Carl Sams
An overview of the processes and duties as a moderator of sessions at the ASHS Annual Conference.

12:30 PM – 1:00 PM Valdosta Room
Viticulture and Small Fruits (VSF) Working Group Business Meeting
Chair: Michael Dossett
Chair-elect: Jayesh Samtani
Secretary: Jill Bushakra
To study the improvement, production, propagation, and culture of small fruit and grape crops, to perform services for the Society and the general public in the area of small fruits and grapes, and to exchange current information on recent research findings and educational and industry problems.

1:00 PM – 2:00 PM Capitol North/Center Room
B.Y. Morrison Lecture
Coordinator: Kim Kaplan

New Technologies for Storage of Horticultural Products – There Is More to Adoption Than Availability!
Christopher Watkins*

Abstract: The last decade has represented a time of great innovation for the postharvest community, most notably the development of dynamic controlled atmosphere (DCA) and 1-methylcyclopropene (1-MCP)-based technologies. For apple industries, DCA and 1-MCP represent an interesting example of distinct regional patterns of adoption, the former technology being much more commonly used in Europe, especially Italy, than in the North America, and vice versa. Possible reasons for these differences include earlier availability of 1-MCP in the North America compared with Europe, emphasis on organic and avoidance of any postharvest chemical usage, room quality necessary to maintain the very low oxygen concentrations required for successful DCA, and demand for fruit texture at the consumer level that is provided by 1-MCP but not DCA. Other technologies such as heat treatments, sulfur dioxide and irradiation meet specific needs that can make them economical-
ly viable, while others such as nitric oxide may be effective but have not been commercialized. Finally, a large pool of literature is developing on the effects of salicylic acid, polyamines, aminobutyric acid and others on ameliorating chilling injuries, but less clear are their potential for commercial development. In this overview, DCA, 1-MCP, and other selected technological innovations will be discussed in relation to factors associated with commercialization and their adoption by various industries.

1:00 PM – 2:00 PM Savannah 2 Room
Consulting Editors Meeting
Presidings: M. Robbins and Neal De Vos
Meeting of the Consulting Editors for HortScience, HortTechnology and the Journal of ASHS.

1:00 PM – 2:15 PM Valdosta Room
Oral Session-Viticulture and Small Fruits 1
Moderator: Shengrui Yao

1:00 PM Effective Pollination Period of ‘AU Golden Sunshine’ (Actinidia chinensis) and ‘AU Fitzgerald’ (A. deliciosa)
Ashley K. Brantley, James Spiers*, Andrew B. Thompson, Elina Coneva, J. Raymond Kessler and Amy Wright

1:15 PM Revitalizing the Local Strawberry Industry through Needs Assessment and New Varieties
William Hlubik*, Peter Nitzsche, Gillian Armstrong, Matthew Milburn and Gojko Jelenkovic

1:30 PM Uptake of Foliar Nutrients Applied to Productive Southern Highbush Blueberry (V. corymbosum, Interspecific Hybrids) Emerald
Erick Smith* and Jeremy Taylor

1:45 PM Descriptive Analysis of Juice from Six Elderberry Cultivars
Michele Warmund*

2:00 PM Jujube, a Vitamin C Rich Fruit
Shengrui Yao* and Robert Heyduck

1:00 PM Savannah 3 Room
Workshop-Seize Your Future Internationally: New Opportunities in Horticultural Consulting
Sponsor: International Horticultural Consultants
Moderator: Roland Ebel
Coordinators: Roland Ebel and Clinton Shock

Advising about new opportunities in international horticultural consulting.

Description: The world is evolving; political changes, especially in Asia, are diversifying the horticultural landscape, creating new economic contexts (broadening the number of producer countries and potential consumer markets), as well as introducing innovative crops and challenging production conditions. New horticultural markets represent exciting consulting opportunities all over the world for experts and well-prepared alumni. To succeed in these new markets, expertise is as important as cultural openness and flexibility. This workshop and the following discussion seek to present the most promising countries regarding emerging horticultural consulting and offer the opportunity for potential consultants to receive advice from experts closely connected to these countries.
The Voynich Codex is a bizarre manuscript that has defied decipherment. The symposium/workshop will review the historical, botanical, zoological, and iconographic evidence related to the Voynich Codex.

**Description:** The symposium will review the bizarre Voynich Codex, discovered in 1912 in Italy by the Polish book dealer Wilfrid Voynich (1965-1930), which has eluded decipherment despite repeated attempts by world renowned cryptologists. The profusely illustrated manuscript is mostly a herbal but contains numerous illustrations of hundreds of nudes nymphs cavorting in pools connected by strange vascular systems; various magic circles consisting of astronomical images as well as a zodiac with many new world animals as signs; and various pages of text that appear to be medical prescriptions. The style of the plant illustrations is similar to the 1552 Codex Cruz-Badianus written by indigenous Indians trained in the College of Santa Cruz established for Aztec nobility. Of the 309 plants or plant parts illustrated, 59 represent 55 species (17% of the total), have been identified as indigenous to MesoAmerica. Of 16 animal species identified, 14 are indigenous and 2 are species introduced by the Spanish (cattle and sheep). One mineral crystal identified (boleite) is only found in any quality and quantity in MesoAmerica. The text written in an unknown alphabet or syllabary in an unknown language, has been partially deciphered based on labels connected to many of the plants. A map based on kabbalah imagery identified the New City of Jerusalem (Puebla de los Angeles) founded by Fray Toribio de Benavente Motolinía, one of the 12 priests who accompanied Cortes to Nueva España. The main text, however, defies decipherment and seems to be in an extinct language related to Nahua from central Mexico since there are many Classical Nahua cognates. We surmise the author of the Voynich manuscript might be one of the sons of Aztec nobility trained in colleges by the Franciscan friars and the manuscript is dated based on internal evidence to 1565.

The symposium/workshop will review the historical, botanical, zoological, and iconographic evidence related to the Voynich Codex. We believe the complete translation will demonstrate that this Aztec manuscript is one of the most valuable historic texts of the 16th century since it was not filtered through Spanish or Inquisition censors.

**Oral Session-Genetics and Germplasm 1**

**Moderator:** Vanessa Gordon

**1:15 PM**  **Development and Characterization of 12 Polymorphic Microsatellite Loci for Pityopsis graminifolia var. latifolia**
Sarah L. Boggess*, Phillip A. Wadl, Denita Hadziabdic, Brian Scheffler, Alan Windham, William Klingeman and Robert Trigiano

**1:30 PM**  **RNA Expression and Post-transcriptional Editing Analyses of Cucumber Plastids Reveals Genetic Differences Associated with Chilling Tolerance.**
Vanessa Gordon*, Jack Staub, D. Kyle Willis and Phillip Simon

**1:45 PM**  **Genome-wide Differentiation of Various Melon Botanical Groups for Use in GWAS for Fruit Firmness and Construction of a High-resolution Genetic Map**
Padma Nimmakayala*, Yan Tomason, Lakshmi Abburi, Thangasamy Saminathan, Venkata Vajja, Girish Panicker and Umesh Reddy

**2:00 PM**  **Genetic Diversity of Dihydrochalcone Content in Malus Germplasm**
Benjamin Gutierrez*, Susan Brown, Gan-Yuan Zhong and C. Thomas Chao
2:15 PM Molecular Diversity Among Bitter Melon (Momordica charantia L.) Genotypes Using SSRs and SNPs
Padma Nimmakayala*, Lakshmi Abburi, Venkata Vajja and Umesh Reddy

2:30 PM Morphological and Physio-chemical Characterization of Dyospiros digina (Black Sapote) at the Subtropical Horticulture Research Station in Miami, Florida
Tomas Ayala-Silva*, Hamide Gubbuk, Michael Winterstein and Andrea Salas

2:45 PM Genetic Diversity Assessment of Garlic Clones with SSR Markers
Ahmet Ipek, Meryem Ipek* and Philipp Simon

2:00 PM – 3:00 PM Atlanta 4/5 Room
B.Y. Morrison Reception
Sponsored by the Agricultural Research Service

2:00 PM – 3:00 PM Savannah 2 Room
Graduate Student (GRAD) Working Group Business Meeting
Chairs: Jessica Chitwood and Alex Rajewski
To provide a formal organization for Graduate Students in ASHS to support programs and issues facing Graduate Students in Horticulture.

2:00 PM – 3:00 PM Capitol South Room
The Horticultural Commodity Judging Contest and Plant Identification Contest
The Horticultural Commodity Judging Contest and Plant Identification Contest are held at each ASHS Annual Conference. Undergraduate students and ACB member clubs compete by rating the quality of horticultural commodities, identifying a large number of plants, many from out of their region, and by taking a general examination of horticultural knowledge.

2:00 PM – 5:00 PM Georgia Hall Pre-Function
Exhibitor Set-Up - Monday

2:00 PM – 5:00 PM Georgia Ballroom
Poster Set Up
All posters being presented at the conference must be set-up on Monday, August 8, 2016, by 5:00 PM.

2:30 PM – 3:00 PM Valdosta Room
ASHS Member Representative Meeting

2:30 PM – 3:00 PM Augusta Room
Herbs, Spices, and Medicinal Plants (HSMP) Working Group Business Meeting
Chair: Hideka Kobayashi
Chair-elect: Katherine Warpeha
Secretary: Changbin Chen
To promote and encourage scientific research and education on herbs, spices, and medicinal plants, emphasizing botanical, cultural, environmental, genetic, harvesting, physiochemical, processing, and pharmacological aspects of these plants.

2:30 PM – 3:00 PM Savannah 3 Room
International Horticultural Consultants (ICON) Working Group Business Meeting
Chair: Roland Ebel
Chair-elect: Ahmad Shah Mohammadi
To discuss the credentials and accreditation of international consultants and sources of information, backstoppping, teamwork, training, experience, and communications necessary for effective employment as an international consultant in either the private or public sector, and to develop a directory of international horticultural consultants in ASHS and their sources of information.

2:30 PM – 4:30 PM Level 1 Foyer
CNN Studio Walking Tour
Leaves hotel promptly at 2:30 pm. Please arrive at the Level 1 Lobby 15 minutes prior to departure time.
Fee: $22.00 per person - Advance registration required.
Please note that in case of insufficient registered participants, the tour will be cancelled and you will be fully refunded.
Please note that this is a walking Tour! You will be picked up and leisurely walk to the CNN building, approximately a 15 minute walk. You will get a firsthand look at how the news is gathered, written and reported by the inventors of 24 hour news!

3:00 PM – 5:00 PM Piedmont Room
Leafy Vegetable Crop Germplasm Committee Meeting
Chair: Beiquan Mou
Creating Living Landscape
Douglas Tallamy*

Abstract: Because our yards and gardens are essential parts of the terrestrial ecosystems that sustain humans and the life around us, it is essential that we keep them in working order. Dr. Tallamy will discuss the important ecological roles of the plants in our landscapes, emphasize the ecological, educational, physical, and emotional benefits of designing landscapes with these roles in mind, and explore the consequences of failing to do so. Managing landscapes in this crowded world carries both moral and ecological responsibilities that we can no longer ignore.

Doug Tallamy is a professor in the Department of Entomology and Wildlife Ecology at the University of Delaware, where he has authored 84 research publications and has taught Insect Taxonomy, Behavioral Ecology, Humans and Nature, Insect Ecology, and other courses for 34 years. Chief among his research goals is to better understand the many ways insects interact with plants and how such interactions determine the diversity of animal communities. His book Bringing Nature Home: How Native Plants Sustain Wildlife in Our Gardens was published by Timber Press in 2007 and was awarded the 2008 Silver Medal by the Garden Writers’ Association. The Living Landscape, co-authored with Rick Darke, was published in 2014. Among his awards are the Garden Club of America Margaret Douglas Medal for Conservation and the Tom Dodd, Jr. Award of Excellence.

Welcome Reception

Open to all conference attendees - your badge is your ticket. Spouses, guests, and children require a ticket for entrance. Tickets may be purchased at registration up until Monday, August 8th, at 6:00 PM.
6:00 PM – 7:00 PM  Valdosta Room

**Intellectual Property Rights (IPR) Working Group Business Meeting**

**Chair:** Ralph Scorza

To provide a forum that will promote the exchange of information and discussion of issues concerning the protection of intellectual properties.

6:00 PM – 7:00 PM  Atlanta 2/3 Room

**Seed and Stand Establishment (SSEST) Working Group Business Meeting**

**Chair:** Michael Olszewski  
**Chair-elect:** Ajay Nair  
**Secretary:** Amir Khoddamzadeh

To bring together those interested in seed technology, seed storage, seed production, seed physiology, seed pathology, plant breeding, and all other phases of research, education, or extension related to horticultural seeds and seed quality, to discuss problems, new methods, technologies, and other aspects related to these areas, and to promote a strong union of public- and private-sector workers interested in seeds and seed crops. To promote activities related to the establishment of a uniform and vigorous crop from seed, transplant material, or vegetative propagules, with emphasis on seed treatments, soil amendments, transplanting techniques, and other practices that might lead to stand enhancement in the field or greenhouse.

6:00 PM – 9:00 PM  Macon Room

**Scholars Ignite Competition**

**Coordinator:** Brian Pearson

ASHS will host the annual competition “Scholars Ignite” for graduate students to share their discoveries and creations to a non-specialist audience and to communicate the impact of their research, projects and scholarly activities. The purpose of the presentation is to generate awareness, stimulate thought, and inspire attendees to appreciate the breadth and depth of horticultural research and scholarly activities.
**Tuesday, August 9, 2016**

**7:00 AM – 8:00 AM**  
*The Deli*  
Graduate and Undergraduate Student Morning Gathering - Tuesday

**7:00 AM – 6:00 PM**  
*Georgia Booth/Room*  
Poster Presenter Recording Room - Tuesday

**7:00 AM – 6:00 PM**  
*Georgia Booth/Room*  
Speaker Ready Room - Tuesday

**7:30 AM – 6:00 PM**  
Rotunda Registration Counter  
Registration Open - Tuesday

**8:00 AM – 9:00 AM**  
*Atlanta 4 Room*  
Extension Division Advisory Council Meeting  
Chair: Susan Barton  
All Working Group Chairs and Chairs-elect, Extension Division, are encouraged to attend.

**8:00 AM – 9:30 AM**  
*Savannah 2 Room*  
Workshop-Developing International Collaborations in Horticultural Sciences  
*Sponsor: International Horticultural Issues & Networking*  
*Moderator: J. Pablo Morales-Payan*  
*Coordinator: J. Pablo Morales-Payan*  
The workshop is designed to allow the sharing of ideas, issues, tips, and success stories on the development of international interactions of ASHS members.  
*Description:* International collaboration may occur in many ways. In this workshop, ASHS members share their experiences with developing international research networks, capacity building and improvement of horticultural operations abroad, and international networking for collaboration in academic education involving horticultural sciences.

**8:00 AM**  
Successful Networking to Create International Collaborations in the Rosaceae Community  
Mercy Olmstead, Amy Iezzoni, Cameron Peace, Nahla Bassil, Michael Coe, Chad E. Finn, Ksenija Gasic, James Luby, Dorrie Main, James McFerson*, John Norelli, Vance Whitaker, Chengyan Yue and Audrey Sebolt

**8:20 AM**  
International Issues and Networking from F2F Program of USAID-Vega Organic Agriculture Project in Bangladesh  
Dilip Nandwani*

**8:40 AM**  
Launching Horticultural Projects Abroad: Networking and Other Matters  
Michael Schnelle*

**9:00 AM**  
International Interactions in Agricultural Sciences: The Experience of the University of Puerto Rico, Mayagüez Campus  
J. Pablo Morales-Payan*

**8:00 AM – 9:30 AM**  
*Capitol Center Room*  
Workshop-Landscaping with Ecological Function  
*Sponsor: Ornamentals/Landscape and Turf*  
*Moderator: Dayton Wilde*  
*Coordinators: Dayton Wilde and Bodie Pennisi*  
The objective of this workshop is to bring together perspectives from different disciplines on ecologically functional landscaping.  
*Description:* The USGS has projected that current development patterns will lead to a completely connected urban area from Atlanta to Raleigh. While this urban expansion will provide new opportunities for the nursery industry in the Southeast, it is expected to have a significant impact on the region’s ecosystems. There is increasing evidence showing that the inclusion of native plants in landscaping can reduce the impact of urban development on biodiversity. Ornamental plants that provide ecological services can be an important nursery product with both economic and environmental value. A multidisciplinary effort is needed to address the challenges of scaling-up landscaping with ecological function. This workshop brings together perspectives from ecology, landscape design, economics, and extension outreach.

**8:00 AM**  
Real World Challenges of Using Native Plants – A Landscape Architect’s View  
Steve Sanchez*

**8:30 AM**  
Influence of Plant Parameters on Occurrence of Pollinator, Butterfly, and Beneficial Insect Visitations  
Bethany Harris*

**8:50 AM**  
Consumer Preference and Willingness to Pay for Native and Non-invasive Plants  
Chengyan Yue*

**9:10 AM**  
“Florida-Friendly Landscaping”: Smart Landscaping Today and Beyond  
Esen Momol*
Workshop-The Challenges of Rose Rosette Disease (RRD): An Update of the Combating RRD SCRI Project

Sponsor: Ornamental Plant Breeding
Moderator: David Byrne
Coordinator: Wagner Vendrame

The objective of this workshop is to provide an update on rose rosette disease research and current control recommendations.

Description: In the past few decades, Rose Rosette Disease (RRD) has spread from its source in the Rockies, through the Mid-West to the East coast. It now threatens to decimate the U.S. rose industry. Garden roses which form the cornerstone of the multi-billion dollar landscape industry, annually generate wholesale US domestic bare root and container production valued at ~ $400 million. RRD is caused by a novel plant virus, the Rose rosette virus (RRV), which is transmitted by wind-blown eriophyid mites (Phylloxeridae). Unlike other rose diseases it can kill a rose within two to three years of infection. Although this disease has been known for many decades, the causal virus was only identified in 2011. Current work to improve our ability to manage this disease starts with improving the diagnostics available to identify the presence of the pathogen by improving their sensitivity, specificity and their ease of use. The ultimate goal is to have a diagnostic adaptable for use by the producer or consumer of the roses. Field and greenhouse work is assessing the life cycles and movement of the virus and mite and the control efficacy of various miticides, antiviral compounds, pruning strategies and planting designs on the control of RRD. Complementing this field and greenhouse work is the Rose Rosette Monitoring Network with utilizes 100s of volunteers from throughout the nation to track the disease and identify roses that have RRD and those that do not. These volunteers all will be trained and in turn train others about RRD detection and management. The long range aspect of this project is the identification of roses resistant to RRD and the development of the breeding lines and tools to most efficiently introgress the resistance into the commercial rose germplasm.

8:00 AM  Is Breeding the Answer? How Long Will It Take?
David Byrne*, Patricia Klein, Muqing Yan, Ellen Roundey and Jerkin Lau

8:00 AM - 9:45 AM  Capitol South Room

Oral Session-Growth Chambers and Controlled Environments 1

Moderator: Geoffrey Weaver

8:00 AM  Effects of Monochromatic Blue Light on Intumescence Injury for Tomato Seedlings Grown Under LEDs.
Tomohiro Jishi*, Chieri Kubota and Tomomi Eguchi

8:15 AM  Pulse Width Modulation Control of LEDs Can Maintain Targeted Light Levels
David Gianino* and Marc van Iersel

8:30 AM  Maintaining Minimum Light Levels with LEDs Results in More Energy-efficient Growth Stimulation of Begonia
Marc van Iersel* and Sue K. Dove

8:45 AM  Physiological Responses of Baby Leaf Lettuce to Different Blue and Red Photon Flux Ratios Using LED As Sole-source Lighting
Hans Spalholz* and Ricardo Hernández

9:00 AM  Continuous Chlorophyll Fluorescence Monitoring of Greenhouse-grown Lettuce (Lactuca sativa L.)
Geoffrey Weaver* and Marc van Iersel

9:15 AM  Blue, Red, and Far-red Radiation Interact to Influence Growth, Morphology, and Pigmentation of Lettuce and Basil
Qingwu Meng* and Erik Runkle

9:30 AM  Influence of Red to Far-red Ratio during Night Interruption Lighting on Vegetative Growth of Young Cymbidium Cultivars
Seong Kwang An* and Ki Kim

8:00 AM - 9:45 AM  Augusta Room

Oral Session-Postharvest 1

Moderator: Mahnaz Kargar

8:00 AM  Effect of Maturity and Optimized Solvent Extraction Conditions for Total Phenolic Content of Selected Genomically Diverse Banana Cultivated in Southeastern United States
Moderator: Jill Bushakra

8:00 AM Effect of Maturity on Carotenoid Profile of Selected Genomically Diverse Banana Cultivated in the Southeastern United States

8:15 AM Assessment of Postharvest Fruit Quality Changes in Southern Highbush Blueberry Cultivars by Trained Sensory Panels
James W. Olmstead and Anne Plotto*

8:30 AM Reducing Preharvest and Postharvest Losses in Organic Spinach and Tomato through the Implementation of High Tunnels
Helena Pontes Chiebao, Cary L. Rivard and Eleni Pliakoni*

9:00 AM Enumeration of Chlorine-injured Coliform Bacteria of Shredded Cabbage Stored in MAP
Hidemi Izumi*, Yuto Hoshino, Kouki Taimatsu and Ayano Inoue

9:15 AM Prolonging Vase Life of Gladiolus (Gladiolus Grandiflorus L.) cv. White Prosperity
Malik F.H. Ferdosi* and Shagufta Umer

9:30 AM The Koolkat: A Demonstrational Mobile Cooling Unit to Support the Development of Small and/or Urban Farms
Cary L. Rivard*, Kimberly Oxley, Helena Pontes Chiebao, Sara E. Gragg and Eleni Pliakoni

8:00 AM – 10:00 AM Atlanta 2/3 Room
Administrators Working Group Breakfast

This is a venue for department heads, department chairs, and anyone else involved in horticulture administration in the public sector to join together and discuss current issues. We will discuss topics relevant for academic horticulture programs in the U.S. and share information about best practices from our institutions.

This is a ticketed event. Advance registration for this event is required.

8:00 AM – 10:00 AM Atlanta 5 Room
American Pomological Society (APS) Executive and Advisory Board Meeting
Presiding: Peter Hirst

8:00 AM – 10:00 AM Macon Room
Oral Session-Genetics & Germplasm 2
Moderator: Jill Bushakra

8:00 AM Mapping QTLs for X-Disease Resistance in Chokecherry Using SSR and RJM Markers
Ryan R. Lenz* and Wenhao Dai

8:15 AM Inheritance of Resistance to Peach Root-knot Nematode (Meloidogyne floridensis) in Interspecific Populations of Peach
Mary Ann D. Maquilan*, José X. Chaparro, Mercy Olmstead and Donald W. Dickson

8:30 AM QTL Mapping for Phytochemical Compounds in Peach [Prunus persica (L.) Batsch]
Asma Abdelghafar*, Ksenija Gasic and Gregory Reighard

8:45 AM Molecular Characterization of Aphid Resistance in Black Raspberry Germplasm
Jill Bushakra*, Katherine A. Carter, Kelly J. Vining, Michael Dossett, Jana C. Lee, Jungmin Lee, Chad E. Finn and Nahla Bassil

9:00 AM Detecting Local Adaptation for Rhizosphere Acidification in a Wild Deciduous Azalea Species
Alexander Susko*, Jim Bradeen, Timothy Rinehart and Stan Hokanson

9:15 AM Defining Genetic Relationships of Plumeria through DNA Barcoding
Kauahi Perez*

9:30 AM Investigating Mean Specific Gravity and Tuber-to-Tuber Variation of Potatoes Using Different Methodologies
Yi Wang* and Jeffrey Endelman

9:45 AM Evidence of Interspecific Hybridization or Incomplete Lineage Sorting in River Cane (Arundinaria gigantea)
Alex Rajewski*, Cecilia McGregor, Donglin Zhang and Hazel Wetzstein

8:15 AM – 10:00 AM Valdosta Room
Oral Session-Vegetable Crops Management 1
Moderator: Ajay Nair

8:15 AM Leguminous Cover Crops in Vegetable Cropping Systems and Effects of Seed Inoculation
Ajay Nair*, John Krzton-Presson and Dana Jokela

8:30 AM Managing Cucurbit Downy Mildew (Pseudoperonospora cubensis) with Disease Monitoring and Cultivar Resistance
Wesley Kline* and C. Andrew Wyenandt
8:45 AM  Risk Assessment for Root-knot Nematodes in Lima Beans  
Gordon Johnson*, Heather Hickman and Kristina Smith

9:00 AM  Effect of Native and Commercial Arbuscular Mycorrhizal Fungi on the Development, Fruit Yield, and Phytochemicals of Pepper Plants under a Range of Salinity Conditions  
Graciela Lizette Grimaldo-Pantoja, Pedro Osuna-Avila, Genhua Niu, Youping Sun*, Arturo Castro-Rocha, Emilio Alvarez Parrilla, Juan Pedro Flores-Márgez and Baltazar Corral Diaz

9:15 AM  Horticultural Aspects, Uses, and Composition of Piquin Pepper  
Plants [Capsicum annuum L. var. Glabriusculum (Dunal) Heiser y Pickersgill]  
Juan I. Valiente-Banuet* and María Daniela Mares Quiñones

9:30 AM  Anaerobic Soil Disinfestation Effects on Weed and Nematode Control, Plant Growth, Fruit Yield and Quality of Fresh-market Tomato  
Francesco Di Gioia*, Monica Ozores-Hampton, Jason Hong, Nancy Kokalis-Burelle, Joseph Albano, Xin Zhao and Erin N. Rosskopf

9:45 AM  Late Blight-resistant Tomato Varieties Evaluation in Florida  
Monica Ozores-Hampton* and Pamela Roberts

9:00 AM – 10:00 AM  Savannah 1 Room

The National Plant Systems Initiative: Research and Training to Foster Breakthroughs in Agriculture, Food, Health, and the Environment

Presiding: Rebecca Grumet

The Boyce Thompson Institute for Plant Research (BTI) and the American Society of Plant Biologists (ASPB) received a $730,000, five-year grant from the National Science Foundation to create the Plant Science Research Network (PSRN). The network will promote innovative plant science research, collaboration and education and builds on a multiyear effort to unite a broad spectrum of plant scientists around a scientific agenda. The NSF grant will support new collaborations, especially related to the development of community-wide standards for exchanging data and metadata. PSRN aims to harness the vision and expertise of the plant science research community to support agricultural sustainability and growth of the bioeconomy, in an era where population growth and environmental pressures require careful stewardship of natural resources. This session will provide an opportunity to learn about the new NSF-RCN Plant Science Network program addressing priorities for future directions for plant science. A draft white paper, “The National Plant Systems Initiative” is under development and is available to share. The steering committee includes representatives of national plant science societies, including ASHS. Your feedback is invited and welcome.

9:00 AM – 10:00 AM  Savannah 3 Room

Working Group Chairs and Chairs-elect Business Meeting

Presiding: Curt Rom

9:00 AM – 2:00 PM  Georgia Hall

Exhibits Open - Tuesday

9:00 AM – 5:00 PM  Georgia Ballroom

Poster Hall Open - Tuesday

9:30 AM – 10:00 AM  Savannah 2 Room

International Horticultural Issues & Networking (IHIN) Working Group Business Meeting

Chair: J. Pablo Morales-Payan
Chair-elect: Michael Schnelle

To provide a forum for the exploration, discussion, and exchange of information on global issues of vital concern to horticulturists in all divisions and disciplines; to provide a potential mechanism through concerted action for input into
decision and policy making processes at the national and international levels.

9:30 AM – 10:00 AM Capitol North Room

**Ornamental Plant Breeding (OPB) Working Group Business Meeting**

**Chair:** Wagner Vendrame

To promote ornamental plant breeding, to serve as a forum for exchange of information among breeders, and to coordinate the communication of results to industry and academia.

9:30 AM – 10:00 AM Capitol Center Room

**Ornamentals/Landscape and Turf (O/LT) Working Group Business Meeting**

**Chair:** Dayton Wilde
**Chair-elect:** Mengmeng Gu
**Secretary:** Timothy Rinehart

To study woody (ornamental and native) herbaceous and turf materials with emphasis on plant adaptability, selection, and maintenance requirements and to provide a vehicle for arboreta, botanic gardens, and the landscape industry (architects and contractors) to become more closely allied to ASHS.

9:30 AM – 11:00 AM Georgia Ballroom

**Posters Session-Undergraduate Student 1**

**Paternity Identification in Sweetpotato (Ipomoea batatas) Using DNA Markers**
Caroline Blanchard*, Kaleb Danos, Niranjan Baisakh and Don La Bonte (Poster Board #001)

**Survival of Contaminated Water Spray on the Survival of Escherichia coli on Field-grown Tomatoes**
Annette Kenney*, Chanelle White, Lorna Graham, Smith Brett, Felix Buabeng, Lurline Marsh, Patricia Millner and Fawzy Hashem (Poster Board #002)

**Diversity Analysis and Association Mapping of Fruit Colors in Capsicum annuum**
Joshua Davidson*, Brittany Davenport, Suresh Alaparthi, Padma Nimmakayala and Umesh Reddy (Poster Board #003)

**Types and Quantities of Carotenoids in Brown and Purple Paprika during Ripening**
Yuji Yamada*, Kentaro Kohara, Hiromitsu Shibata, Sanae Kishimoto, Masayoshi Nakayama and Takashi Ikeda (Poster Board #004)

**Changes in Anthocyanin and Chlorophyll Contents during Growth of Lilac and Dark-purple Paprika**
Hiromitsu Shibata*, Yuji Yamada, Masayoshi Nakayama and Takashi Ikeda (Poster Board #005)

10:00 AM – 11:00 AM Atlanta 4 Room

**HortTechnology Editorial Board Meeting**

**Chair:** Neal De Vos
**Members:**
Joan Davenport
Michael Arnold
Kimberly Moore
Peter Hirst

10:00 AM – 11:00 AM Georgia 14 Room

**Graduate Student Activities Committee Meeting**

**Chair:** Dayton Wilde
**Members:**
Brian Jackson
Ainong Shi
Chieri Kubota
Brian Pearson

10:00 AM – 11:00 AM Atlanta 5 Room

**International Division Advisory Council Meeting**

**Chair:** Mathieu Ngouajio

All Working Group Chairs and Chairs-elect, International Division, are encouraged to attend.

10:00 AM – 11:00 AM Atlanta 5 Room

**Evaluation of Ginseng (Panax quinquefolius) Germination and Aeroponic Seedling Growth in Response to Stratification Duration, GA, De-coating, and Media**
Reese Morris*, Nathan Phillips and Song Cui (Poster Board #007)

**Evaluation of Exotic and Ornamental Sweetpotato Germplasm for New Sources of Sweetpotato Weevil (Cylas formicarius) Resistance.**
Andrew Barocco*, Jeff Davis, Mark J. Murry and Don LaBonte (Poster Board #008)
10:00 AM – 11:15 AM  
**Oral Session-Organic Horticulture 1**

**Moderator:** Suzanne O’Connell

**10:00 AM**  
**Exploring 60-Day Organic Crops for High Tunnels: Turnips and Ornamental Cut Kale**

Suzanne O’Connell*

**10:15 AM**  
**Why Do Organic Farmers Decertify?**

Ariana Torres* and Maria Marshall

**10:30 AM**  
**Effect of Organic Manures on Biomass, Yield, and Quality of Melon (Cucumis melo L.) Raised on a Heavy Soil**

Girish Panicker*, Ananda Nannjundaswamy, Willie Mims, Padma Nimmayakala, Umesh Reddy and Yan Tomason

**10:45 AM**  
**System Effects of Strip Tillage and Compost with Zonal Cover Cropping in Organic Broccoli**

Zachary D. Hayden*, Carolyn Lowry, D. Corey Noyes and Daniel Brainard

**11:00 AM**  
**Sequential Transplanting of Parthenocarpic Cucumbers in Organically Managed High Tunnels in Hardiness Zone #7 & #8 of North Carolina**

Sanjun Gu*, John Beck, Joseph Moore and Wenjing Guan

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**10:15 AM – 11:45 AM  
**Workshop-Developing, Producing, and Expanding the Footprint of Bioenergy Crops and Technologies for Commercialization**

**Sponsor:** BioEnergy

**Moderator:** Vanessa Gordon

**Coordinator:** Vanessa Gordon

The objective of this workshop is to explore progress and opportunities in developing, producing, and commercializing new crops and technologies for emerging bioenergy sectors.

**Description:** Success of emerging bioenergy industries hinge on the simultaneous development and management of an entire supply chain ranging from crops to bioprocessing, on a substantial scale. Crop improvement, production, bioprocessing, and development of novel value-added technologies all play important roles in the efficiency, feasibility and profitability of the entire endeavor. Moreover, there is considerable interdependence among all of the various components, disciplines, and constituents in the supply chain. This workshop will take a broad view to explore progress, challenges, and opportunities facing the future of bioenergy.

**10:15 AM**  
**Dry Mass Yield and Fiber Composition of a Diversity Panel of the World Collection of Sugarcane (Saccharum sp.) and Related Grasses**

James Todd*, Hardev S. Sandhu, Jianping Wang, Vanessa Gordon and Barry Glaz

**10:35 AM**  
**Elucidating the Mechanism of Hemicellulose Biosynthesis: From Genes to Function.**

Breeanna Urbanowicz*

**10:55 AM**  
**Evaluation of Unrefined Peanut Oil As a Bioenergy Feedstock**

Marshall C. Lamb* and Christopher L. Butts

**11:15 AM**  
**Low Temperature Direct Biomass Fuel Cell and Hydrogen Production**

Yulin Deng*

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**10:15 AM – 11:45 AM  
**Workshop-Advancing Technology Adoption and Achieving Extension Impact: A Working Group Success Story**

**Sponsor:** Nursery Crops

**Moderator:** S. Christopher Marble

**Coordinators:** Amy Fulcher, Anthony LeBude and Sarah White

Participants will use the Southern Nursery IPM Working Group as a case study on working group synergy. Participants will learn how to start a working group, how an initial needs inventory can fuel future collaborations, how these collaborations enhance effective extension programming, and metrics for documenting working group productivity. Participants will learn how to evaluate electronic books provided as extension resources and hands-on workshops in order to successfully establish extension impact.

**Description:** Extension and research professionals in the Southeast U.S. formed the Southern Nursery IPM (SNIPM) Working Group in 2009 in order to foster collaboration, thereby enhancing programming, increasing synergistic opportunities, expanding delivery of specialized expertise to growers, and leveraging resources. The working group is a multi-disciplinary coalition composed of extension and research faculty in entomology, horticulture, plant pathology, and weed science. Topics covered will include: (1) how our productivity as a working group benefitted our stakeholders, our funding agencies, and our members; (2) how an initial needs assessment driven by stakeholders and strategic project selection was a catalyst for synergy, stimulating popular press, Extension, and refereed publications, novel programming and use of technology, and additional funding; (3) effectively evaluating stakeholders’ perceived value and adoption of e-books and technology presented during hands-on workshops; (4) assessing our overall impact and effectiveness as a working group and as individual faculty; and (5) working group pitfalls to avoid. This session will conclude with a 30 minute working group meeting.
UESDAY SCHEDULE

TUESDAY SCHEDULE

Agricultural and horticultural crops contribute up to one third of food globally. However, in the past few decades, honey bees and other pollinators have disappeared at alarming rates. Habitat loss or fragmentation and use of certain insecticides have been identified as primary threats to pollination services. It is imperative for key stakeholders such as plant breeders, horticultural industry professionals, policy makers, and consumers to identify the real causes and take actions to help combat pollinator loss. Consumers and plant breeders can be influential players to facilitate the restoration of pollinator habitats. An overview of the current situation of the pollinator issues will be provided. Consumer perceptions, preferences and attitudes toward insecticide attributes, pollinator-friendly plants and insect management strategies, and how information affects their perception for pollinators will be presented. The investigation of companion planting in attracting pollinators and predatory insects to vegetable crops will be discussed.

10:15 AM Working Group Synergy Part I: Developing a Successful, Sustainable Working Group

10:35 AM Working Group Synergy Part II: Creating Extension Impact and Maximizing Faculty Benefits

10:55 AM iBooks - Effectively Evaluating Impact of eBooks for Extension Audiences
Matthew Chappell*, Sarah White, Amy Fulcher, Anthony LeBude, Gary Knox, William Klingeman, Frank Hale, Alan Windham, J.H. (J.C.) Chong, S. Kris Braman, Jeffrey Derr, Joseph Neal, Steve Frank, Winston Dunwell, Mathews Paret, Nicole Ward Gauthier, S. Christopher Marble and Francesca Peduto Hand

11:15 AM Experiential Nursery IPM Workshop Series to Enhance Grower Practice Adoption

10:15 AM – 11:45 AM Savannah 1 Room

Workshop-Pollinators: Understanding Consumer Attitudes and Identifying Insect-beneficial Plants

Sponsor: Marketing and Economics

Moderator: Chengyan Yue
Coordinator: Chengyan Yue

This workshop explores the issues related to pollinators in consumer horticulture and production agriculture. Presentations will feature an understanding of the issues surrounding pollinators, consumer perceptions, preferences and attitudes toward pollinators, as well as identification of plants attractive to pollinators.

Description: Pollination is a critical ecosystem service provided by beneficial insects. More than 70% of plant species rely on pollinators to transport pollen. Insect-pollinated agricultural and horticultural crops contribute up to one third of food globally. However, in the past few decades, honey bees and other pollinators have disappeared at alarming rates. Habitat loss or fragmentation and use of certain insecticides have been identified as primary threats to pollination services. It is imperative for key stakeholders such as plant breeders, horticultural industry professionals, policy makers, and consumers to identify the real causes and take actions to help combat pollinator loss. Consumers and plant breeders can be influential players to facilitate the restoration of pollinator habitats. An overview of the current situation of the pollinator issues will be provided. Consumer perceptions, preferences and attitudes toward insecticide attributes, pollinator-friendly plants and insect management strategies, and how information affects their perception for pollinators will be presented. The investigation of companion planting in attracting pollinators and predatory insects to vegetable crops will be discussed.

10:15 AM Honey Bee, Agroecosystem, and Effects of Neonicotinoids
Mengmeng Gu*

10:30 AM Consumer Preferences and Willingness to Pay for Insecticides’ Attributes
Chengyan Yue*

10:45 AM How Various Information and Information Sources Impact Perception and Preference for Pollinators
Ben Campbell*

11:00 AM Understanding How Consumers View Pollinator-friendly Plants: Connecting Gaze Data to Purchasing Behavior
Hayk Khachatryan and Alicia Rihn*

Bridget Behe*

11:30 AM The Effect of Floral Companion Plants for Beneficial Insect Abundance and Yield of Selected Vegetable Crops
Janet Cole*, Janet Steets, Eric Rebek and Brian Kahn

10:15 AM – 11:45 AM Savannah 3 Room

Workshop-Sustainable Horticultural Practices in Asian Countries

Sponsor: Working Group of Asian Horticulture

Moderator: Shengrui Yao
Coordinators: Shengrui Yao and Kedong Da

The objective of this workshop is to introduce some sustainable horticultural practices that are popularly used in Asian countries to ASHS members.
Description: Asian countries have a long history of horticultural production, have explored and accumulated many unique and sustainable horticultural practices. With limited land and high population, most of those cultural practices are labor intensive like fruit bagging which greatly reduces pesticide application and improve fruit quality. The low-tech Chinese greenhouse and high tunnels are also very popular in China for vegetables, fruit and cut-flower production. Aquaponics has long been practiced in China and Thailand. The four topics covered in this workshop would introduce ASHS members to popular sustainable horticultural practices in Asian countries and some of them are also popular in the U.S. or can be adopted by U.S. growers or home gardeners.

10:15 AM Using High Tunnel As a Sustainable Tool for Specialty Crop Production
Mengmeng Gu*, Haijie Dou and Yunyan Kang

10:35 AM Aquaponics: The Next Generation Farming System
Hye-Ji Kim*

10:55 AM Fruit Bagging for Organic and Quality Fruit Production
Kedong Da*

11:15 AM The Low-tech Yet High Performance, Off-grid Chinese Greenhouse
Sanjun Gu*

10:15 AM – 12:00 PM Valdosta Room

Oral Session-Plant Biotechnology
Moderator: Ainong Shi

10:15 AM An Ethylene-responsive Element Binding Factor Acts As a Positive Regulator in the Antiviral RNA Silencing in Petunia
Daoyang Sun, Yanlong Zhang, Lixin Niu, Michael Reid and Cai-Zhong Jiang*

10:30 AM Association Analysis of Stellemium Leaf Spot Resistance in Spinach
Ainong Shi*, Beiquan Mou, Jim Correll, Steven Koike, Lindsey du Toit, Dennis Motes, Jun Qin, Yuejin Weng and Wei Yang

10:45 AM Genome-wide Identification and Expression Analysis of Apple ASR Gene Family in Response to Alternaria alternata f. Sp. Mali
Zong-Ming Cheng*, Kaihui Huang, Yan Zhong, Yingjun Li and Dan Zheng

11:00 AM Particle Bombardment Transformation of Citrus
Hao Wu* and Janice Zale

11:15 AM Genetic Transformation in Citrus: Thinking Outside the Box
Maria Luiza Oliveira*, James Thomson and Ed Stover

11:30 AM Embryo Specific Expression of a Visual Reporter Gene and the Regeneration of Reporter Gene Expression Free Transgenic Citrus
Manjul Dutt* and Jude Grosser

11:45 AM Challenging Transgenic 'W. Murcott' (Nadorcott) Mandarin Containing Xa21 Gene Against Citrus Canker Pathogen
Ahmad Omar*, Mayara Murata, James Graham and Jude Grosser

10:15 AM – 12:00 PM Macon Room

Oral Session-Produce Quality, Safety, and Health Properties
Moderator: Manoella Mendoza

10:15 AM Potential of Industrial Sweetpotato As Livestock Feed in the Southeastern United States
Jeekin Lau*, Wheeler Foshee and Tyler Monday

10:30 AM Dry Bulb Onion Storage in Sterilized Plastic Crates Compared to Storage in Old Wooden Boxes
Stuart R. Reitz, Clinton Shock*, Harry Kreeft, Jim C. Klauzer and Alicia Rivera

10:45 AM Non-thermal Fresh Food Sanitation By Atmospheric Pressure Plasma
Robert Morrow*, Robert Surdyk and Ross Remiker

11:00 AM Evaporative Cooling of Apples: Sunburn Suppression Benefits and Influence on Microbial Survival
Manoella Mendoza*, R. Karina Gallardo, Ines Hanrahan, Karen Killinger and James McFerson

11:15 AM Biochemical Characterization of Leaves and Bracts of Poinsettia (Euphorbia pulcherrima Willd. ex Klotzsch) Valenciana
Maria Colinas-Leon* and Yeni Cuevas-Domínguez

11:30 AM GABA and Amino Acids in Tropical and Sub-tropical Fruit of Sapindaceae Family in Thailand
Rujira Deewatthanawong* and Supavadee Chanapan

11:45 AM A Characterization of Pomegranate (Punica granatum) Aril Morphology and Anatomy
Hazel Wetzstein*, Nadav Ravid and Justin Porter

10:15 AM – 12:15 PM Capitol South Room

Oral Session-Pomology 1
Moderator: Mokhles ELsysy
10:15 AM Male and Female Interaction in Apple: 
Pollen Tube Growth, Fruit Set, Fruit Quality, and Return Bloom
Khalil Jahed* and Peter Hirst

10:30 AM Floral Induction in Biennial and Annual 
Apple Cultivars
Mokhles Elsysy* and Peter Hirst

10:45 AM High Rates of AVG Significantly Delay 
Ripening and Improve Quality of 
‘Cortland’ Apples
Duane Greene*

11:00 AM Pedicel Characteristics Effects on Apple 
Fruit Size
Peter Hirst and Seval Taskin*

11:15 AM Targeted Metabolic Profiling of Apple 
Fruit Development in Response to 
Reduction of Crop Load
Shan Jing* and Anish Malladi

11:30 AM IMapple: A Functional-Structural Growth 
and Fruiting Simulation Model of ‘Golden 
Delicious’ Apple Trees
Fatemeh Sheibani*, Marerk Fiser, Hao Kang, 
Blying Shi, Bedrich Benes and Peter Hirst

11:45 AM Innovations in Mechanical Harvest for 
Cider Apples
Travis Alexander*, Ed Scheenstra, Jacky King and 
Carol Miles

12:00 PM Integrating Crop Load Management 
with Disease Control in an Organically 
Managed Apple Orchard
Gregory Peck*, Candace DeLong and Keith Yoder

10:15 AM – 12:15 PM Capitol North Room
Workshop-Coordinating Researcher and 
Stakeholder Advocacy for Greater Impact.
Sponsor: National Issues Committee
Coordinator: Thomas Bjorkman

Horticulture has had remarkable success with advocacy for research and extension programs over the past 5 to 10 years. An important contributor to that success was consistent messaging between a well-organized industry-stakeholder group and the research community who would do the work. This interactive workshop will have a panel of experts to review what was effective about the advocacy to date so that we can coordinate effectively within our state and nationally.

Description: ASHS members will be able to apply lessons from this workshop in working with state and regional grower organizations to carry their advocacy to university, state, or national pol- icymakers, in order to make sure horticultural research and extension get the attention they need and deserve. The panel will help analyze ideas or efforts from the audience to help devise more effective strategies. What have been successful ways to agree upon a unified message when there are many disparate narrow priorities among the allied groups? What are ways to make long-term investments high-priority with growers who tend to focus on immediate issues like labor in their legislative advocacy? How is advocacy different nationally versus within individual states?

The panelists have expertise in coordinating with other groups, each from their own perspective. They will provide overall insights in an introductory statement, and then help analyze specific situations that audience members bring to help make current efforts more effective.

Image: Duane Ingram (U Kentucky), Congressman Jim Costa, Karen Ross (Calif. Secty of Food & Ag), Rob Mikkelsen (IPNI) find common purpose in specialty-crop research funding.
Education Division Advisory Council Meeting

**Chair:** Cynthia McKenney

**Members:**
Sandra Wilson  
Tim Pannkuk  
Rao Mentreddy  
Kimberly Moore  
Tim Rhodus  
James Klett  
Nicole L. Waterland

All Working Group Chairs and Chairs-elect, Education Division, are encouraged to attend.

William A. “Tex” Frazier Lecture Series Selection Committee

**Chair:** Craig Campbell

**Members:**
John Dole  
Kim Hummer  
Susan Miyasaka

To provide a platform for promoting and expanding the opportunities to apply expertise and technologies of horticulture to bioenergy crops and for sharing and disseminating information related to bioenergy research and expanded funding potential.

BioEnergy (BioE) Working Group Business Meeting

**Chair:** Vanessa Gordon

**Chair-elect:** Stevens Brumbley

To identify those conducting nursery crop research and to ascertain the scope and direction of their studies, to develop and share information for teaching nursery management and production courses, and to provide staff development opportunities for nursery crop specialists, teachers, and researchers by developing information programs and interacting with the nursery industry and profession.

Marketing and Economics (MKEC) Working Group Business Meeting

**Chair:** Chengyan Yue  
**Secretary:** Cheryl Boyer

To bring together workers having horticultural and economic interests in the marketing of horticultural crops and to expand markets and improve marketing techniques for horticultural crops.

Working Group of Asian Horticulture (WGASH) Business Meeting

**Chair:** Shengrui Yao  
**Chair-elect:** Kedong Da  
**Secretary:** Guo-qing Song

To promote dialogue and information and germplasm exchanges between horticulturists residing in America and Asia and to assist them in developing horticultural education, research, and extension programs to better preserve and utilize their rich horticultural resources.

Oral Session-Undergraduate Student 1

**Moderator:** Stephanie Burnett

11:45 AM Improving the Secondary Somatic Embryogenetic Response of *Vitis vinifera* (Bunch Grapes) and *Vitis rotundifolia* (Muscadine Grapes) to Advance Genetic Aptitude  
Crystal Conner*, Dennis Gray, Zhijian Li and Brian Pearson

12:00 PM The Effect of Calcium Chloride Sprays on Botrytis cinerea Infection of Petunia × hybrida Flowers in the Postharvest Environment  
Katherine Bennett*, Jared Jent, Uttara Samarako and James Faust

12:15 PM Effects of Light Quality on the Morphology, Growth, and Quality of Common Microgreens  
Alexander Schaller*, Chieri Kubota and Mark Kroggel

12:30 PM Evaluation of the Response of Eight Tomato Cultivars to Early Applications of Uniconazole for Height Control in Containers  
Carly E. Anderson*, James E. Barrett, Carolyn A. Bartuska, David G. Clark and Ria T. Leonard
12:00 PM – 1:00 PM  Atlanta 4 Room

Environmental Stress Physiology (STRS) Working Group Business Meeting

*Chair:* Pablo Morales-Payan  
*Chair-elect:* Rajasekaran Lada

To promote basic and applied research on the physiology of horticultural crops with primary emphasis on crop physiological responses to environmental stresses, specifically including temperature, water, and air pollution stresses.

12:00 PM – 2:00 PM  Atlanta 5 Room

Environmental Stress Physiology (STRS) Working Group Business Meeting

*Chair:* Pablo Morales-Payan  
*Chair-elect:* Rajasekaran Lada

To promote basic and applied research on the physiology of horticultural crops with primary emphasis on crop physiological responses to environmental stresses, specifically including temperature, water, and air pollution stresses.

12:15 PM – 1:00 PM  Georgia Ballroom

Poster Session-Bioenergy

**Study of Jatropha curcas and Calophyllum Inophyllum Oils for Potential Use As Biodiesel Fuel in Guam**

Mari Marutani, Mario Martinez* and Andy Soria (Poster Board #364)

**Morphological Comparison and Content of Oilseeds Jatropha curcas (L.) Ungrafted and Grafted on Rootstock of Jatropha cinerea (Ortega) Muell. Arg.**

Federico Soto-Landeros, Lilia Alcaraz-Meléndez*, Miguel Ángel Angulo-Escalante, Teodoro Reynoso-Granados, Pedro Cruz-Hernández and Filiberto Herrera-Cedano (Poster Board #365)

**Are There Advantages to Altering Planting Arrangement of Sweet Sorghum?**

Dennis Ray*, Valerie H. Teetor and Carl Schmalzel (Poster Board #366)

**Effect of Cover Crops and Nitrogen Fertilization on Juice Yield, Sugar Content, and Biomass Yield of Sweet Sorghum**

Hari Singh*, Badri Khanal, Anuj Chiluwal, Sudhagar Mani and Wayne Whitehead (Poster Board #367)

**Impact of Synthetic Nitrogen Rates on Fresh and Dry Weight Biomass Yield, Above-ground Plant Components, Physiological Parameters of Three Perennial Feedstock Bio-fuel Grass Species**

Wayne Whitehead, Anuj Chiluwal, Badri Khanal* and Hari Singh (Poster Board #368)

**The Potential of Creating Bioenergy for Small Farmers through Gasification of Woody Plants and Wastes**

Brian Edgar*, Jeremiah Lowe, Kirk Pomper and Sheri Crabtree (Poster Board #369)

**Georgia Grown**

Gary W. Black*

*Abstract:* Commissioner Black will focus on collaborative efforts between all sectors of the agricultural industries and how innovative approaches to new technologies and emerging markets can propel American agriculture into the 21st century.

Serving his second term, Commissioner Gary W. Black is the sixteenth Georgian to hold the office of Commissioner of Agriculture since the department’s inception in 1874.

Black earned a degree in Agricultural Education from the University of Georgia College of Agricultural and Environmental Sciences. Throughout his 35 year career in agriculture he has championed sound state and federal policies impacting food safety, science-based environmental stewardship and agricultural marketing.

He would rather be referred to as Lydia’s husband and Ward and Caroline’s dad. He and Lydia raise commercial beef cattle on the family farm in Commerce. Black serves in the Sunday school and music ministries of Maysville Baptist Church.
Genetic Diversity of a Germplasm Collection of Eremurus Using Molecular and Morphological Markers
Hanieh Hadizadeh*, Alireza Babaie, Leili Samiei and Dayton Wilde (Poster Board #111)

Discovery of Allelic Variation in the Blueberry TFL1 Gene By Ecotilling
Rupesh Gaire, Nahla Bassil, Chad E. Finn and Dayton Wilde* (Poster Board #112)

Association Mapping of Aphid Resistance in USDA Cowpea (Vigna unguiculata L. Walp.) Core Collection Using SNPs
Jun Qin, Ainong Shi*, Beiquan Mou, Yuejin Weng, Dennis Motes and Wei Yang (Poster Board #113)

Cuccap - Developing Genomic Resources for the Cucurbit Community
Rebecca Grumet*, Zhangjun Fei, Amnon Levi, James McCreight, Michael Mazourek, Marco Palma, Jonathan Schultheis, Yiqun Weng, Mary Hausbeck, Shaker Kousik, Kai-Shu Ling, Cecilia McGregor, Lina Quesada-Ocampo, Angela Linares Ramírez, Umesh Reddy, Louis Ribera, Christine Smart, Patrick Wechter, Todd Wehner, Linda Wessel-Beaver and William Wintermantel (Poster Board #114)

Genetic Diversity Analysis in a Collection of Tomato Germplasm Using Indel Markers
Ngan Thi Phan, Ji hye Park and Sung-Chur Sim* (Poster Board #115)

Novel Micro-RNAs Targeting to Genes Associated with Drought Stress in a Oil Crop Camelina sativa
Geung-joo Lee*, Saminathan Subburaj and Seo-Hee Choi (Poster Board #116)

Transcriptome Analysis Revealed the Dynamic Fruit Oil Accumulation of Symlocos paniculata
Qiang Liu*, Youping Sun, Jinzheng Chen, Peiwang Li, Genhua Niu, Changzhu Li and Lijuan Jiang (Poster Board #117)

Assessment of Genetic Diversity and Comparative Analysis of Juglans regia Accessions from Different Countries Using SSR Markers
Aziz Ebrahim* and Abdolkarim Zarei (Poster Board #118)

Supplemental Light Improves Yield and Quality of Chives in a Commercial Hydroponic Production System
Carl Sams*, Jennifer Wheeler and Dean Kopsell (Poster Board #208)

Supplemental LED Lighting As a Potential Alternative to Plant Growth Regulators
Mitchell Wrenn, Brian Whipker, Abhay Thosar and Ricardo Hernández* (Poster Board #209)

Response of Greenhouse Tomato Photosynthesis to Different Spectra of Intra-canopy LEDs Under Different Ratios of Red-Blue-White Overhead LEDs
Xiaobin Guo, Xiuming Hao*, Jingming Zheng, Celeste Little, Shalin Khosla and Melanie Yelton (Poster Board #210)

Effects of Different Spectra of Supplemental Lighting on Water Use Efficiency of Lettuce Lactuca sativa L. ‘Cherokee’ in the Greenhouse Asmaa Morsi*, Celina Gomez-Vargas and Cary Mitchell (Poster Board #211)

LED Light Quality Impacts Plant Content of Nutritionally Important Pigments in Sprouting Broccoli
Dean Kopsell*, Carl Sams, Rosalie Metallo, Robert Morrow and David Kopsell (Poster Board #212)

Management of LED Light Quality to Maximize Biomass and Chlorophyll Fluorescence in Sprouting Broccoli in Controlled Environments Rosalie Metallo*, Dean A. Kopsell, Carl Sams and Robert Morrow (Poster Board #213)

Comparison of LED and HPS Supplemental Light Quality on Greenhouse Tomato Production in Northern States during Winter Months Hye-Ji Kim*, Celina Gomez-Vargas and Cary Mitchell (Poster Board #214)

12:15 PM – 1:00 PM Georgia Ballroom
Poster Session-Growth Regulators in Fruit and Nut Production

AVG Reduced Ethylene Production Rates of Pear Flowers and Fruitlets and Increased Fruit Set When Applied One to Two Weeks after Bloom Todd Einhorn* and Yan Wang (Poster Board #243)

Artocarpus altillis as Affected By Foliar Applications of a Phytostimulant J. Pablo Morales-Payan* (Poster Board #244)
Poster Session-Organic Horticulture 1

Mulching Strategies Using Conservation Tillage for Weed Management in Tropical Organic Hot Pepper Cropping Systems
Stuart Weiss*, Rhuainito S. Ferrarezi, Danielle Treadwell, K. Paul Beamer and Thomas C. Geiger (Poster Board #077)

Douglas Collins*, Chris Benedict, Andy Bary, Sandra Wayman, Andrew Corbin and Bethany Wolters (Poster Board #078)

ESO-Cuc, the Eastern Sustainable Organic Cucurbit Project
Michael Mazourek*, Micaela Colley, Jeanine Davis, Peter Ojiamo, Michael Hoffmann, John Murphy, Abby Seaman, Christine Smart, Tony Kleese, Judson Reid, Crystal Stewart, Robert Hadad and Lauren Brzozowski (Poster Board #079)

Impact of Fertilizer Regime on Yield and Food Safety of Heirloom Tomato Grown on Conventional and Organic Field Sites.
Lurline Marsh*, Smith Brett, Chanelle White and Fawzy Hashem (Poster Board #080)

Including Low Tunnels in a High Tunnel for Winter Strawberry Production in Cold Hardiness Zone Seven
Sanjun Gu*, John Beck and Joseph Moore (Poster Board #081)

Determining the Ideal Transplanting Dates for Organic Tomato Production in High Tunnels in North Carolina
Sanjun Gu*, John Beck, Wenjing Guan and Joseph Moore (Poster Board #082)

Evaluation of Organic Weed Control Methods in Pecan Production
Michael Polozola*, Daniel E. Wells and Bryan Wilkins (Poster Board #083)

Impact of Harvesting Time on the Levels of Nitrate and Flavonoids in Spinach
Noorani Barkat*, Jashbir Singh, G.K. Jayaprakasha and Bhimanagouda Patil (Poster Board #167)

Identification and Characterization of the Lipoxygenase Gene Family during Development of Pepino (Solanum muricatum Aiton)
Carolina Contreras*, Mauricio González-Agúero and Bruno Defilippi (Poster Board #168)

Change in Glucosinolates Content during Growth and Postharvest Cold Storage of Baemoochae Plant (XBrassicoraphanus)
NaRae Han* and Jongkee Kim (Poster Board #169)

Acrylamide Content in Potato Product is Affected By Chemical Composition in Cv. “Goun” (Solanum tuberosum L.) of Korea
Yong Ik Jin*, Dong Chil Chang, Yoon Hyuk Chang, Ji Hong Cho, Kwang Soo Cho, Ju Sung Im, Manjulatha Mekapogu, Hong Seob Yu and Jin-cheol Jeong (Poster Board #170)

Storage Temperature Affects Phenylalanine Ammonia-Lyase (PAL) Activity and Tissue Browning in Fresh-cut Lettuce
Sumithra Wendakoon* and Shinichi Suematsu (Poster Board #171)

Ethylene Treatments Resulted in Accumulation of Anthocyanins in Fortress Russet Cultivar
Sastry Jayanty* and Diganta Kalita (Poster Board #172)

Development of a Firmness Tester Designed for Large Watermelon
Penelope Perkins-Veazie*, Jack Lottio and Richard Hassell (Poster Board #173)

Essential Oil Disinfectant on Appearance and Composition of Organically Grown Tomatoes
Penelope Perkins-Veazie*, Stuart Gorman, Jeanine Davis, Diane Ducharme, Annette Wszelaki and Faith Critzer (Poster Board #174)

Poster Session-Tropical Horticultural Crops

Pitahaya or Dragon Fruit (Hylocereus spp.) Varieties: Evaluation, Morphological Description, and Genetic Characterization
Ramiro Lobo*, Jose Fernandez de Soto, Gary Tanizaki, Jose Aguier and Greg Douhan (Poster Board #273)

Papaya Growth: Comparison over Four Non-consecutive Generations
Thomas W. Zimmerman* and Tyrone Pascal (Poster Board #274)
Flowering and Fruiting Data for Purple-fruitied Pitanga (Eugenia uniflora L.) Grown in Hawaii at the Kona Experiment Station Aid in Selection of Potential New Varieties
John Griffis*, Ty G. McDonald, Malcolm Manners and Ozlem Tuncay (Poster Board #275)

Use of Reflective Mulch to Enhance Light Interception of Understory Leaves of Musa sp. (Mysore) 'Mysore' Bananas
Edgar L. Vinson*, Elina Coneva, Joseph Kemble, Floyd Woods, Esendugue Fonsah, Penelope Perkins-Veazie and Jeff Sibley (Poster Board #276)

Sensor-based Irrigation in Different Sweet Pepper Varieties in the U.S. Virgin Islands
Rhuaniito S. Ferrarezi*, Thomas C. Geiger and Kalunda Cuffy (Poster Board #277)

Greenhouse Production of Slicing Cucumbers in the U.S. Virgin Islands
Thomas C. Geiger, Rhuaniito S. Ferrarezi* and Kalunda Cuffy (Poster Board #278)

Effect of Strand Thinning on Yield and Fruit Quality of Egyptian Dry Date Palm (Phoenix dactylifera L.) cv. Sultani
Shamel Alam-Eldin* and Alaa Omar (Poster Board #279)

Yield Performance of New Macadamia Nut Selections in Kona, Hawaii
Alyssa Cho, Mike Nagao and Russell Galanti* (Poster Board #280)

Yield and Fruit Quality Traits of Dragon Fruit Lines and Cultivars Grown in Puerto Rico
Ricardo Goenaga*, David Jenkins and Angel Marerro (Poster Board #281)

12:15 PM – 1:00 PM Georgia Ballroom
Poster Session-Vegetable Crops Management 1

Effect of Drainage Ratio in Nutrient Supply on Growth and Yield of Paprika (Capsicum annum L.) in Long-term Recycling Hydroponic Cultivation in South Korea
Dong-Cheol Jang*, Jae-Yun Heo, Ki-Young Choi and Il-Seop Kim (Poster Board #328)

Assessments of Flavor and Health-associated Compounds and Taste Panel Preferences in Watermelon
Candice Gresham, Daniel L. Jackson, Justin Burbage and Timothy Coolong* (Poster Board #329)

Abiotic and Biotic Factors Influencing Quality and Quantity within Brassicaceae Using Various Planting Methods in High Tunnels
Kirk Pomper, Tisa Cunningham*, Elizabeth Doyle, Cynthia Rice and Srijana Thapa Magar (Poster Board #330)

Influence of Heating Nutrient Solution on Greenhouse-grown Hydroponic Lettuce
Sydney Holmes*, Daniel E. Wells, Jeremy Pickens and Joseph Kemble (Poster Board #331)

Local Lettuce: Heat-tolerant Romaine Cultivars and Vermicompost Soil Amendment to Increase Sustainability in the Mid-Atlantic
Chris Walsh*, Anna E. Wallis, Sarah Allard, Patricia Briner, Claire Frank, Elizabeth Prinkey and Amelia Loeb (Poster Board #332)

Adhesion of Biodegradable Mulches to Pie Pumpkins: A Production and Quality Consideration
Annette Wszelaki*, Jennifer Moore, Shuresh Ghimire and Carol Miles (Poster Board #333)

Evaluating High Tunnel and Open-field Specialty Melons for Farm-to-School Markets in West Virginia
Lewis Jett* (Poster Board #334)

Effect of Transplanting Date on the Growth of Asian Vegetables
Youping Sun*, Qiang Liu, Genhua Niu and Joseph Masabni (Poster Board #335)

Fluorescent and LED Lighting Effects on Hydroponically Grown ‘Winter Density’ Bibb Lettuce
Kent Kobayashi* and Teresita Amore (Poster Board #336)

Growth Condition of Allium hookeri root By Heat Conservation Materials during Overwintering
Eui Kwang Park*, Jae Gwan Noh, Min Jeong Lee, Sang Yeong Nam and Eui Yon Hong (Poster Board #337)

Managing Greenhouse Bell Peppers for Optimal Yield
Eric Cook, Barret Goodale and Meriam Karlsson* (Poster Board #338)

1:00 PM – 1:45 PM Georgia Ballroom
Poster Session - Propagation 1

Commercial Orchid Production: Artificial/Synthetic Seed Approach
David Riera*, Amir Khoddamzadeh, Carl Lewis, Wagner Vendrame and Krish Jayachandran (Poster Board #220)
The Effects of Light and Soil Moisture on Propagation of Linnea borealis
J. Jonathan Foster, Stephanie Burnett* and Lois Berg Stack (Poster Board #221)

Sub-mist Is an Effective Alternative to Overhead Mist for the Propagation of Coleus By Stem Cuttings
Bryan J. Peterson*, Olivia Sanchez, Stephanie Burnett and Darren J. Hayes (Poster Board #222)

The Effect of Cutting Position Relative to Cotyledon on Survival Rate, Axillary Sprouts, Adventitious Root Formation, and Regrowth of Grafted Pepper Seedlings
Mahmoud Mohammad Ahmed Soltan* and Matthew Kleinhenz (Poster Board #223)

Deep Simple Morphophysiological Dormancy in Seeds of Epimedium koreanum Nakai native to Korea
Yong Ha Rhie, Seung Youn Lee*, Han Choi, Sun Hee Ryu, Jeong Ho Lee and Ki Cheol Lee (Poster Board #224)

Perigynia Removal Improved Germination in Two Native Sedge Species
Randy S. Nelson, Aaron L. Daigh and Esther E. McGinnis* (Poster Board #225)

Collecting Time Affected Immature Seed Germination of Kalimia latifolia L. Hybrids
He Li*, Donglin Zhang and Jinying Dong (Poster Board #226)

1:00 PM – 1:45 PM Georgia Ballroom
Poster Session - Teaching Methods

Enhancing the Learning Experience of an Online Plant Science Lab Course Using Moodle’s Tools and External Applications
James McConnell*, Jason Andrew and Mari Marutani (Poster Board #045)

Demonstrating the Role of Plant Epicuticular Waxes in Water Retention on Leaf Surfaces Using Brassica Leafy Vegetables.
Kang-Mo Ku*, Yu-Chun Chiu, Matthew A. Jenks and John A. Juvik (Poster Board #046)

Peer Teaching in a Tropical Crop Production Systems Course to Enhance Student Learning
Kent Kobayashi* and Kauahi Perez (Poster Board #047)

Can You Hear Me Now? Good!: How Graduate Students Learn to Communicate Science to the Public
Caitlin D. A. Ishibashi* (Poster Board #048)

Aggie B.L.U.E. Print Laboratories: Building Lasting University Environments-a Multi-Disciplinary Teaching Opportunity
Galen Newman, Jun-Hyun Kim, Michael Arnold*, Ming-Han Li and Kung-Hui Chu (Poster Board #049)

Does Incorporating Service-learning Across a Greenhouse Production Curriculum Enhance the Learning Experience?
Chris Currey* and Ann VanDerZanden (Poster Board #050)

The Capstone Course-Benefits to Senior-level Students in the Agriculture and Food Systems Interdisciplinary Program at Washington State University.
Desmond Layne*, Kimberlee K. Kidwell and Elizabeth Carney (Poster Board #051)

Fiction Writing As a Device to Introduce Horticulture Concepts in Extension
Eric Stafne* (Poster Board #052)

Developing an Urban Food System Study Tour to Enhance Student’s Experiential Learning
Kelly Gude, Ryan Dostal, Candice A. Shoemaker, Cary L. Rivard and Eleni Pliakoni* (Poster Board #053)

The Purdue Arboretum’s Native Nursery Supports and Extends Experiential Student Learning
Paul Siciliano and Bryce Patz* (Poster Board #054)

Facilitating Exposure and Understanding of Extension Resources to Undergraduate Students
Cheryl Boyer*, Chad T. Miller and Allison Teeter (Poster Board #055)

Surveying Incoming Undergraduate Horticulture Students about Their Horticulture Backgrounds and Career Concerns
Chad T. Miller*, Greg L. Davis and Cathie Lavis (Poster Board #056)

1:00 PM – 1:45 PM Georgia Ballroom
Poster Session - Vegetable Breeding

Building Better Peppers: Characterization of a Variegated Pepper Line and Its Utility in Breeding Novel Fruit Types
Bala Rathinasabapathi* and Steven Sargent (Poster Board #152)

Comparison of Six Green Chile (Capsicum annuum L) Cultivars on Harvest Efficiency with Etgar® Picker
Israel Calsoyas*, Stephanie Walker and Paul Funk (Poster Board #153)
Genetic Diversity and Differential Host Pathogenicity Among Colletotrichum Causing Pepper and Tomato Anthracnose
John Stommel*, Judith M. Dumm, Yazmin Rivera, Adnan A. Ismaiel, Andy Wyenandt and JoAnne Crouch (Poster Board #154)

Genetics of the Partial Resistance Against Race 2 of Verticillium Dahliae in Lettuce
German Sanford*, Maria Jose Truco, Lien Bertier, Krishna Subbarao, Richard Michelmore, Ivan Simko and Ryan Hayes (Poster Board #155)

Genotyping-by-sequencing of Glossy Mutants
Sandra E. Branham* and Mark W. Farnham (Poster Board #156)

Use of Pseudo-reference Genomes to Improve Genotyping-by-sequencing of Taro (Colocasia esculenta)
Thomas Wolfrubger, Martin Helmkmph, Michael Kantar, M. Renee Bellinger, Susan Miyasaka* and Michael Shintaku (Poster Board #157)

Population Structure Analysis and Association Mapping of Seed Antioxidant Content in USDA Cowpea (Vigna unguiculata L. Walp.) Core Collection Using SNPs
Jun Qin, Haizheng Xiong, Aiong Shi*, Beiquan Mou, Dennis Motes, J. Creighton Miller Jr, Douglas C. Scheuring, M. Ndambe Nzaramba, Yuejin Weng and Wei Yang (Poster Board #158)

Evaluation of Total Seed Protein Content in Eleven Arkansas Cowpea Genotypes
Waltram Second Ravelombola*, Yuejin Weng, Dennis Motes, Clay Wingfield and Aiong Shi (Poster Board #159)

An Edible Lily 'lanzhou Lily' (Lilium davidii var. unicolor) Tissue Culture, Regeneration, and Micropropagation
Kedong Da* (Poster Board #160)

1:00 PM – 1:45 PM Georgia Ballroom
Poster Session - Vegetable Crops Management 2

Fall Incorporation of Cover Crops Reduces Snap Bean Stand
Thomas Bjorkman*, Daniel Brainard, Carolyn Lowry and John Masiunas (Poster Board #339)

Optimizing Compost and Fertilizer Rates in Organic Reduced-till Agriculture
Nicholas Rowley*, Mark G. Hutton, Mark Hutchinson, Margaret McGrath, Ryan Maher, Brian Caldwell, Anu Rangarajan and Jason Lilley (Poster Board #340)

Yield and Nutrient Influences of Organic Fertilizer Blends in a Plasticulture Tomato System
William Evans* (Poster Board #341)

Permanent Bed System for Small-scale Organic Reduced-till Agriculture
Mark G. Hutton*, Ryan Maher, Mark Hutchinson, Jason Lilley, Anu Rangarajan and Brian Caldwell (Poster Board #342)

Fruit Yield and Ascorbic Acid Content of Pepper Plants Grown in Soils Amended with Organic Fertilizers Under Field Conditions in Southwest Texas
Arturo Castro-Rocha, Pedro Osuna-Avila, Graciela Lizette Grimaldo-Pantoja, Juan Pedro Flores-Márgez, Shasha Wu, Youping Sun* and Genhua Niu (Poster Board #343)

Sudangrass and Sorghum Sudangrass Hybrids As Summer Cover Crops for Rotational Plantings and Soil Health Improvement
Michelle Infante-Casella* and William Bamka (Poster Board #344)

Strip Tillage and Cover Crop Effects on Tomato and Pepper Crop Productivity
Zheng Wang*, Jennifer Moyseenko and Matthew Kleinhenz (Poster Board #345)

Sweetpotato Yields Among Small Vegetable Farmers and Potential to Increase Production in Southeast Virginia
Ramón Arancibia* and James Jenrette (Poster Board #346)

Anaerobic Soil Disinfestation: Carbon Rate Effects on Soil pH, Temperature, Redox Potential, and Tomato Plant Growth
Francesco Di Gioia*, Monica Ozores-Hampton, Jason Hong and Erin N. Rosskopf (Poster Board #347)

Cover Crops and Strip-tillage Influence on Soil Health and Food Safety in a Midwest Muskmelon Production System
John Krzton-Presson* and Ajay Nair (Poster Board #348)

Biodegradable Plastic Mulch Provided Weed Control, Yield, and Quality of Pie Pumpkin Comparable to Polyethylene Mulch
Shuresh Ghimire*, Annette Wszelaki, Jennifer Moore, Henry Sintim, Debra A. Inglis, Markus Flury and Carol Miles (Poster Board #349)

1:00 PM – 1:45 PM Georgia Ballroom
Poster Session-Commercial Horticulture

Cultivation to Go
Kurt Badertscher* and Kerrie Badertscher (Poster Board #021)
Effects of Adjustment to Spectral Ratios of Supplemental LED Lighting on Miniature Rose Growth and Morphology
Scott Malain, Lola Siboldi and Melanie Yelton* (Poster Board #022)

Assessment of Basil Varieties for Production in the UVI Commercial Aquaponic System
Donald Bailey, Rhuaniu S. Ferrarezi*, Seti Balkaran and Jomanni Bernier (Poster Board #023)

Improving Cantaloupe Fruit Sugar Content in the UVI Commercial Aquaponic System
Rhuaniu S. Ferrarezi*, Donald Bailey, Seti Balkaran and Jomanni Bernier (Poster Board #024)

Sun Exposure Affects Growth and Harvest Yield of Ocimum basilicum 'Cardinal' L. Grown on an Inexpensive, Vertical Structure
Jennifer Derrow*, Joe Eakes, J. Raymond Kessler and David Williams (Poster Board #025)

Effect of Fertilizer Rate and Vertical Growing Structure Orientation on ‘Sweet ‘n’ Neat’ Cherry Tomato Production
Zhao Yang*, Donald J. Eakes, Floyd Woods, J. Raymond Kessler and Carolyn W. Robinson (Poster Board #026)

Comparing Culture and Planting Times for New Cultivar Releases of Rutgers Scarlet Lettuce®
William Sciarappa* (Poster Board #027)

A Meta-analysis of Tomato Rootstocks to Determine Rootstock Vigor and Genetic Yield Potential
David E. Loewen* and Cary L. Rivard (Poster Board #028)

Sequencing and Analysis of Leaf Transcriptomes of Impatiens Cultivars Differing in Downy Mildew Resistance
Krishna Bhattarai*, Weining Wang and Zhanao Deng (Poster Board #139)

Sequencing and Analysis of the Transcriptomes of Young Ovaries of Lantana
Krishna Bhattarai*, Zhe Cao and Zhanao Deng (Poster Board #140)

The Effects of Ethyl Methanesulphonate and Sodium Azide on Plant Growth in Azalea (Rhododendron)
Meiping Cai*, Qingxi Chen, Mengmeng Gu and Xiaoya Cai (Poster Board #141)

Resistance to Downy Mildew Caused By Plasmopara obducens in Impatiens at Different Growth Stages
Yanqong He, Weining Wang*, Zhe Cao and Zhanao Deng (Poster Board #142)

1:00 PM – 1:45 PM  Georgia Ballroom

Poster Session-Pomology 1

Flavonoids Distributing Profiles of Jujube in New Mexico
Zhizhui Zhao*, Richard D. Richins, Mary O’Connell and Shengrui Yao (Poster Board #245)

Fruit and Flowering Habit of Mature ‘Wonderful’ Pomegranate (Punica granatum L.)
Kylie Mendonca* and Lauren Garner (Poster Board #246)

The Relationship of Seed Viability to Buoyancy in the North American Pawpaw (Asimina triloba)
Jacob Vincent*, Jeremiah Lowe, Sheri Crabtree and Kirk Pomper (Poster Board #247)

Consumer Preference for Pawpaw Cultivars and Kentucky State University Advanced Selections
Sheri Crabtree*, Kirk Pomper and Jeremiah Lowe (Poster Board #248)

Fruit Characteristics of Four Pawpaw (Asimina triloba) Advanced Selections from Kentucky State University
Jeremiah Lowe*, Sheri Crabtree and Kirk Pomper (Poster Board #249)

Changes of Tree Growth and Fruit Characteristics on Different Temperature Conditions during Growth Stages in Grapevine (cv. Kyoho)
In-Chang Son*, Eun Young Song, Seung Hwan Wi, Soonja Oh, Kyung Hwan Moon and Sung Min Jung (Poster Board #250)
August 8-11, 2016
Atlanta, Georgia

**The Kentucky Eastern Filbert Blight Resistant Hazelnut Trial**
Kirk Pomper*, Sheri Crabtree, Jeremiah Lowe and Shawn Wright (Poster Board #251)

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1:00 PM – 2:00 PM  Georgia Hall Pre-Function

**Special Session-The Latest News and Research on Cannabis**
Speakers: Kerrie Badertscher and Kurt Badertscher

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1:00 PM – 2:00 PM  Atlanta 5 Room

**Endowment Fund Committee Meeting**

*Chair:* Paul Thomas

*Members:*
Paul Read
Carl Sams
Brian Trader
John Griffis
Curt Rom
Kedong Da
Ellen Paparozzi
Ajay Jha
Wayne Mackay
Larry Knerr
Michael Neff

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1:00 PM – 2:00 PM  Atlanta 4 Room

**Nominations and Elections Committee Meeting**

*Presiding:* Christine Coker

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1:45 PM – 3:00 PM  Savannah 1 Room

**Oral Session-International Horticultural Issues & Networking**

*Moderator:* Roland Ebel

1:45 PM  Globalization of Coastal Roots: A School-based Urban and Coastal Plant Nursery and Stewardship Program - Challenges and Success
Edward Bush* and Pam Blanchard

2:00 PM  Capacity Building of Female Farmers’ Group through the Use of Bio-fertilizers in an Off-season Vegetable System in Shankapur, Nepal
Katie McCarver*, Kevin A. Lombard, M. Lois Stanford and Mark Uchanski

2:15 PM  Optimum Planting Density for Rainfed Production of Chaya (*Cnidoscolus aconitifolius*)
Roland Ebel*, María de Jesús Méndez-Aguilar and Carlos Valentín Interian-Sandoval

2:30 PM  Alternative Methods for Harvesting and Field-packing Mandarin (*Citrus reticulata* Blanco) Fruits in Tanzania
Ramadhani O. Majubwa*, Steven Sargent, Mark Ritenour, José X. Chaparro, Donald J. Huber, Charles Sims and Theodosy J. Msogoya

2:45 PM  Iran Horticulture Potential: A Great Opportunity for Current and Future International Collaborations
Kazem Arzani* and Esmaeil Fallahi

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1:45 PM – 3:15 PM  Savannah 2 Room

**Oral Session-Computer Applications in Horticulture**

*Moderator:* Kurt Nolte

1:45 PM  Getting Started Using a UAV for Generating Field Imagery: Creating Orthomosaic Images
Rosa Bevington* and Kurt Nolte

2:00 PM  Using Free Fiji Image J Software to Generate NDVI Images in Horticulture from UAVs
Kurt Nolte* and Rosa Bevington

2:15 PM  Developing and Parameterizing the Cropgro Model to Simulate Strawberry Growth and Production
Kenneth Boote*, Juhyun Oh, Zhengfei Guan and Shinsuke Agehara

2:30 PM  A New System to Collect and Save Data on Fruit Trees in Germplasm Collection Based on Radio Frequency Identification Technology
Petra Engel*, Mario Giorgioni, Maria Antonietta Palombi, Tatiana Azzalin, Alessandro Mattiacci and Flavio Roberto De Salvador

2:45 PM  Gensas v5.0: An Easy-to-use, Web-based Platform for Individual or Collaborative Structural and Functional Genome Annotation and Curation

3:00 PM  Genome Database for Rosaceae: A Resource for Genomics, Genetics and Breeding Research
Dorrie Main*, Sook Jung, Chun-Huai Cheng, Taein Lee, Stephen P. Ficklin, Ksenija Gasic, Jing Yu, Jodi L. Humann, Kristin Scott, Kate M. Evans, Cameron Peace, Lisa DeVetter and Nnadozie Oraguzie

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**1:45 PM – 3:15 PM  Savannah 3 Room**

**Workshop-Novel Challenges and Opportunities in Tropical Ornamental Horticulture: Orchids As a Model Crop**  
*Description: Production of ornamentals and floriculture in tropics has faced considerable challenges lately. Some of the challenges include newly emerging pests and diseases, ever-rising fuel cost for production, sustainability and impacts on environment, and germplasm preservation due to rapidly decimating populations of genetic materials. Additionally, genetic engineering is now employed to enhance aesthetic quality of ornamental crops. These challenges have concurrently created various opportunities for horticulture scientists to tackle. Among many tropical and subtropical ornamental crops, orchids have strong potential. Orchard sales have drastically increased over the last few decades. According to USDA, orchids are the number one floriculture crop in wholesale value, which has increased 206% from 1996 to 2006, while wholesale value for many other floriculture or ornamental crops such as poinsettia and African violets have stayed the same or even decreased. Orchids were once exclusive to aristocrats and wealthy people. Nowadays, consumers can purchase reasonably priced blooming Cymbidium, Dendrobium, and Phalaenopsis plants at local grocery and hardware stores. This recent popularity of orchids is a response to new consumer needs and assess the hurdles for future opportunities of tropical floriculture and ornamentals.*

1) Provide a platform for scientists, educators, industry leaders, and growers to evaluate the challenges and opportunities of tropical horticulture using orchids as a model. 2) Provide interaction and networking opportunities for scientists in different disciplines, including biotechnology, ecology, entomology, plant pathology, and horticulture science to identify and recommend key research criterion. 3) Evaluate the needs and assess the hurdles for future opportunities of tropical floriculture and ornamentals.

**Coordinator:** Hideka Kobayashi  
**Moderator:** Hideka Kobayashi

**Oral Session-Postharvest 2**

**Moderator:** Christopher Watkins

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
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<tbody>
<tr>
<td>1:45 PM</td>
<td><strong>Volatile Metabolite Changes in ‘Ambrosia’ Apple Fruit Associated with Soft Scald Development</strong></td>
<td>Charles Forney*, Jun Song, Peter Toivonen, Michael A. Jordan and Sherry A.E. Fillmore</td>
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<td>2:00 PM</td>
<td><strong>Harvest Maturity, Accumulated Cold Units, and Controlled Atmosphere Affect Eating Quality of ‘d’Anjou’ Pears after Long-term Storage</strong></td>
<td>Yan Wang*, Yu Dong, Shunchang Cheng, Jiaming Guo and Steven Castagnoli</td>
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<td>2:15 PM</td>
<td><strong>mTAC Values in Relation to Internal Ethylene Concentrations in ‘Delicious’ Apple Fruit Harvested from Trees Treated with Retain and Harvista</strong></td>
<td>Kazem Arzani, Christopher Watkins* and Jacqueline Nock</td>
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<tr>
<td>2:30 PM</td>
<td><strong>Antioxidants in Apple Peel in Relation to Superficial Scald Development during Storage</strong></td>
<td>Yosef Al-Shoffe*, Jacqueline Nock, Yiyi Zhang and Christopher Watkins</td>
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<td>2:45 PM</td>
<td><strong>Dry Matter and Soluble Solids Concentrations in Apple Cultivars at Harvest and during Storage</strong></td>
<td>Yiyi Zhang*, Jacqueline Nock, Yosef Al-Shoffe, Nurdan Gunes and Christopher Watkins</td>
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<td>3:00 PM</td>
<td><strong>Impact of CO₂ on the Energy Status of ‘Honeycrisp’ Apple in Controlled-atmosphere Storage</strong></td>
<td>Diep Tran* and Randolph Beaudry</td>
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<td>3:15 PM</td>
<td><strong>Proteomic Changes in ‘Ambrosia’ Apple Fruit during Cold Storage in Response to Delayed Cooling Treatment</strong></td>
<td>Honghui Luo, Jun Song*, Charles Forney, Peter Toivonen, Leslie Campbell Palmer, Melinda Vinqvist, Sherry A.E. Fillmore and ZhaoQi Zhang</td>
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<tr>
<td>3:30 PM</td>
<td><strong>CO₂ Injury in “Honeycrisp” Apple: Dose Response to Diphenylamine</strong></td>
<td>Randolph Beaudry* and Diep Tran</td>
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1:45 PM – 3:45 PM  Augusta Room

**Oral Session-Teaching Methods**

**Moderator:** Rosanna Freyre

1:45 PM  **Student-initiated Laboratory Projects**
Paul Read*

2:00 PM  **Buckeye Badges: A Pilot System Developed at Ohio State University**
Tim Rhodus*

2:15 PM  **Student Perceptions of Hands-on Activities to Teach Vegetable Production**
Xin Zhao*, Bala Rathinasabapathi, Marilyn E. Swisher and Zhifeng Gao

2:30 PM  **Students Increase Understanding and Knowledge of Food Security As a Result of a Hydroponic Food Production Course**
Chris Currey and Ann VanDerZanden

2:45 PM  **Hands-on Horticulture: A Magnet Course for the Horticulture Minor**
Marvin Pritts*

3:00 PM  **Greenhouse Online Training at the University of Florida IFAS Extension**
Rosanna Freyre*, Brian Pearson and Paul Fisher

3:15 PM  **Developing Critical-thinking Skills in a Landscape Horticulture Class**
Tim Smalley*

3:30 PM  **Horticultural Education of Indigenous Students**
Roland Ebel*

2:00 PM – 3:00 PM  Atlanta 5 Room

**Annual Conference Technical Program Committee Meeting**

**Chairs:** Dennis Ray and Carl Sams

**Members:**
JozeF Racsko
Maria Jenderek
Gene Blythe
Pablo Morales-Payan
William Baird
William Miller
Bill Evans
Jeanine Davis
Curt Rom
Michael Neff

2:00 PM – 3:00 PM  Atlanta 4 Room

**Fellows Screening Committee Meeting**

**Chair:** Mary Peet

2:00 PM – 3:45 PM  Capitol Center Room

**Oral Session-Human Issues in Horticulture**

**Moderator:** Lucy Bradley

2:00 PM  **The National Initiative for Consumer Horticulture – A Strategic Plan**
Lucy Bradley*, Thomas Bewick, Ellen Bauske, Mary Meyer, Richard Durham, Gail Langellotto, Natalie Bumgarner, Margaret Pooler and Sheri Dorn

2:15 PM  **The Urban Food Systems Symposium: A Professional Meeting to Change the Way We Think about Global Food Security**
Candice A. Shoemaker*, Kimberly Oxley, Cary L. Rivard, Judy Favor, Sara E. Gragg, Londa Nwadike and Eleni Pliakoni

2:30 PM  **Understanding Demographic Variation in Motivations for Gardening**
Tina Waliczek, Amy McFarland*, Aime Sommerfeld and Cole Etheredge

2:45 PM  **Local Food Systems: Consumer Attitudes and Barriers to Buying Local**
Cindy Fake*, Roger Ingram, James Muck and Daniel Macon

3:00 PM  **Partnerships Transform a Vacant, Urban Lot into Food Production Hub**
Kelly Young* and Katie Poirier

3:15 PM  **Louisiana Harvest of the Month – Locally Sourced Fruit and Vegetables in Schools**
Carl Motsenbocker* and Ann Savage

3:30 PM  **The Effect of Horticultural Community Service Activities on Incidence of Recidivism in Offenders**
Tina Waliczek and Megan Holmes*

2:00 PM – 3:45 PM  Valdosta Room

**Oral Session-Ornamentals/Landscape and Turf 1**

**Moderator:** Bert Cregg

2:00 PM  **Cut Less-Growth Control of Five Landscape Shrubs By Flurprimidol and Irrigation**
Yan Chen* and Allen Owings

Members:
James Flore
Duane Greene
Robert Trigiano
Mark Farnham
Michele Warmund
Robert Paull
Elizabeth Baldwin
Paul Bosland
Curt Rom
2:15 PM  Effects of Plant Growth Regulators Ethephon and Protone on Flowering of *Bougainvillea x buttiana* ‘Afterglow’
Mun Wye Chng*

2:30 PM  Mulch and Root-ball Manipulation Affect Establishment of Container-grown London Planetrees
Bert Cregg* and Dana Ellison

2:45 PM  Determining Minimum Irrigation Coefficients for Landscape Trees Based on Evapotranspiration and Public Opinion
Richard Beeson*

3:00 PM  The Relationship of Four Substrates to N, P Removal and Biomass Establishment in a Greenhouse Natural Swimming Pool Experiment
Margaret Hoffman*

3:15 PM  Effect of Tree Species and Shade Structures on Outdoor Human Thermal Comfort
Kaylee Colter and Chris Martin*

3:30 PM  Diversity of Bees Across Different Urban Lawn Types in Lubbock, Texas
Alicia Patridge*

2:00 PM – 4:00 PM  Georgia 14 Room

**Root and Bulb Vegetable Crop Germplasm Committee (RBV-CGC) Meeting**
Chair: Christopher Cramer

2:00 PM – 5:00 PM  Georgia Hall

**Exhibitors’ Workshop-New Innovations in Commercial Horticultural Applications 1**

**Description:** To introduce conference participants to new and innovative technologies available for research, teaching, and extension.

2:00 PM  Collect Data, Photos, and GPS Coordinates with a Handheld Windows Tablet
Steven Gylling*

2:20 PM  The LI-6800: The Next Generation of Gas Exchange and Fluorescence Instrumentation
Eric Price*

2:40 PM  Web-based Solutions for Mesh Networks, Weather Stations and Portable Instrumentation
Wendy Sayre*

2:00 PM – 6:00 PM  Capitol North Room

**Special Session–Fund Your Future: Opportunities from National Competitive Programs**

**Moderator:** Curt Rom
**Coordinator:** Mathieu Ngouajio

The goal of this workshop is to bring together agencies that fund research in the areas of horticulture and food systems. The agencies will showcase their grant programs and present strategies for success. The workshop will have representatives from NIFA (National Institute of Food and Agriculture), FFAR (Foundation for Food and Agriculture Research), OFRF (Organic Farming Research Foundation), Fred C. Gloeckner Foundation, and AFE (American Floral Endowment). The workshop will have two sub-sessions each with oral presentations followed by an open panel discussion. Funding agencies will bring flyers and other documents for the session.

2:00 PM  Strategies for Seeking Funding from NSF-BIO
C. Eduardo Vallejos*

2:20 PM  New USDA-NIFA Programs: Exploratory Research Program
Liang-Shiou Lin*

2:30 PM  New USDA-NIFA Programs: Care (Critical Agriculture Research and Extension) Program
Liang-Shiou Lin*

2:40 PM  New NIFA Programs: AFRI (Agriculture and Food Research Initiative) Foundational Program
Liang-Shiou Lin* and Mathieu Ngouajio

3:00 PM  SCRI/CDRE: Specialty Crops Research Initiative and Citrus Disease Research and Extension
Thomas Bewick*

3:20 PM  OREI/ORG: Organic Agriculture Research and Extension Initiative and Organic Transitions
Mathieu Ngouajio*

3:40 PM  Panel Discussion

4:00 PM  Break

4:20 PM  Grants Programs from FFAR—Foundation for Food and Agriculture Research
John Reich*

4:40 PM  Grants Programs from OFRF–Organic Farming Research Foundation
Diana Jerkins*

5:00 PM  Grants Programs from AFE–American Floral Endowment
Terril Nell*
5:20 PM Grants Programs from the Gloeckner Foundation  
Richard Craig*

5:40 PM Panel Discussion

2:30 PM – 3:45 PM Capitol South Room

Oral Session-Citrus Crops

Moderator: Manjul Dutt

2:30 PM Maturation and Ripening of “Midknight” Valencia Sweet Orange Fruit: Dynamics in Ethylene Production, Respiration Rate, and Quality Parameters
Muneer Rehman*, Zora Singh and Tahir Khurshid

2:45 PM Hybridization Studies Between the Australian Finger Lime and Conventional Citrus Cultivars for Germplasm Enhancement and New Cultivar Development
Manjul Dutt*, Qibin Yu, Fred Gmitter and Jude Grosser

3:00 PM Whole Plant Destructive Screening for Huanglongbing Susceptibility with Container Seedlings Exposed to No-choice Asian Citrus Psyllid Inoculation
Ed Stover*

3:15 PM Strigolactones Induced Vegetative and Reproductive Growth in HLB-infected Plants
Naveen Kumar* and Ed. Etxeberria

3:30 PM Differential Rootstock-mediated Scion Gene Expression in HLB-susceptible Versus Putatively HLB-tolerant Scion/Rootstock Combinations
Aditi Satpute*, Matias Kirst, Fred Gmitter, Christine Chase and Jude Grosser

3:00 PM – 4:00 PM Atlanta 4 Room

Horticulture Hall of Fame Selection Committee

Chair: L. George Wilson
Members:  
Dewayne Ingram  
Mary Meyer  
Paul Bosland  
Mary Rogers  
Mary Peet  
Michael Arnold  
Curt Rom  
Mary Albrecht

3:00 PM – 4:00 PM Atlanta 5 Room

Membership Committee Meeting

Chair: Mark Uchanski
Members:  
Meredith Melendez  
Thomas Molinar  
Casey Seals  
Yiqun Weng  
Tim Rhodus  
Claudia Melea Martin  
Candice A. Shoemaker  
Cassel Gardner  
Curt Rom  
Michael Neff

3:15 PM – 3:45 PM Savannah 3 Room

Tropical Horticultural Crops (TROP) Working Group Business Meeting

Sponsor: TROP Working Group
Chair: Manjul Dutt
Secretary: Hideka Kobayashi

To discuss the culture, postharvest physiology, and processing of tropical fruits, vegetables, herbs, spices, condiments, pharmaceuticals, flavors, fragrances, latex, nuts, oils, beverages, and underutilized horticultural plants.

3:30 PM – 5:00 PM Savannah 2 Room

Workshop-Innovative Applications of Computers in Horticulture

Sponsor: Computer Applications in Horticulture
Moderator: Guihong Bi
Coordinators: Arthur Villordon, Kent Kobayashi and Guihong Bi

The objective of this workshop is to familiarize the audience with several of the latest innovative computer applications in horticulture for research, extension, and instruction.

Description: With ever-changing developments in computers, software, and high technology, one's professional development calls for keeping abreast of the latest innovative applications. Three speakers will present their experiences with innovative applications of computer usage developed for research, extension, and teaching. The audience will learn about acquiring 3D images using an inexpensive 3D scanner and trends in 3D image analysis, novel applications of drones in horticulture, and comparison of online meeting platforms.

3:30 PM Integrating UAVs into Field Applications for Horticultural Scientists and Producers
Kurt Nolte* and Rosa Bevington

4:00 PM Opportunities for Incorporating Desktop and Mobile Videoconferencing Solutions in Teaching and Extension Programs
Tim Rhodus*

4:30 PM Using a Low-cost Scanner for 3D Shape Acquisition: Applications in Horticultural Research
Arthur Villordon*
3:45 PM – 5:45 PM  Savannah 1 Room

Workshop-Student Career: Speed-dating on Career Options, 4th Edition

*Sponsor: Industry Division

*Moderator: Angela Davis
*Coordinator: Angela Davis

To provide students short ‘n quick “live” autobiographies from several well-known Industry researchers, to hear their stories on education, research pathways, and career choices, and solicit ideas on their own career options and opportunities.

*Description: When it comes to determining career pathways, students can be faced with vastly different opportunities. These career choices can include positions in industry, university, government or even private consulting. Given that industry often leads to exciting and rewarding careers, this workshop introduces students to industry scientists and technical people in a fun and quick-paced way. Scientists from several horticultural companies will give a brief description of their education, past experience, current roles and responsibilities, and provide humble advice for students looking at career options, with emphasis on how their education has supported their career path. In addition to a quick Q&A, students can take time afterward to mingle and discuss career ideas with the speakers.

4:00 PM – 5:00 PM  Atlanta 5 Room

Certified Horticulturist (CH) Board Meeting

*Chair: Janet Cole
*Members:
  - Kerrie Badertscher
  - Stephen Carver
  - George Fitzpatrick
  - Robert Geneve
  - Mary Lamberts
  - Douglas Needham
  - Karen L. Panter
  - Kay Phelps
  - Tim Rhodus
  - Susan Steinberg
  - Juanita Popenoe

4:45 PM  Capital Center Room

Oral Session-Nursery Crops 1

*Moderator: Jeb Fields

4:00 PM  Capitol Center Room

**Best Management Practice Use and Efficacy for Virginia Nurseries and Greenhouses**

Rachel Mack*, Jim Owen and Alexander Niemiera

4:15 PM  Capitol Center Room

**Counting Costs: Modeling Operational Water Treatment Technologies to Help Ornamental Growers Understand the Costs and Benefits of Recycling Irrigation Water**

John Majsztrik*, Daniel Hitchcock, Saurav Kumar, David Sample and Sarah White

4:30 PM  Capitol Center Room

**Consumer Attitudes and Perceptions on Bioplastic Containers in the Horticulture Industry**

Kalyn Tan*, William R. Graves, James Schrader, Heidi Kratsch, Barrett Kirwan and Melody Hefner

4:45 PM  Capitol Center Room

**Manipulation of Soilless Substrate Hydraulic Properties to Optimize Container Crop Water-substrate Interactions to Reduce Water Requirements**

Jeb Fields* and Jim Owen

5:00 PM  Capitol Center Room

**Carbon Footprint and Variable Costs of Production Components for a Container-grown Evergreen Shrub**

Dewayne Ingram*, Charles Hall and Joshua Knight

4:00 PM – 5:30 PM  Georgia 14 Room

Eastern Broccoli Project Team Meeting

*Presiding: Thomas Bjorkman

4:00 PM  Macon Room

Oral Session-Environmental Stress Physiology 1

*Moderator: Renae Moran

4:00 PM  Macon Room

**Seasonal Variation in Preharvest Fruit Drop of Florida Oranges in Relationship to Weather and Other Factors**

L. Gene Albrigo* and Timothy Ebert

4:15 PM  Macon Room

**Pre-plant Inhibition of Ethylene Signaling Alleviates Transplant Stress Responses and Improves Yield of Tomato**

Shinsuke Agehara*
4:30 PM  Could Base Temperatures be Negative for Grapes? Deacclimation of Cultivated and Wild Grapes in Controlled Environment  
Alisson Pacheco Kovaleski* and Jason Londo

4:45 PM  Simulation of Growth, Fresh Weight, and Size of Individual Tomato Fruits and Total Production Under Water and Nitrogen Limitations  
Kenneth Boote*, Raquel Rybak, James Jones and Lincoln Zotarelli

5:00 PM  Seasonal and Genotypic Variation in Apple Rootstock Cold Temperature Tolerance  
Renaé Moran*, Bryan J. Peterson, Gennaro Fazio and John A. Cline

5:15 PM  ABA-induced Calcium Uptake in ‘Honeycrisp’ Apple [(Malus domestica (Borkh.)) Determined Using a Stable Calcium Isotope Tracer  
Lee Kalcits*, Luca Giordani and Gregory van der Heijden

4:00 PM – 5:30 PM  Georgia Ballroom

Poster Session-Undergraduate Student 2

Micronutrients and Essential Oils in Sweet Basil (Ocimum basilicum L.) Grown in an Aquaponics System  
Keisha Armstrong*, Robert Richter and Venkateswara Potluri (Poster Board #009)

Sustainable Production of Living Organic Container-grown Kitchen Herbs  
Bridget Reed*, Robert Geneve and Sharon Kester (Poster Board #010)

Growth and Development of Two Fall-planted Kale Cultivars  
Vincent Downing*, Travis Griffith, Lurline Marsh and Smith Brett (Poster Board #011)

Panax Ginseng Extracts As a Novel Antibiotic  
Emmanuel Duarte*, Katherine Vandenberg, Amir Khoddamzadeh, Dhar Supurna, Kalai Mathee and Krish Jayachandran (Poster Board #012)

Anti-bacterial Properties of the Annona montana  
Ariana Font*, Amir Khoddamzadeh, Dhar Supurna, Kalai Mathee and Krish Jayachandran (Poster Board #013)

Effects of LED Lighting Spatial Configuration on Spaceflight Analog Amaranth Crops  
Aleca Borsuk* and Kent Kobayashi (Poster Board #014)

4:00 PM  Influence of Artificial Lights on Nitrate and Sugar Contents of Leaf Lettuce  
Seunghyun Choi, Changhyeon Kim, Zhigang Wu and Chiwon Lee* (Poster Board #015)

4:00 PM – 5:30 PM  Valdosta Room

Workshop-Invasive Plant Management and Restoration: New Research, Goals and Opportunities for the Ornamental Horticulture Industry

Sponsor: Invasive Plants Research

Moderator: S. Christopher Marble

Coordinator: S. Christopher Marble

Objectives of this workshop are to: 1) Provide a source of information about the ways in which invasive plant species impact native plant communities and our environment; 2) present research on new management strategies and on ways in which invasive plant introductions can be reduced; and 3) discuss the role of the ornamental horticulture industry in invasive plant management including current challenges, opportunities, and future research needs.

Description: Ornamental horticulture has been recognized globally as one of the main sources of plant invasions. Studies have shown that approximately 80% of woody plant species that have been identified as invasive were introduced, at least in part, for ornamental purposes and once used as landscape plants. Many of our most common invasive plant species were once popular among gardeners and landscapers for their interesting foliage, fruit or flower production, pest resistance, or other growth characteristics. However, some of these species escaped cultivation and began displacing native vegetation and wildlife, clogging waterways, impacting crop growth, and reducing property values. The nursery industry is facing a difficult dilemma; balancing the ongoing need to meet customer demand and introduce new plants while also avoiding the spread of potentially invasive plant species. The objective of this workshop is to present research on invasive plant management focusing on new methods of chemical management, screening protocols, and breeding sterile or non-invasive cultivars that will bring value to the nursery industry.

4:00 PM  Domestication, Breeding and Selection of Noninvasive Horticultural Crops: Feasibility Vs. Impracticality  
Neil Anderson*

4:15 PM  Developing a Plant Risk Evaluation and Cultivar Decision System for Regional Markets  
John Ruter*

4:30 PM  Screening Potential Invasive Species to Select Superior Parents – Miscanthus As an Example  
Matthew Chappell*
4:45 PM  **Integrated Management of Waterhyacinth (Eichhornia crassipes), the Floating Scourge of the South**  
Lyn Gettys*, Jeremiah Foley, Phillip Tipping and Carey Minteer

5:00 PM  **Control of Invasive Ruellia Simplex By Herbicide Treatments in Natural Areas and Breeding Sterile Cultivars**  
Rosanna Freyre*, Adrienne Smith, Carrie Reinhardt-Adams, Zhanao Deng, Gary Knox and Sandra Wilson

5:15 PM  **Efficacy and Cost of Selected Herbicides for Control of Skunkvine (Paederia foetida)**  
S. Christopher Marble*, Yingfang Xiao and Annette Chandler

4:00 PM – 5:30 PM  **Savannah 3 Room**

**Workshop-Novel Challenges and Opportunities in Tropical Ornamental Horticulture: Orchid Biotechnology**

*Sponsor: Floriculture*

**Moderator:** Hideka Kobayashi  
**Coordinator:** Hideka Kobayashi

1) Provide a platform for scientists, educators, industry leaders, and growers to evaluate the challenges and opportunities of tropical horticulture using orchids as a model. 2) Provide interaction and networking opportunities for scientists in different disciplines, including biotechnology, ecology, entomology, plant pathology, and horticulture science to identify and recommend key research criteria. 3) Evaluate the needs and assess the hurdles for future opportunities of tropical floriculture and ornamentals.

**Description:** Production of ornamentals and floriculture in tropics has faced considerable challenges lately. Some of the challenges include newly emerging pests and diseases, ever-rising fuel cost for production, sustainability and impacts on environment, and germplasm preservation due to rapidly decimating populations of genetic materials. Additionally, genetic engineering is now employed to enhance aesthetic quality of ornamental crops. These challenges have concurrently created various opportunities for horticulture scientists to tackle. Among many tropical and subtropical ornamental crops, orchids have strong potential. Orchid sales have drastically increased over the last few decades. According to USDA, orchids are the number one floriculture crop in wholesale value, which has increased 206% from 1996 to 2006, while wholesale value for many other floriculture or ornamental crops such as poinsettia and African violets have stayed the same or even decreased. Orchids were once exclusive to aristocrats and wealthy people. Nowadays, consumers can purchase reasonably priced blooming Cymbidium, Dendrobium, and Phalaenopsis plants at local grocery and hardware stores. This recent popularity of orchids is a culmination of steady and persistent advances in ornamental horticulture research, starting with in vitro asymbiotic seed germination, mass clonal propagation as well as investigation on crop physiology, cultural requirements, and pest and disease control. This colloquium will look at challenges and opportunities that tropical ornamental crops are currently facing, using orchids as a model crops with a wider application to other horticultural crops.

4:00 PM  **Cryopreservation and the Use of Bioreactor Technology in Clonal Propagation of Orchids**  
Wagner Vendrame*

4:15 PM  **Why Artificial/Synthetic Seed Technology in Orchids?**  
Amir Khoddamzadeh*

4:30 PM  **Anthocyanin Regulatory/Structural Gene Expression in Phalaenopsis in Relation to Creating Blue Orchids**  
Robert Griesbach*

4:45 PM  **Ploidy Levels and Uses of Laelia anceps Complex in Breeding Cattleya-type Orchids**  
Hideka Kobayashi*

5:00 PM  **In Vitro Polyplloid Induction of Orchids Using Oryzalin**  
Kenneth Leonhardt* and Tilden Miguel

5:15 PM  **Future of Orchid Research**  
Hideka Kobayashi*, Robert Griesbach, Wagner Vendrame and Amir Khoddamzadeh

4:00 PM – 5:45 PM  **Augusta Room**

**Oral Session-Consumer Horticulture/ Master Gardeners and Public Horticulture**

**Moderator:** Natalie Bumgarner

4:00 PM  **Ensuring Quality: Evaluating the Implementation of Video Web Conferencing in Delaware Master Gardener Training**  
Emily Barton* and Susan Barton

4:15 PM  **Extension Master Gardener National Program Evaluation and Data Collection**  
Pamela Bennett*, Toby Day, Gail Langellotto and Terri James

4:30 PM  **Washington Tree Stewards Online Training**  
Nicole Martini*

4:45 PM  **Taking the Demonstration Garden to the Next Level: The UT Gardens Crossville: Plateau Discovery Garden Model**  
Natalie Bumgarner*, William G. Upchurch, Nancy Christopherson and John W. Hitch

5:00 PM  **Longwood Gardens Fellows Program: Building Public Horticulture Leadership Capacity**  
Tamara Fleming*, Brian Trader and Douglas Needham
5:15 PM  Redefining Garden Restoration in Yorkshire: Goddards Case Study
Gail Hudson*

5:30 PM  Exploring Culinary Arts Programs at Public Horticulture Institutions
Susan Barton, Mackenzie Fochs*, Douglas Needham, Thomas W. Ilvento and Susan Crane

4:00 PM – 6:00 PM  Capitol South Room
Oral Session-Pomology 2
Moderator: Whitney Garton

4:00 PM  Management of Apple Anthracnose Canker
Whitney Garton*, Mark Mazzola and Carol Miles

4:15 PM  Field Screening of 25 Advanced Rootstock Selections for Peach (Prunus persica L.) Production in Florida
Benjamin M. Nichols*, José X. Chaparro and Thomas Beckman

4:30 PM  High Susceptibility of “Honeycrisp” Apple to Bitter Pit Is Associated with Low Fruit Calcium Level and Its Imbalance with Other Nutrients
Huaiyu Ma, Yongzhang Wang and Lailiang Cheng*

4:45 PM  Irrigation and Fertilization Rates for Young Peach Trees [Prunus persica L. (Batsch)]
Bruno Casamali*, Dario J. Chavez and Marc van Iersel

5:00 PM  S-Abscisic Acid (S-ABA): A New Strategy for Controlling Bitter Pit in Apple
Poliana Francescatto*, Terence Robinson, Jaume Lordan and Jozsef Racsko

5:15 PM  Biochar Amendments As an Alternative to Manage Peach Replant Disease
Amaya Atucha*

5:30 PM  Effect of Nitrogen Fertilization and Harvest Time on Volatile Profile, Sensory Attributes, and Consumer Preference of Low-chill Peaches
Tripti Vashisth* and Mercy Olmstead

5:45 PM  Revisiting Cold Hardiness of Peaches in Georgia
Jun Liu*, Anish Malladi, Orville Lindstrom, Erick Smith, Mercy Olmstead and Dario J. Chavez

5:00 PM – 5:30 PM  Savannah 2 Room
Computer Applications in Horticulture (COMP) Working Group Business Meeting
Chair: Guihong Bi
Chair-elect: Arturo Duarte Sierra

Secretary: Kent Kobayashi
To study the application of computers in research, extension, and teaching of horticulture.

5:00 PM – 6:00 PM  Atlanta 5 Room
Public Horticulture (PUBHORT) Working Group Business Meeting
Chair: Carolyn W. Robinson
Chair-elect: Elizabeth Barton
To provide a forum for professional networking and discussion about matters related to botanic gardens, arboreta, and other institutions of public horticulture. Of particular interest are issues germane to public horticulture research, education, and outreach activities conducted within a higher education environment.

5:30 PM – 6:00 PM  Savannah 3 Room
Floriculture (FLOR) Working Group Business Meeting
Chair: Nicole L. Waterland
Chair-elect: Chris Currey
To identify problem areas (and propose approaches to resolving them), to develop higher standards of quality, and to share information about activities occurring in floriculture research, education, and extension.

5:30 PM – 6:00 PM  Valdosta Room
Invasive Plants Research (INPR) Working Group Business Meeting
Sponsor: Invasive Plant Research
Chair: S. Christopher Marble
Chair-elect: Michael Schnelle
To communicate research ideas, techniques, and methods on the identification, study, and control of invasive plants in cross-commodity horticulture production and in urban and rural lands; and the assessment of exotic plants for potential invasiveness.

6:00 PM – 7:00 PM  Atlanta 4 Room
Local Food Systems (LOCSY) Working Group Business Meeting
Chair: Kelly Young
Secretary: Bill Evans
To promote academic and research information exchange on scientific development, scholarship, and educational activities related to and regarding local and regional production systems, including definition and measurement of food systems, foodsheds, small and mid-scale production systems, beginning/new farmers, local farmers and farmers markets, farmers expanding from direct sale to local/regional wholesale, scale neutral technologies, agriculture at the urban/rural interface, urban horticulture production (community...
garden, school gardens, home gardens), farm-to-consumer marketing, farmer-to-institution/school marketing, local food system and farmland policy, and relationships of local horticulture to rural and urban communities and economies.

6:00 PM – 7:00 PM  Macon Room

**Organic Horticulture (ORGH) Working Group Business Meeting**

*Chair*: Sven Verlinden  
*Chair-elect*: Mary Rogers  
*Secretary*: Brian Ward

To stimulate discussion on horticultural research techniques that enable growers to produce horticultural crops according to organic standards, and on the processes that make organic production systems function.

6:00 PM – 7:00 PM  Atlanta 5 Room

**Photography (FOTO) Working Group Business Meeting**

*Chair*: James McConnell  
*Chair-elect*: Michelle Atkinson

To provide a forum for interaction among horticulturists who desire to use digital imaging (still and video) for innovative applications of photography in research, education, and extension. Workshops to focus on teaching procedures and techniques for digital image processing, with special emphasis on effective use of equipment, accessories, and software to obtain best quality imaging.

6:00 PM – 7:00 PM  Capitol Center Room

**Plant Biotechnology (BTCH) Working Group Business Meeting**

*Chair*: Manjul Dutt  
*Secretary*: Dilip Panthee

To communicate research ideas, techniques, and progress on the emerging techniques in micropropagation, cell selection, protoplast culture, embryo culture, haploidy, gene transfer, and molecular biology as they relate to horticultural crop improvement; and to encourage collaboration among researchers in the fields of plant genetics, germplasm and breeding, stress physiology, tissue culture, growth regulator research, and plant growth and development on problems of concern in improvement and propagation of horticultural crops.

6:00 PM – 7:00 PM  Augusta Room

**Plant Growth Regulation (PGR) Working Group Business Meeting**

*Chair*: Craig Campbell  
*Chair-elect*: T. Casey Barickman  
*Secretary*: Tripti Vashisth

To foster excellence in plant growth regulator research, to help and encourage new research talent in plant growth regulators, to unify research and industry workers in an attempt to solve horticultural problems related to plant growth regulator research between ASHS and other related organizations.

6:00 PM – 7:00 PM  Savannah 2 Room

**Plant Nutrient Management (PNM) Working Group Business Meeting**

*Chair*: Dharmalingam Pitchay  
*Chair-elect*: Donald Merhaut

To exchange ideas and information on mineral nutrition and to provide interaction between industry and public institutions interested in mineral nutrition of horticultural crops.

6:00 PM – 7:00 PM  Savannah 1 Room

**Plasticulture (PLAST) Working Group Business Meeting**

*Chair*: Carol Miles  
*Chair-elect*: Josh Freeman  
*Secretary*: Gordon Johnson

Heightened environmental awareness and recent advances in plasticulture technology are catalyzing all kinds of new approaches in horticultural production around the world. The purpose of the Working Group is to encourage and facilitate the mutual exchange of ideas and information concerning the use of plastics in various aspects of horticultural research, extension, education, and industry. This is accomplished by promoting plastics science and technology, by providing a forum for the exchange of plasticulture ideas and information, and by encouraging innovation.

6:00 PM – 8:00 PM  Valdosta Room

**Early Career Competition**

*Coordinators*: Kimberly Moore and John Dole

The purpose of this competition is to provide a platform for new scholars to advance their work, reputation to their peers, and to help facilitate peer-reviewed extension, teaching, or research from a wide range of horticultural professionals.

6:00 PM – 9:00 PM  Georgia Ballroom

**Graduate Student Poster Competition**

*Coordinator*: Dayton Wilde

Sign Up at the time of Abstract Submission was Required.

6:30 PM – 8:30 PM  Dahlberg Hall (Georgia State University)

**American Pomological Society Fruit Showcase**
### Wednesday, August 10, 2016

**7:00 AM – 8:00 AM**  
The Deli  
**Graduate and Undergraduate Student Morning Gathering - Wednesday**  
*Sponsor: Graduate Student Working Group*

**7:00 AM – 6:00 PM**  
Georgia Booth/Room  
**Poster Presenter Recording Room - Wednesday**

**7:00 AM – 6:00 PM**  
Georgia Booth/Room  
**Speaker Ready Room - Wednesday**

**7:30 AM – 6:00 PM**  
Rotunda Registration Counter  
**Registration Open - Wednesday**

**8:00 AM – 9:15 AM**  
Capitol Center Room  
**Oral Session-Growth Chambers and Controlled Environments 2**  
*Moderator: Michael Martin*

**8:00 AM**  
*Uniform Spectrum LED Film Illumination Device (FID), the Next Generation Lighting System for Indoor Horticulture and Farming*  
Grace Liu, Ryan Murphy, Garry Du, Minghua Dai and Changbin Chen*

**8:15 AM**  
*Improving Production Efficiency in Controlled Environment Agriculture By Utilizing Remote Sensing Technologies*  
Krishna Nemali* and Marc van Iersel

**8:30 AM**  
*Recovery of Photosynthetic Efficiency at Night: Utilizing Quantum Yield of Photosystem II and Maximum Chlorophyll Fluorescence*  
Michael Martin*, Marc van Iersel and Sue K. Dove

**8:45 AM**  
*Comparison of FDR Sensor Calibrations for Various Coir Dust and Perlite Mix Ratios*  
Jongyun Kim*, Yong Ha Rhie and Jong-Myung Choi

**9:00 AM**  
*Enhancing Photosynthesis with Far-red Light at Different Intensities of Red/Blue or Warm White LED Light*  
Shuyang Zhen* and Marc van Iersel

**8:00 AM – 9:15 AM**  
Savannah 1 Room  
**Oral Session-Nursery Crops 2**  
*Moderator: Jacob Shreckhise*

**8:00 AM**  
*Biochar Affects Nutrient Leaching from Container-grown Woody Plants with Different Water Requirements*  
Nastaran Basiri Jahromi*, Forbes Walker and Amy Fulcher

**8:15 AM**  
*Effect of Colored Shade Cloth on the Quality and Yield of Vegetable and Cut Flower in Mississippi*  
Tongyin Li*, Guihong Bi, Casey Barickman, Bill Evans and Judson LeCompte

**8:30 AM**  
*Soil-applied Paclobutrazol Controls Shoot Growth of Field and Container-grown Conifers*  
Bert Cregg* and Brent Crain

**8:45 AM**  
*Growth Response of Ilex and Hydrangea using Low-phosphorus Controlled-release Fertilizers*  
Jacob Shreckhise*, Jim Owen and Alexander Niemiera

**9:00 AM**  
*Improving Water and Nutrient Retention Capacity of the Pine Bark Substrate Using Amendments*  
Krishna Nemali* and Marc van Iersel

**8:00 AM – 9:30 AM**  
Atlanta 4/5 Room  
**Workshop-Horticulture Industry in India: Opportunities and Challenges**  
*Sponsor: Association of Horticulturists of Indian Origin*  
*Moderator: Tripti Vashisth*  
**Coordinators: Tripti Vashisth and Shehbaz Singh**

The goal of this workshop is: 1. To take closer look at the horticulture industry in India (research and development and commercial horticulture industry); 2. To promote research development and private sector enterprise partnership for successful application of new technology; 3. To create a sustainable Indian model of farm-to-market for a sustainable Indian horticulture industry.

**Description:** India is one of the leading producers of horticultural crops, however the production practices, harvest management system, and farm to market cold chain is still in the evolving stage. As India progresses into the 21st century with more than a billion people to feed and the World has to feed 9 billion by 2050 there is an urgent need for a US-India horticulture partnership. Therefore, this workshop will be focused to overview horticulture industry of India, research
and development to improve production and quality of specialty crops, and the strategies for sustainable horticulture industry as well as potential of partnership between horticulture industry of India and USA.

8:00 AM **Perspective of India and US Horticulture Industry**
Ajay Jha*

8:05 AM **Perspective of India and US Horticulture Industry**
Shehbaz Singh*

8:10 AM **Cluster Horticulture Farming and Value Chain Model in India**
Arjun Singh Saini*

8:35 AM **Role of Research in Promoting Indian Horticulture Industry**
Bhimanagouda Patil*

9:00 AM **Rise of Horticultural Industry in India Due to Advancement in Food Science and Technology**
Rakesh Singh*

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8:00 AM – 9:30 AM **Capitol South Room**

**Workshop-Teaching and Researching within the Field of Urban Horticulture**

**Sponsor:** Human Issues in Horticulture  
**Coordinator:** Tina Waliczek

The objective of this workshop is to identify and explore the various areas of teaching and research within Urban Horticulture, as well as to identify tools for developing a course to offer within the curriculum. 

**Description:** In the wake of urbanization and technological advances, public green spaces within cities are disappearing and people are spending more time with electronic devices than with nature. This workshop will explore the importance of horticulture to the lives, health, and well-being of urban populations. Topics will be explored through presentations from contributors to a new textbook, Urban Horticulture. These experts in research and practice from across the United States will discuss the history, importance, and benefits of selected topics in urban horticulture. The workshop and book examine types of public and private communities as well as state and federal programs to promote urban horticulture, including their history, management and administration, programming, evaluation, funding, and the benefits they provide to individuals and communities. It also reviews past and current research on school, community, public, and prison gardens. The use of the book as a resource to develop and integrate an Urban Horticulture course into the curriculum and/or as an interdisciplinary option will be discussed.

8:00 AM **Teaching and Researching within the Field of Urban Horticulture**
Tina Waliczek*

8:15 AM **An Introduction to Urban Horticulture**
Jayne Zajicek and Tina Waliczek*

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8:30 AM **Children and Nature in the Urban Environment**
Carolyn Robinson*

8:45 AM **Community Gardening**
Tina Waliczek*

9:00 AM **Urban Greening**
Amy McFarland*

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8:00 AM – 9:30 AM **Augusta Room**

**Oral Session-Vegetable Crops Management 2**

**Moderator:** David Suchoff

8:00 AM **Grafting and Rootstock Effects on Pepper (Capsicum annuum L.) Fruit Morphological and Chemical Characteristics Grown Under Plastic House Conditions**
Mahmoud Mohammad Ahmed Soltan*, Farouk Abd El-Salam El-Aidy, Mohamed Bassiouny El-Sawy, Sami Abd El-Gwaad Gaafar and Matthew Kleinhenz

8:15 AM **Comparative Analysis of Tomato Rootstock Root System Morphology**
David Suchoff* and Christopher Gunter

8:30 AM **Effect of Fertilizer Source and Grafting on Tomato Growth, Leaf Nitrogen, and Fruit Yield in High Tunnels**
Fairuz Buajaila*, Jeremy Cowan, Lynne Carpenter-Boggs, Debra A. Inglis, Ed Scheenstra and Carol Miles

8:45 AM **Grafting, Irrigation, and Fertilization Effects on Tomato Plant Growth and Fruit Yield and Quality**
Bizhen Hu*, Jennifer Moyseenko and Matthew Kleinhenz

9:00 AM **Grafted Seedless Watermelon Production with Different Planting Densities**
Qianru Liu*, Xin Zhao, Zack Black, Jeffrey Brecht and Charles Sims

9:15 AM **Grafting Watermelon to Control Verticillium Wilt Caused By Verticillium dahliae in Washington**
Sahar Dabiran*

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8:00 AM – 10:00 AM **Georgia 14 Room**

**Crucifer Crop Germplasm Committee Meeting**

**Presiding:** Mark Farnham

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8:00 AM – 10:00 AM **Macon Room**

**Oral Session-Postharvest 3**

**Moderator:** Jacqueline F. Nock
8:00 AM  **Browning Disorders and DA Meter Readings in ‘Gala’ Apples**
Nurdan Gunes*, Jacqueline Nock, Yosef Al-Shoffe, Yiyi Zhang and Christopher Watkins

8:15 AM  **Controlled Atmosphere (CA) and Dynamic CA-Chlorophyll Fluorescence (DCA-CF) Storage of ‘Gala’ Apple**
Jacqueline Nock*, Yosef Al-Shoffe, Nurdan Gunes, Yiyi Zhang, Harrison Wright, John DeLong and Christopher Watkins

8:30 AM  **Hot Water Treatment and Coatings to Modify Internal Atmosphere of Navel Orange As Determined By Respiration Rate, Gas Exchange, and Sensory Quality**
M G Chowdhury*, Jeffrey Brecht, Mark Ritenour and Charles A. Sims

8:45 AM  **Peach Quality: Lexicon Development for Sensory Descriptive Quality Assessment of Fresh Peaches**
Catherine Belisle*, Koushik Adhikari and Dario Chavez

9:00 AM  **Peach Quality: Determination of Physical and Chemical Attributes for Quality Evaluation of Fresh Peaches**
Catherine Belisle*, Koushik Adhikari and Dario Chavez

9:15 AM  **Flavor of Oranges As Impacted By Abscission Zone Formation for Trees Affected By Huanglongbing Disease and Lasiodiplodia Infection**
Elizabeth Baldwin*, Anne Plotto, Jinhe Bai, Wei Zhao, John Manthey, Smita Raithore and Mike Irey

9:30 AM  **The Regulation of Ethylene-responsive SLWRKYS on the Color Change during Tomato Fruit Ripening**
Xuequn Pang*, Ling Wang, Lu Wang, Yanan Tian, Jun Song and ZhaoQi Zhang

9:45 AM  **Late Season Physico-chemical Changes and Microbial Contamination in Pomegranate (Punica granatum) Fruit**
Hazel Wetzstein, Justin Porter* and Nadav Ravid

8:15 AM  **The Effect of Oxygenation of Water on Dissolved Oxygen Measurements in Irrigation Water and Container Substrate**
Erin J. Yafuso* and Paul Fisher

8:30 AM  **A Protocol to Estimate Plant Available Water Thresholds from Empirical Soil Moisture Sensor Data**
John Lea-Cox* and Bruk Belayneh

8:45 AM  **Yield and Growth Response of Strawberry (Fragaria x ananassa) to Deficit Irrigation**
Bruk Belayneh* and John Lea-Cox

9:00 AM  **Water Savings upon Conversion from Seepage to Sprinkler Overhead Irrigation for Potato Production: A Three-year On-farm Study**
David Liu*, Xiaolin Liao, Yuqi Cui, Lincoln Zotarelli and Crystal Snodgrass

9:15 AM  **Trees in Pavement: Modelling Water and Heat Flux in Street Tree Plantings using HYDRUS**
Francisco Javier de la Mota Daniel*, Susan D. Day, Jim Owen and Ryan D. Stewart

9:30 AM  **Introducing Salmon Safe Eco-labeling to Green Pea/Wheat Growers in Eastern Oregon**
Clive Kaiser*

9:45 AM  **The Effectiveness of Native Wetland Plants in Processing Grey Water in an Artificial Wetland System**
Elizka McFedridge, John Montoya* and Tina Waliczek

**Workshop-Pioneers of Pomology**

Sponsor: American Pomological Society
Moderator: Marvin Pritts
Coordinator: Marvin Pritts

The objectives of this workshop are to describe the scientific contributions of early North American pomologists, present their unique and lasting impacts on the world of horticulture, and provide current pomologists with aspirational role models for our own work.

Description: Scientific progress is built upon the efforts of those who have come before us, and through their experimentation and discoveries, our own work advances. This is certainly true of early pomologists who applied discoveries in genetics, physiology and plant development to improve the germplasm and production systems that help supply the world with flavorful and nutritious fruits. Marshall Wilder, Ulysses Hedrick, Elizabeth White, Frederick Coville, George Darrow, Paul Shephard and Wilfred Brierley were seven such individuals who made a lasting impact on North American horticulture. Even though buildings, cultivars and American Pomological Society awards are named after them, many pomologists are not familiar with their work.
8:00 AM  Paul Howe Shepard: A Man Dedicated to Fruit, Fun, and Service
Michele Warmund*

8:15 AM  The Pioneering Horticulturist Marshall Pinckney Wilder
John Clark*

8:30 AM  Elizabeth White and Frederick Coville-
Domesticators of the Highbush Blueberry
Mark Ehlenfeldt*

8:45 AM  Doctor and Horticulturist Ulysses Prentiss Hedrick: History of a Historian
Bruce Reisch*

9:00 AM  W. G. Brierley-a Pioneering Pomologist on the Prairie
Emily Hoover*

9:15 AM  George Darrow: Dean of American Small Fruit Breeders
Marvin Pritts*

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8:00 AM – 1:00 PM  Valdosta Room

International Symposium on Germplasm of Ornamentals - Wednesday
Separate registration is required.

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9:00 AM – 9:30 AM  Georgia Hall Pre-Function

Career Track-The Importance of being a Professional Mentor
Speaker: Dean A. Kopsell

In any field, having a professional mentor can help individuals develop and advance their careers. A strong mentoring relationship is built on collaboration and the commitment to the professional development of one or both of its participants. Current research has shown the top 5 things most Millennials want to learn are: technical skills in their area of expertise; self-management and personal productivity; leadership; industry/functional knowledge; and creativity/innovative strategies. In our discipline of Horticulture, all of these important skill are necessary to be successful. A great way to master these skills in the workplace is to find a professional mentor (or two). Advice and guidance from someone at the top of your desired field and/or in your desired position(s) can help you navigate your own path to success. How do you identify and approach a suitable mentor? How do you establish a mentor/mentee relationship? What things can you expect to be gained from the relationship? These and other questions will be discussed in the session.

9:00 AM – 10:00 AM  Atlanta 3 Room

SR-ASHS Executive Committee Meeting
Presiding: David Reed

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9:00 AM – 2:00 PM  Georgia Hall Pre-Function

Exhibits Open - Wednesday

9:00 AM – 5:00 PM  Georgia Hall Pre-Function

Career Center - Wednesday
Visit the ASHS Career Center for information on job, career and internship openings. Also, meet with industry, public garden and university professionals to get their insight on a variety of career paths. Tutorials on how to network utilizing the ASHS Membership Interface for advancing your career search and professional profile will also be given. Specific career sessions will be posted in the center each day.

9:00 AM – 5:00 PM  Georgia Ballroom

Poster Hall Open - Wednesday

9:30 AM – 10:00 AM  Atlanta 4/5 Room

Association of Horticulturists of Indian Origin (AHIO) Working Group Business Meeting
Chair: Tripti Vashisth
Secretary: Shehbaz Singh

To promote fellowship among the horticultural scientists of Indian origin and increase professional opportunities through increased interaction among them and with other American scientists; promote awareness of ASHS membership benefits and encourage membership pool from India; facilitate and support ASHS ad-hoc membership to attract Indian Horticulturists; to act as scientific ambassadors to facilitate an exchange of scientific information and cultural ideas between India and countries in North America; help share and transfer results of scientific research to India to improve agricultural productivity and quality.

9:30 AM – 10:00 AM  Capitol South Room

Human Issues in Horticulture (HIH) Working Group Business Meeting
Chair: Lucy Bradley
Chair-elect: Tina Waliczek

To stimulate discussion among those engaged in research and education programs in areas of horticulture that interact with the social sciences, such as economics, psychology, education, various forms of therapy, urban and rural sociology, and urban and rural development.

9:30 AM – 11:15 AM  Savannah 1 Room

Oral Session-Propagation
Moderator: Kedong Da
9:30 AM  Ecophysiology of Seed Germination in *Asarum sieboldii* Miq. (Aristolochiaceae) with Underdeveloped Embryos  
Seung Youn Lee, Yong Ha Rhee, Han Choi, Sun Hee Ryu, Ki Cheol Lee and Jeong Ho Lee*  

9:45 AM  Irrigation Requirements for Seed Production of Five *Lomatium* Species in a Semi-arid Environment  
Clinton Shock*, Erik B.G. Felbert, Alicia Rivera, Monty D. Saunders, Nancy Shaw and Francis F. Kilkenney  

10:00 AM  Orienpet Lily ‘Silk Road’ Callus Culture and Plant Regeneration  
Kedong Da* and Samantha Smith  

10:15 AM  In Vitro Propagation of Ornamental Grass ‘Bowles’ Golden’ (*Carex elata* ‘Aurea’)  
Kedong Da*, Samantha Smith and Amy Turner  

10:30 AM  Somatic Embryogenesis and Plant Regeneration of *Rhododendron fortunei*  
Xiangying Wei*, Dongming Pan, Chunying Zhang and Jianjun Chen  

9:30 AM – 11:15 AM  Georgia Ballroom  
**Poster Session-Undergraduate Student 3**  
Handheld Sensors Application for Fertilizer Management in Landscaping Ornamental *Justitia brandegeana*  
Gabriel Barraza*, Amir Khoddamzadeh, David Riera, Krish Jayachandran and Kateel Shetty (*Poster Board #016)  

Bourse Length Distribution and Return Bloom of Four Apple Cultivars  
Bofan Xie* (*Poster Board #017)  

Evaluation of Harvest Time on Postharvest Incidence of Red Drupelet Reversion Development and Firmness of Blackberry Cultivars  
Jack McCoy*, John Clark, Alejandra Salgado and Andrew C. Jecmen (*Poster Board #018)  

Interspecific Hybridization within *Penstemon* and Their Potential Uses in Urban Landscapes  
Sarah D. Harrison*, Bryson Ensign and Mikel Stevens (*Poster Board #019)  

Delta Absorbance Meter As a Means to Predict and Reduce Incidence of Browning Disorders  
Brianne Redman* and Chris Walsh (*Poster Board #020)  

9:45 AM  Investigating Stevia Germplasm in Georgia for Selecting Elite Stevia Germplasm  
Bipul Biswas*  

10:00 AM  Phenotypic Characterization of Sink-source Relationship Between Mother and Daughter Corms in Saffron (*Crocus sativus*)  
Majid Azizi, Ryan Murphy, Alexandria Schwier and Changbin Chen*  

10:15 AM  Resurrecting the Medicinal Uses of *Brassica oleracea* Seed: Combining Genotypic Information with Growth Protocols to Promote Antiinflammatory Chemicals  
Katherine Warpeha*, Carlos Montero, Nayfah Thnaibat, Shamaila Zaheer and Benjamin Okkema  

10:30 AM  Four Growing Seasons in High Tunnels  
Karen L. Panter*, Timm M. Gergeni, Casey Seals and Andrea R. Garfinkel  

10:45 AM  Irrigation Criteria Affects Both *Stevia rebaudiana* Leaf Yield and Leaf Steviol Glycoside Composition  
Cheryl A. Parris and Clinton Shock*  

11:00 AM  Effects of Different Temperatures on Some Biochemical Contents in Garlic Bulbs  
Meryem Ipek*, Asuman Cansev, Ahmet Ipek, Saime Koccat and Mehmet Cansev  

10:00 AM – 11:00 AM  Atlanta 3 Room  
**Emeriti (EMER) Working Group Business Meeting**  
Chair: Blanche Dansereau  
Chair-elect: L. Gene Albrigo  
Secretary: George Fitzpatrick  

To provide a forum for retired horticulturists where some issues of concern to ASHS can be defined, analyzed, and acted on; to establish a registry of retired horticulturists; and to identify an accessible reservoir of research, extension, and teaching talent that may be called on for help and guidance.  

10:00 AM – 11:30 AM  Georgia Hall  
Pre-Function  
**Special Session-Beginning Semi-automated Data Collection in Breeding Programs**  
Speakers: Michael Mazourek, Chris Hernandez, Lauren Brzozowski and Lauren Brzozowski  

Description: Rapid advances are being made in our ability to collect vast amounts of data from the plants we study. Many researchers are intrigued by making the jump from...
pen and paper to digital data collection methods but are not sure where to start. In this demonstration, off-the-shelf solutions to digital data collection from our vegetable breeding program will be presented and participants will be given the chance to try some of the equipment hands on. We will show solutions for barcode printing and labeling of plots that can be transferred to crates, fruit and subsamples. USB input solutions for sample weighing and plug and play barcode scanning. The types of devices we have tried and their advantages and limitations will be reviewed and tips will be shared.

10:15 AM – 11:15 AM  Savannah 2/3 Room

Oral Session-Floriculture 1

Moderator: William Wheeler

10:15 AM  Ethenon Applied during the Bulking Phase of Clematis Production Increases Shoot Number Following Vernalization
Uutta Samarakoon*, James Faust, Alexandra Carver and Jordan Baylor

10:30 AM  Growth and Development of Petunia (Petunia ×hybrida) Cultivars Grown Under Reduced Air Temperature Production in Combination with Bench-top Root-zone Heating
Roberto G. Lopez* and Madeline W. Olberg

10:45 AM  Sensor-based Automated Irrigation Impacts Pythium aphanidermatum Infection in Petunia X hybrida ‘Dreams Red’
William Wheeler*, Jean Williams-Woodward, Matthew Chappell, Paul Thomas and Marc van Iersel

11:00 AM  Productivity and Timing of Harvest Maturity of Gentian ‘Showtime Diva’; Influence of Dormancy-breaking Treatments, Development Stage, and Crown Bud Ontogeny
Uutta Samarakoon*, David Woolley, Ed Morgan and Keith Funnell

10:15 AM – 11:45 AM  Capitol South Room

Workshop-Developing Soft Skills in Tomorrow’s Leaders

Sponsor: Teaching Methods
Moderator: Brian Pearson
Coordinators: Brian Pearson and Alex Rajewski

Objectives: To share and communicate ideas on the development of soft or career skills in post-secondary students from varied perspectives.

Description: How do we develop the necessary soft skills in today’s college students to prepare them to become tomorrow’s leaders? This workshop, co-sponsored by the Teaching Methods and the Graduate Student Working Groups, will highlight and discuss various aspects of soft skill development from the perspective of graduate student, junior and senior faculty, and academic administrative members. Members will present strategies, ideas, and tips aimed at the importance of developing soft skills critical to meeting demands of the industry.

10:15 AM  What Are Soft Skills and Why Are They Important?
Brian Pearson*

10:35 AM  Poster Peer Review: What Makes an Effective Scientific Poster?
Alex Rajewski*

10:55 AM  How to Enhance Student Soft Skills in an Online Class?
Kimberly Moore*

11:15 AM  Career Skills: Our Process and Where We Are Today
Dennis Ray*, Joy Winzerling and Michael Staten

11:35 AM  Discussion

10:15 AM – 12:15 PM  Augusta Room

Oral Session-Improvements in Weed Control and Soil Nutrition Enhance Citrus Natural Resistance to HLB Disease

Moderator: Craig Ramsey

10:15 AM  Evaluation of Ozonated Water for Sanitizing Recycled Greenhouse Irrigation Water
Craig Ramsey*, Debra Newman, Paul Freebury and Steven Newman

10:30 AM  A Multiple Component Approach to Manage Citrus Diseases for Optimum Productivity
Don Huber* and Craig Ramsey

11:15 AM  Rehabilitation of Huanglongbing (Candidatus liberibacter) Infected Citrus Groves By Changes in Cultural Practices and Tree Nutrient Acquisition
Frank Dean* and Craig Ramsey

10:15 AM – 12:15 PM  Macon Room

Oral Session-Viticulture and Small Fruits 2

Moderator: Renee Threlfall

10:15 AM  Phylloxera (Daktulosphaira vitifolia) Utilizes Floral/Fruit Organ Developmental Genes As a Mechanism for Gall Formation on Leaves of Vitis
Trudi Grant*, Zhijian Li, Heidi Appel, Jack Schultz and Dennis Gray
10:30 AM  Impact of Cluster Thinning on ‘Pinot Noir’ Fruit Quality Across a Large-scale, Multi-site Study
   Patricia Skinkis*

10:45 AM  Influence of Woody Lateral Shoot Presence on ‘Pinot noir’ Bud Fruitfulness
   Alison L Reeve*, Patricia Skinkis and R Schreiner

11:00 AM  Defining and Automating Optimal Dormant Pruning
   Peter Hirst*, Tara Baugher, Noha Elifyk, Leland Glenna, Jayson Harper, Avinash Kak, Tony Koselka, Anouk Patel-Campillo, James Schupp and Brett Wallach

11:15 AM  Viticultural Traits of Three Pierce’s Disease-resistant Vitis vinifera L. Selections in Alabama
   Andrej Svyantek*, Elina Coneva, J. Raymond Kessler, James Spiers and Edgar L. Vinson

11:30 AM  Sensory and Composition Attributes of Arkansas Blackberry Cultivars
   Renee Threlfall*, Daniela M. Segantini and John Clark

11:45 AM  Changes in Composition and Descriptive Sensory Attributes of Blackberries during Postharvest Storage
   Daniela M. Segantini*, Renee Threlfall and John Clark

12:00 PM  Field Evaluation of Raspberry Cultivars in North Dakota
   Wenhao Dai*, Victoria A. Magnusson and Ryan R. Lenz

10:15 AM – 12:15 PM  Capitol North Room
   Special Session-How to Write an Award-winning Grant for Horticulture, Plant Science, and Food Systems
   Moderator: Thomas Bewick
   Coordinator: Thomas Bewick
   This session will provide training on how to write good grants—grants that get noticed, reviewed well, and are fund-getting. The goal is to provide the ASHS membership with strong advice and expertise on what makes a good grant, understanding RFPs, thorough development, the value and best practices for collaborations, how to understand evaluation rubrics, and more.

11:00 AM  The Panel Review Process
   Liang-Shiou Lin*

11:20 AM  Break

11:30 AM  Panel Manager Insights
   Dewayne Ingram*, Julia Kornegay and James McFerson

11:00 AM – 12:00 PM  Atlanta 3 Room
   HortScience Editorial Board Meeting
   Chair: M. Robbins
   Members:
   David Bryla
   Jianjun Chen
   Penelope Perkins-Veazie
   Clinton Shock

11:00 AM – 12:00 PM  Georgia 14 Room
   History of Horticultural Science (HIST) Working Group Business Meeting
   Chair: David Karp
   Secretary: David Karp
   To exchange information and promote interest in the history of horticultural technology and science.

11:30 AM – 12:45 PM  Savannah 1 Room
   Oral Session-Temperate Tree Nut Crops
   Moderator: Megan Muehlbauer

11:30 AM  Mechanical Pruning Improves Pecan Kernel Antioxidant Capacity over Three Consecutive Harvest Years.
   Yi Gong, Richard Heerema*, Joshua Sherman, Marisa T. Potter, Brad Lewis and Ronald B. Pegg

11:45 AM  Field Evaluation of Sixteen Rootstocks for Almonds Grown in Heavy Soil and Irrigated with Water High in Sodium, Chloride and Boron
   Roger Duncan*

12:00 PM  Hazelnut Pollenizers Affect Kernel Characteristics in European Hazelnuts (Corylus avellana)
   Megan Muehlbauer*, Thomas Molnar, John Michael Capik, Daniel Ward and David Hlubik

   Lu Zhang*, Maciej Zwieniecki and Louise Ferguson

12:30 PM  Twenty-eight Years of Pistachio Improvement
   Dan Parfitt*, Craig Kallsen and Joseph Maranto
11:30 AM – 12:45 PM  Capitol Center Room

Oral Session-Undergraduate Student 2

Moderator: Stephanie Burnett

11:30 AM  Risk Mitigation through Holistic Sustainable Horticultural Production Practices: The Case of Poultry in Northern Mozambique
Olivia Caillouet*, Lawton L. Nalley and Curt Rom

11:45 AM  The Effects of 1-Methylcyclopropene on Botrytis cinerea infection of Petunia x hybrida Flowers in the Post Harvest Environment
Jared Jent*, Katherine Bennett, Uttara Samarakoon and James Faust

12:00 PM  The Development and Use of SSR Markers for Penstemon scariosus, a Species with Horticultural Potential

12:15 PM  Subcellular Localization of Fern Glutaredoxin PvGrx5 in Transgenic Arabidopsis thaliana
Saul Sotomayor Leyton, Nicole J. Machi* and Bala Rathinasabapathi

12:30 PM  Sweetpotato Storage Root Yield As a Function of Plant Age
Andrew Barocco*, Don LaBonte and Bob Mirabello

11:45 AM – 12:15 PM  Capitol South Room

Teaching Methods (TCHG) Working Group Business Meeting

Chair: Kent Kobayashi
Chair-elect: Brian Pearson
Secretary: Jill Bushakra

To provide information and an area of interaction among educators at all levels and extension personnel interested in teaching, with emphasis on teaching procedures, effective use of photographic equipment and materials, and lists of source materials.

12:00 PM – 1:00 PM  Georgia Hall

Pre-Function

Career Track-Resume Review 2

Individual appointment with academic and industry professionals for 15-minute resume review. Appointments required.

12:00 PM – 1:00 PM  Atlanta 3 Room

Industry Division Advisory Council Meeting

Chair: Angela Davis
Members:
Jeff Norrie
Vanessa Gordon
Jozsef Racsko
Nancy Roe
Sahap Kultural
Holly Little
Neal De Vos
Peter Petracek
Craig Campbell

All Working Group Chairs and Chair-elects, Industry Division, are encouraged to attend.

12:00 PM – 1:30 PM  Atlanta 4/5 Room

Featured Speaker Luncheon: Elizabeth (Beth) Mitcham

Coordinator: Mathieu Ngouajio

Sponsored by the International Division

This is a ticketed event. Advance registration for this event is required.

International Opportunities for Research, Education, and Extension in Horticulture

Elizabeth Mitcham*

Abstract: There is a great need for adaptive horticulture research to improve horticulture production and marketing in developing countries. Availability and consumption of horticultural crops is well below recommended levels in many countries around the world. Work is needed to adapt improved varieties to various climatic zones, particularly to provide disease resistance, reduce the need for pesticides to control insect pests thereby improving the safety of horticultural products, reduce postharvest losses by improving handling practices, and link small holder farmers to markets, domestically, regionally and internationally. Horticultural crops are more challenging to produce and handle after harvest than staple crops, but provide essential nutrients and potential for income generation. The capacity of local institutions to continue to develop improved practices for local horticulture is essential. Collaborations with US institutions can help to build this capacity. There will be increasing emphasis on horticulture crops to improve livelihoods in the near future, and there is much work to be done.
12:00 PM – 2:00 PM       Atlanta 2 Room

Pi Alpha Xi Luncheon and Annual Meeting

We would love to see any and all non-members and members of Pi Alpha Xi attend our annual business meeting and luncheon. Catch up with old friends, make some new ones, and welcome new officers for 2016-2018! Our business meeting agenda will include updating our financial status, highlighting our 2016 photography contest, and welcoming new officers to the PAX National Board.

This is a ticketed event. Advance registration for this event is required.

12:15 PM – 1:00 PM       Georgia Ballroom

Poster Session - Consumer Horticulture and Master Gardeners

Highlights: A Newsletter Reporting on Trial Gardens and Horticultural Research at the South Mississippi Branch Experiment Station
Gene Blythe* (Poster Board #029)

Using Paper Bags for Growing Peaches in Backyards
Juan Carlos Melgar* and Guido Schnabel (Poster Board #030)

Developing and Implementing the Healthy Virginia Lawns Program
David Close* and John Freeborn (Poster Board #031)

Establishing an Extension Floral Design Program
James DelPrince* (Poster Board #032)

Factors That May Influence the Purchasing Behavior of U.S. Consumers in Relation to Bioplastic Plant Containers
Heidi Kratsch*, Melody Hefner, James A. Schrader, Chris Currey, David Grewell and William Graves (Poster Board #033)

12:15 PM – 1:00 PM       Georgia Ballroom

Poster Session - Fruit Breeding

Rosbreed: Enabling Marker-assisted Selection for Postharvest Deterioration in Peach
Jennifer Lewter*, John Clark, Laima Antanaviciute, Ksenija Gasic, Ralph Burrell, Carlos Crisosto, Zainab Mansur and David Byrne (Poster Board #161)

Development of a Standardized Phenotyping Protocol for Blackberry
Melinda H. Yin*, Melissa Clark, Mary Peterson, Nahla Bassil, Chad E. Finn and John Clark (Poster Board #162)

Parentage Verification of Blackberry Seedling Populations with a Microsatellite Fingerprinting Set
Melinda H. Yin*, Katherine A. Carter, April Nyberg, Melissa Clark, Mary Peterson, Chad E. Finn, John Clark and Nahla Bassil (Poster Board #163)

Rosbreed: Enabling Marker-assisted Breeding for Brown Rot (Monilinia spp.) Resistance in Peach
Ksenija Gasic, Guido Schnabel, Thomas Gradziel, Wanfang Fu*, Laima Antanaviciute and Ralph Burrell (Poster Board #164)

Breeding Activities on Pomegranate at the CREA-Fruit Tree Research Center, Rome, Italy
Flavio Roberto De Salvador*, Pjerin Preka, Stefano Cherubini and Petra Engel (Poster Board #165)

12:15 PM – 1:00 PM       Georgia Ballroom

Poster Session - Genetics and Germplasm 2

Transcriptional Landscape of the Apple Shoot Apex
Christopher Gottschalk* and Steve Van Nocker (Poster Board #119)

Identification of Differentially Expressed Genes for Mummy Berry (Monilinia vaccinii-corymbosi) Resistance in Blueberry
Ashley Yow* and Hamid Ashrafi (Poster Board #120)

Genetic Diversity of the North American Wild Kidney Bean (Phaseolus polystachios) in the Eastern U.S.
Theodore Kisha* and Ashley Egan (Poster Board #121)

Cloning a Putative Ortholog of Centromeric Histone 3 from Penstemon
Xin Ye* and Shaun Broderick (Poster Board #122)

Rootstock Variability in Pistachio
Ewelina Jacygrad*, John Preece, Deborah Golino and Richard Michelmore (Poster Board #123)

A Field Evaluation of Buxus Cultivar and Species Germplasm
Stan Hokanson* and Steven McNamara (Poster Board #124)

Notes on Citrullus spp. and Acanthosicyos naudinianus
Robert L. Jarret*, Gary R. Bauchan and W. Wyatt Oswald (Poster Board #125)
12:15 PM – 1:00 PM Georgia Ballroom

Poster Session - Growth Chambers and Controlled Environments 2

Evaluation of Organic Romaine Lettuce Yield Under a Protected Environment
T.C. Jayalath*, Elizabeth Little, George Boyhan, Robert Tate and Suzanne O'Connell (Poster Board #215)

Fish Hydrolysates Improve Growth of Containerized Lettuce
Chenping Xu and Beiquan Mou* (Poster Board #216)

Optimized Light Quality and Fertilizer Composition for Crop Production on the International Space Station
Sam Burgner*, Cary Mitchell and Gioia Massa (Poster Board #217)

Comparison of Rockwool and BVB Growth Media for Greenhouse Strawberry Production
Most Tahera Naznin, Xiuming Hao*, Shalin Khosla, Celeste Little, Jingming Zheng and Pam Fisher (Poster Board #218)

Controlled-release and Water-soluble Fertilizers Affect Growth and Tissue Nutrient Concentrations of Basil, Dill, and Parsley
Nicholas J. Flax* and Chris Currey (Poster Board #219)

12:15 PM – 1:00 PM Georgia Ballroom

Poster Session - Human Issues in Horticulture

Certified Horticulturist Exam for CEA / Greenhouse Is Crucial for ASHS
Kerrie Badertscher* and Kurt Badertscher (Poster Board #063)

Chainsaw Safety Training for Landscape and Tree Care Workers
Ellen Bauske*, Rolando Orellana and Alfredo Martinez-Espinoza (Poster Board #064)

12:15 PM – 1:00 PM Georgia Ballroom

Poster Session - Organic Horticulture 2

Nitrogen Cycling in Diversified Organic Vegetable Systems: The Role of Intensification and Season on N Availability and Leaching Losses
Debendra Shrestha*, Ole Wendroth and Krista Jacobsen (Poster Board #084)

Yield Potential of Fourteen Organic Sweetpotato Cultivars Grown in Various Mulches
Sochinwechi Nwosisi* and Dilip Nandwani (Poster Board #085)

Cultivar Evaluation of Organic Leafy Greens Grown in Greenhouse
Ravneet K. Sandhu* and Dilip Nandwani (Poster Board #086)

Yield Performance of Twenty-Six Organic Tomato Cultivars Grown in Tennessee
Varinder Sidhu* and Dilip Nandwani (Poster Board #087)

Fruit Yield and Quality of Heirloom Watermelon Cultivars Grown Organically
Juan Diaz-Perez*, Jesús Bautista and Guna Gunawati (Poster Board #088)

Performance of Twelve Organic Bell Pepper Varieties in the Piedmont of North Carolina
Sanjun Gu*, John Beck and Joseph Moore (Poster Board #089)

Evaluation of Organic Fertilizers on the Growth and Yield of New Mexico Green Chile (Capsicum annuum L.)
Laura Johnson* and Stephanie Walker (Poster Board #090)

Effects of Glucosinolates in Broccoli on Imported Cabbageworms and Implications for Organic Pest Management
Aimee L. Talbot*, Mary Rogers, Christopher R. Philips and Vincent Fritz (Poster Board #091)

12:15 PM – 1:00 PM Georgia Ballroom

Poster Session - Ornamental Plant Breeding 2

SSR Markers Developed from Sorghum for Genotyping Ornamental Grasses
Yi-Hong Wang* (Poster Board #143)

Cross Compatibility Studies in Lilac (Syringa L.)
Jason D. Lattier* and Ryan Contreras (Poster Board #144)

Southern Red Mite in Abelia
Leynar Leyton Naranjo*, Carol Robacker and Allen Byous (Poster Board #145)

Studies on Flower Color Inheritance and Relations Between Flower Color and Pigments in Cross-breeding Hybrids Between Iris dichotoma and Iris domestica
Wenji Xu*, Xiaoying Bi, Jiajun Lei and David Byrne (Poster Board #146)
Illustrated Distinctive Flower, Leaf, and Fruit Morphology Associated with Polyploidy in Tropical Ornamentals
Kenneth Leonhardt* and Sarah M. Marten (Poster Board #147)

Preliminary Study on the Optimization of the Heavy-ion Dose for Mutation Breeding in Three Lilium Species
Jinrong Bai*, Ying Kong, Lixin Lang, Xiaoying Dou and Fang Bao (Poster Board #148)

' Seasons in the Sun', a Colorful New Little Bluestem for Landscapes
Carol Robacker* and Melanie Harrison (Poster Board #149)

QTL Identification for Plant and Flower Traits Using Interspecific Recombinant Inbred Populations Derived from Petunia axillaris, P. exserta, and P. integrifolia
Zhe Cao*, Yufang Guo, Qian Yang, Yanhong He, Mohammmed Fetouh, Ryan M. Warner and Zhanao Deng (Poster Board #150)

De Novo Assembly, Annotation, and Characterization of Root Transcriptomes of Caladium (Caladium ×hortulanum)
Zhe Cao* and Zhanao Deng (Poster Board #151)

12:15 PM – 1:00 PM Georgia Ballroom

Posters Session - Photography

Using 360 Degree Media and Spherical Projection Technologies to Create an Immersive Experience.
James McConnell* (Poster Board #062)

12:15 PM – 1:00 PM Georgia Ballroom

Posters Session - Postharvest 2

Stress Physiology of Postharvest Balsam Fir Trees As Influenced By Shaking and Baling
Ernest A. Korankye*, Rajasekaran Lada, Samuel K. Asiedu and Claude Caldwell (Poster Board #175)

Changes in Endogenous Hormone Levels Explains Seasonal Variation in Balsam Fir Postharvest Needle Abscission
Mason T. MacDonald and Rajasekaran Lada* (Poster Board #176)

Evaluation of Volatile Compounds Responsible for the Aroma of Fresh Peaches
Catherine Belisle*, Koushik Adhikari, Uyen Phan and Dario Chavez (Poster Board #177)

Soluble Solid Content, Mineral Nutrition, and Harvest Maturity Affect Flavor Deterioration of Sweet Cherries during Storage/Shipping
Yan Wang*, Yu Dong, Shunchang Cheng, Jiaming Guo and Lynn Long (Poster Board #178)

Peach Fruit Flesh Types Differ in Softening Rates in Cold Storage and Shelf Storage
Daniel Ward* and Hemant Gohil (Poster Board #179)

Watercore Incidence in 'Red Delicious' Apple in Relation to IAD Values: Effect of Harvest Date, and Harvista and Retain Applications
Kazem Arzani*, Jacqueline F. Nock and Christopher Watkins (Poster Board #180)

The Effects of Netting, Fruit Position, and Maturity on the Development of Soft Scald in Malus domestica 'Honeycrisp' During Storage
Manoella Mendoza*, Ines Hanrahan, James McFerson and James Matthes (Poster Board #181)

Delays to Blueberry Cooling and Effects on Storage Quality Under Commercial Conditions
Steven Sargenti*, Adrian D. Berry, Jeffrey Brecht, Merce T.A. Santana and Shen Zhang (Poster Board #182)

Changes in Nutraceutical Compounds during Postharvest Storage of Blackberries
Daniela M. Segantini*, Renee Threlfall, John Clark, Cindi R. Brownmiller and Luke R. Howard (Poster Board #183)

Elucidating Mechanisms of Postharvest Shelf-life in Blueberries
Yi-Wen Wang*, Shan Jing, Rosalia Garcia-Torres, D. Nesmith and Savithri Nambeesan (Poster Board #184)

12:15 PM – 1:00 PM Georgia Ballroom

Posters Session - Propagation 2

Pre-grafting Foliar Trimming Intensity Effects on Healing and Regrowth of Newly Grafted Pepper Seedlings
Mahmoud Mohammad Ahmed Soltan*, Farouk Abd El-Salam El-Aidy and Matthew Kleinhenz (Poster Board #227)

Somatic Embryogenesis of the Rare Cultivars, Stewartia malacodendron “Delmarva” and Stewartia ovata “Red Rose”
Heather Gladfelter*, Thomas Clark and Scott Merkle (Poster Board #228)

Symplocos paniculata, a New Ornamental Plant Species
Qiang Liu*, Youping Sun, Jinzheng Chen, Peiwang Li, Changzhu Li, Lijuan Jiang and Genhua Niu (Poster Board #229)

Micropropagation of Black Cohosh
Guochen Yang*, Zhongge (Cindy) Lu and Sanjun Gu (Poster Board #230)
Effects of Collection Date, Wounding, and Auxin Treatment on Rooting of Amelanchier spicata Propagated By Stem Cuttings
Gregory J.R. Melcher* and Bryan J. Peterson (Poster Board #231)

Jump Starting New Pawpaw Variety Production for the Industry: Developing Grafting and Top Working Approaches for Growers
Sheri Crabtree*, Srijana Thapa Magar, Jeremiah Lowe and Kirk Pomper (Poster Board #232)

Tissue Culture Banana Program on Guam - Successes and Challenges
Alicia Wiecko* (Poster Board #233)

Establishing Sugarcane (Saccharum spp.) Genetic Resources in Vitro
Maria Jenderek*, Ana Ledo, Elise Staats and Tomas Ayala-Silva (Poster Board #234)

Micropropagation of Fragrant Rhododendron fortunei Via in Vitro Shoot Culture
Xiangyi Wei*, Dongming Pan, Chunying Zhang and Jianjun Chen (Poster Board #235)

Date Palm Cultivar Identification through Simple Sequence Repeats (SSRs): A Practical Approach for Next-generation Commercial Date Palm Micropropagation Production
Salah E. Zaid* and Harrison Hughes (Poster Board #236)

12:30 PM – 1:30 PM Macon Room
HortIM Program Launch Overview
Chair: Michael Arnold

12:45 PM – 1:45 PM Savannah 1 Room
Temperate Tree Nut Crops (NUTS) Working Group Business Meeting
Chair: John Preece
Chair-elect: Richard Heerema

To bridge the wide communications gap among nut tree researchers, to exchange ideas, results, and experiences in similar orchard crops, and to provide a forum to discuss various aspects of research unique to tree nut crops.

1:00 PM – 1:45 PM Georgia Ballroom
Poster Session - Computer Applications in Horticulture

CPA Horoscope: The Future of Particle Analysis
Paul Bartley*, Brian Jackson and William Fonteno (Poster Board #057)

The Nuts and Bolts of Computerized Particle Analysis
Paul C. Bartley*, Brian Jackson and William Fonteno (Poster Board #058)

CPA Vs. Rotap: Granulometric Analytical Comparison
Paul C. Bartley*, Brian Jackson and William Fonteno (Poster Board #059)

The Plant Elements of Design Plant Selection Program for Sustainable Landscaping
Julie Weisenhorn* (Poster Board #060)

RSS Feed and News Aggregator Mobile Apps to Disseminate Information for Research, Extension, and Teaching
Kent Kobayashi* (Poster Board #061)

1:00 PM – 1:45 PM Georgia Ballroom
Poster Session - Environmental Stress Physiology

Using the Electrolyte Leakage Method to Determine Freeze Tolerance in Peach Fruitlets
Christopher Lerew and Juan Carlos Melgar* (Poster Board #386)

Isolation and Characterization of an Ethylene Biosynthesis Gene in Response to Waterlogging in Chrysanthemum
Dongmei Yin*, Fadi Chen, Sumei Chen, Dian Ni and Cai-Zhong Jiang (Poster Board #387)

Transcriptome Analysis of Differentially Expressed Genes upon Treatment with Hydrogen Cyanamide in Peach
Shweta Chhajed*, Tripti Vashisth, Mercy Olmstead and James W. Olmstead (Poster Board #388)

Physical and Chemical Changes in Silty-Clay Soils in Response to Humic Acid and Sulfuric Acid, and Its Effects on Avocado Plant Water Status
Pilar Gil Montenegro*, Claudia Bonomelli, Dayanne Venegas, Carlos Guzmán, Patricio Oyarce, Daniela Cea and Valentina Celis (Poster Board #389)

The Interactive Effect of Elevated Carbon Dioxide, Temperature, and Water Deficit Stress on Growth and Flower Development of Petunia (Petunia ×hybrida)
Sarah A. Mills*, Youyoun Moon and Nicole L. Waterland (Poster Board #390)

The Effect of Exogenous Calcium and Osmotic Stress on Temporary Water Stress Tolerance in Bedding Plant Seedlings
Suejin Park*, Youyoun Moon and Nicole L. Waterland (Poster Board #391)
Morphological and Physiological Evaluations of Grafted Tomato Plants in Response to Salinity Stress
Abdul Manan Saleem, Avtar K. Handa and Hye-Ji Kim* (Poster Board #392)

Effects of a Nonionic Surfactant on Growth, Physiology, and Drought Tolerance of Coleus (Solenostemon scutellarioides L. Codd)
Daniel P. Greenwell*, Jeff L. Sibley, Carolyn Robinson, Adam Newby and Joe Eakes (Poster Board #393)

Relative Salt Tolerance of Twenty-Four Chili Pepper Cultivars
Youping Sun* and Genhua Niu (Poster Board #394)

Evaluation of Salt Tolerance in Cultivated Potatoes (Solanum tuberosum L.) Based on Plant Growth and Tuber Yield
Ju Sung Im*, Ji Hong Cho, Kwang Soo Cho, Dong Chil Chang, Hong Seob Yu, Wha Yeong Kim, Su Young Hong and Yong Ik Jin (Poster Board #395)

Salinity Effects on Growth and Root Rot Inhibition in Palms
Samar Shawaqfeh* (Poster Board #396)

Performance and Compostability of Improved Horticulture Containers Made of Bioplastics and Biocomposites
James A. Schrader*, Kenneth G. McCabe, Jake J. Behrens, Chris Currey, David Grewell and William R. Graves (Poster Board #287)

Commercial Evaluation of Large, Biopolymer-based Biocontainers for Herbaceous Perennial Production
Nicholas J. Flax*, Chris Currey, James A. Schrader, David Grewell and William R. Graves (Poster Board #288)

Postharvest Storage Conditions and Flower Life of Tulips
Isabel A. Branstrom* and William Miller (Poster Board #289)

1:00 PM – 1:45 PM Georgia Ballroom

Poster Session - Floriculture 1

Combining Close Spacing and Pinching to Increase Yields of Lisianthus Cut Flower Stems
H Wien* (Poster Board #282)

Analysis of Floral Scent in Cymbidium ‘Sunny Bell’ By Electronic Nose and Gas Chromatography-mass Spectrometry
Yun Su Baek, Pue Hee Park, Hye Ryun An, Pil Man Park, Oh Keun Kwon and In-Chang Son* (Poster Board #283)

Study of Volatiles from the Flower of Bouvardia longiflora Using Electronic Nose and HS-SPME-GC-MS
Mi Seon Kim, Do Kuk Kim, Pue Hee Park, Jae A Jung, Oh Keun Kwon, In-Chang Son* and Yun Su Baek (Poster Board #284)

Inter Simple Sequence Repeat Data Reveals the Physical Characteristics of Helleborus
Do Kuk Kim, Gi An Lee, Jae A Jung, In-Chang Son, Jong Taek Park and Mi Seon Kim* (Poster Board #285)

Identification of Single Nucleotide Polymorphism (SNP) Markers Associated with Botrytis Resistance in Lily (Lilium spp.)
Geung-Joo Lee*, Saminathan Subburaj, Shipra Kumari, Ji-Young Jang and Hyung-Soon Kim (Poster Board #286)

A Study to Investigate the Effects of Aging and Pile Management on Processed Pine Bark
Laura Kaderabek*, Brian Jackson and William Fonteno (Poster Board #297)

Fifty Shades of Gley-Using Munsell Soil Color to Assess Pine Bark’s True Colors
Laura Kaderabek*, Brian Jackson and William Fonteno (Poster Board #298)

Effect of Rice Hull Mulch on Nutrient Concentration of Fertilized Irrigation Water
James Altland*, Jennifer Boldt and James Locke (Poster Board #299)

Amelanchier spicata from Four Provenances in New England Differ in Early Seedling Growth and Are Insensitive to Fertilizer Nitrogen Source
Gregory J.R. Melcher* and Bryan J. Peterson (Poster Board #300)

Rooting of Young Interior Douglas-fir Seedlings in Response to a Commercial Liquid Extract of the Marine Macroalga Ascophyllum nodosum
Joanne E. MacDonald, Elizabeth A. Mills and Jeffrey Norrie* (Poster Board #301)

Root Pruning and Auxin Application Alter Root Development of Hickories
Brandon Miller* and William Graves (Poster Board #302)
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<th>Time</th>
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<th>Session</th>
<th>Title</th>
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| 1:00 PM – 1:45 PM | Georgia Ballroom          | **Poster Session - Ornaments** | Evapotranspiration Adjustment Factors (ETAF) of 30 Large Landscape Plantings in Six Climate Zones in California  
Janet S. Hartin*, Loren R. Oki, David W. Fujino, William Baker and Bruce Duenow (Poster Board #320)  
A Novel Approach for Determining Root Biomass in Plant-based Research  
Adam F. Newby*, Daniel E. Wells, Anthony T. Bowden and Catherine Browne (Poster Board #321)  
Margaret Hoffman* (Poster Board #322)  
Phytotoxicity of Herbicides, Fungicides, and Insecticides/Acaricides on Ornamental Horticultural Crops in Southeastern U.S. for Interregional Research Program (IR-4)  
B. A. Fraelich*, B.T. Scully and C.L. Palmer (Poster Board #323)  
Colorado Multi-site Woody Plant Trials  
James Klett* and Eric Hammond (Poster Board #324)  
Determining the Fungal Associations of Two Co-occurring Invasive Orchids in Miami-Dade County  
Shan Wong*, Jason Downing and Hong Liu (Poster Board #325)  
Effect of Mulching and Irrigation on Growth and Disease Incidence of Dwarf Boxwood  
Shu Yang*, Tim Smalley, Jean Williams-Woodward and Marc van Iersel (Poster Board #326)  
National Clean Plant Network for Roses  
David Byrne*, Deborah Golino, Natalie Anderson, Sue Sims, Kevin Ong and Brent Pemberton (Poster Board #327) |
| 1:00 PM – 1:45 PM | Georgia Ballroom          | **Poster Session - Viticulture** | Abscisic Acid and Kaolin for Heat Stress Mitigation during Strawberry Plug Transplant Establishment  
Prosanta K. Dash*, Carlene Chase, Shinsuke Agehara, Lincoln Zotarelli and Zhengfei Guan (Poster Board #259)  
Effect on Yield and Vegetative Growth of Prohexadione Calcium Treatments to Southern Highbush Blueberry “Emerald” and “Star”  
Erick Smith* and James Jacobs (Poster Board #260)  
Screening and Marker Selection for Anthracnose Susceptibility in Florida Blueberry Cultivars  
Doug Phillips* and James W. Olmstead (Poster Board #261)  
Cold Hardiness of Southern Highbush Blueberry (Vaccinium corymbosum L. interspecific hybrid) Floral Buds  
Lauren E. Redpath*, Erick Smith, Anish Malladi, Dario J. Chavez, Orville Linstrom, Jeremy Taylor and Mercy Olmstead (Poster Board #262)  
Suitable Sources of Nitrogen and Potassium Fertilizer for Fertigation of Northern Highbush Blueberry  
David Bryla* (Poster Board #263)  
Descriptive Sensory Attributes of Arkansas Blackberries Harvested Multiple Years  
Renee Threlfall*, Daniela M. Segantini and John Clark (Poster Board #264)  
Application of Biodegradable Mulches in Day-neutral Strawberry Grown in Western Washington  
Curtis Faustich, Lisa DeVetter, Carol Miles* and Shyam Sablani (Poster Board #265)  
Commercial Extract from the Brown Seaweed Ascophyllum nodosum (Acadian®) Improves Yield and Quality of Hydroponically Grown Strawberries  
William Neily*, Josie Todd, Chris Fowler and Katy Griegoschewski (Poster Board #266)  
Evaporative Cooling with Sprinklers to Reduce Heat-related Fruit Damage in Northern Highbush Blueberry  
Fan-Hsuan Yang* and David Bryla (Poster Board #267)  
Effects of Supplemental LED Light on a Strawberry Plant on the Bottom Bed When Cultivated on a Two-floor Bed System  
Hyoil Choi*, Gyeonglee Choi, Hancheol Rhee and In-Chang Son (Poster Board #269) |
| 1:00 PM – 1:45 PM | Georgia Ballroom          | **Poster Session - Weed Control & Pest Management** | A New Insecticide/Acaricide Formulation from Lycopersicon hirsutum f. glabratum  
George Antonious* (Poster Board #092) |
Effects of Anaerobic Soil Disinfestation and Herbicide Application on Tomato Production and Fruit Quality
Haichao Guo, Xin Zhao*, Erin N. Rosskopf, Nancy Kokalis-Burelle, Joseph Albano, Jason Hong, Francesco Di Gioia and Monica Ozores-Hampton (Poster Board #093)

Effect of Sodium Hypochlorite as a Disease Control Against Violet Root Rot Caused by Helicobasidium mompa on Apple Trees
Sung-Hee Lee*, Yeuseok Kwon, Hyun-Man Shin, Ik-Jei Kim, Sang-Yeong Nam, Eui Yon Hong, Daeil Kim and Jae-Soon Cha (Poster Board #034)

Variation Among Muskmelon Cultivars in Attractiveness to Striped Cucumber Beetle and Severity of Bacterial Wilt
Ahmad Shah Mohammadi*, Ricky E. Foster, Elizabeth T. Maynard and Daniel S. Egel (Poster Board #095)

Pesticide-free Rhizosphere Protection-Bug Bags
Kurt Badertscher* (Poster Board #096)

Poster Session-Marketing and Economics

1:00 PM – 1:45 PM

Consumer Preference for Sustainable and Organic Processed Vegetables
Chengyan Yue* and Paul Mitchell (Poster Board #040)

Consumers of Texas Alternative Agriculture: A Brief Study of Preferences and Beliefs
Elizabeth E. Evers*, Mark Anderson and Tim Pannkuk (Poster Board #041)

Producers of Texas Alternative Agriculture: A Brief Study of Beliefs
Elizabeth E. Evers*, Mark Anderson and Tim Pannkuk (Poster Board #042)

Texas Alternative Agriculture: A Brief Comparison of the Beliefs of Consumers and Producers
Elizabeth E. Evers*, Mark Anderson and Tim Pannkuk (Poster Board #043)

Cost-benefit Analysis of DNA Marker Selection in Sweet Cherry Breeding
Seth Wannemuehler*, Chengyan Yue, Nnadozie Oraguzie, James Luby, R. Karina Gallardo and Vicki A. McCracken (Poster Board #044)

1:00 PM – 2:00 PM

Production and Harvest Mechanization (MECH) Working Group Business Meeting
Chair: Rachel Elkins
Chair-elect: Stephanie Walker
Secretary: Rachel Elkins

To provide an informal organization to bring together those interested in production and harvest mechanization needs, opportunities, and problems in horticultural crops.

1:00 PM – 4:00 PM

Specialty Crop Research Initiative Project Director Workshop
Sponsor: Administrators
Coordinator: Thomas Bewick

1. Examine strategies for project management 2. Examine strategies for integrating extension and project evaluation into all projects. 3. Highlight projects that are ending in 2016.

1:45 PM – 3:15 PM

Workshop-Impact of Rootstocks on Mineral Nutrition
Sponsor: Pomology
Moderator: Gregory Peck
Coordinators: Esmaeil Fallahi, Stefano Musacchi and Elina Coneva

During this workshop we will explore the influence of rootstocks on the uptake and availability of mineral nutrients in
tree-fruit crops. The objective is to inform ASHS attendees about the latest advances in understanding the physiological and genetic mechanisms that control rootstock performance. Speakers will also address the impact of the soil-root and rootstock-scion interfaces. Additionally, presenters will discuss novel tools and advances in production recommendation that can be implemented by tree fruit producers.

**Description:** Over the past few decades there have been tremendous increases in tree-fruit orchard productivity. New rootstock genotypes have played a crucial role in these advances and have allowed for the development of highly efficient orchard production systems that integrate shorter tree heights with increased light capture orchard systems and greater planting densities, all while improving crop quality. Our understandings of the physiological and genetic mechanisms that allow rootstocks to be highly productive are tied to their ability to uptake and translocate minerals from the soil. Through this colloquium, we will delve into the current research on the relationship between rootstock genotypes and mineral nutrition of fruit trees. Both applied and basic research studies will be presented.

**Oral Session-Ornamental Plant Breeding 1**

**Moderator:** Lisa Alexander

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<th>Time</th>
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<tr>
<td>1:45 PM</td>
<td>The Influence of Apple Rootstock Genotypes on the Cultivar Tree Performance, Productivity, Fruit Quality, and Mineral Nutrition</td>
<td>Esmaeil Fallahi*, Stefano Musacchi, Lee Kalcsits, Bahar Fallahi and Bahman Shafii</td>
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<tr>
<td>2:05 PM</td>
<td>Breeding Stone Fruit Rootstocks for High-efficiency Orchards</td>
<td>Gregory Reighard*</td>
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<tr>
<td>2:25 PM</td>
<td>Genetic Control of Mineral Uptake Correlated to Fruit Quality in Apples</td>
<td>Gennaro Fazio*, Michael A. Grusak and Terence Robinson</td>
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<tr>
<td>2:45 PM</td>
<td>Soil Microbial Mediation of Mineral Uptake By Apple Rootstocks</td>
<td>Gregory Peck* and Ashley A. Thompson</td>
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**Oral Session-Vegetable Breeding**

**Moderator:** Carlos Avila

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<tr>
<td>1:45 PM</td>
<td>Early Arrival and Adoption of Cucurbita (Pumpkin, Squash) in Renaissance and Post-Renaissance Italy</td>
<td>Teresa A. Lust and Harry S. Paris*</td>
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<td>2:00 PM</td>
<td>Ground Jewel™ and Ground Dew™ Are Two New Tomato Inbred Lines for Growers in the Northern and Short-season Locations</td>
<td>Ryan Murphy, Duane McDowell and Changbin Chen*</td>
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<td>2:15 PM</td>
<td>Evaluation of Salt Tolerance at Germination Stage in USDA Cowpea Germplasm</td>
<td>Waltram Second Ravelombola*, Yuejin Weng, Dennis Motes and Ainong Shi</td>
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<td>2:30 PM</td>
<td>Characterization of Solanum habrochaites-based Resistance Against the Tomato-Potato Psyllid</td>
<td>Carlos Avila*, Thiago Marconi and Zenaida Viloria</td>
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<td>2:45 PM</td>
<td>Heritability Analysis for Heat Stress Tolerance in Tomato (Solanum lycopersicum L)</td>
<td>Dilip Panthee*, Jonathan Kressin and Ann Piotrowski</td>
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<td>3:00 PM</td>
<td>Using Genotyping-by-Sequencing to Develop Broccoli Markers for Construction of a High-density Linkage Map and to Identify QTL Associated with Heat Tolerance</td>
<td>Sandra E. Branham*, Zachary J. Stansell, David M. Couillard and Mark Farnham</td>
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<td>3:15 PM</td>
<td>Relationship of the I-3 Gene for Resistance to Fusarium Wilt Race 3 with Resistance to Races 1 and 2 in Tomato</td>
<td>Samuel F. Hutton, Jian Li and Jessica Chitwood*</td>
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<td>3:30 PM</td>
<td>Demarcation of Genomic Regions Influencing the Non-blighting Trait in Tomatoes</td>
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<td>Leticia M. Kumar*, Samuel F. Hutton and Gary Vallad</td>
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**EDNESDAY**

**WEDNESDAY PROGRAM SCHEDULE**

**1:45 PM – 3:45 PM**

**Capitol North Room**

**Special Session-Career Development Tool–Gaining International Presence for Promotion and Tenure**

**Moderator:** John Dole  
**Coordinator:** Mathieu Ngouajio

Session will provide insight on what is needed from an administrative perspective to gain promotion and tenure in a university and how international reputation plays a part. How do you gain an international presence? How do you get invited to speak at international conferences? This has become an increasingly important area due to evidence of international reputation being more widely required as a key criterion for tenure and promotion (especially promotion to full professor at many institutions of higher education). Speakers will show successful engagement strategies and how ASHS can be the conduit to establish international connections for our members.

**1:45 PM**

**University Administration Perspective on International Activities for Promotion and Tenure**

John Dole*

**2:00 PM**

**Spend Just a Few Weeks - Gain Valuable International Experience**

John Griffis*

**2:25 PM**

**Opportunities for Global Engagement through USDA/NIFA Programs**

Otto Gonzalez*

**2:50 PM**

**Developing International Recognition in Horticulture**

Elizabeth Mitcham*

**2:00 PM – 3:00 PM**

**Atlanta 3 Room**

**Scholarship Awards Committee Meeting**

**Chair:** Stan Hokanson  
**Members:**  
Kimberly Moore  
Jeremy Cowan  
Kauahi Perez  
Diane Beckles  
Jacob Domenghini  
Larry Knerr

**2:00 PM – 3:00 PM**

**Valdosta Room**

**Oral Session-Plant Nutrient Management 1**

**Moderator:** Chiwon W. Lee

**2:00 PM**

**Optimizing Nitrogen Fertilizer Rates for Commercial Southern Highbush Blueberry Production during Establishment**

Yang Fang*, Jeffrey Williamson, Rebecca Darnell, Yuncong Li and David Liu

**2:15 PM**

**Optimization of Growth-stage Specific Nitrogen Fertilization Improves Strawberry Growth and Yield**

Shinsuke Agehara and Bhagatveer Sangha*

**2:30 PM**

**Effects of Phosphorus Rates on Phosphorus Uptake and Yield of Tomato Grown on a Calcareous Soil**

Qiang Zhu*, Monica Ozores-Hampton, Yuncong Li and Kelly Morgan

**2:00 PM**

**Transcriptional Regulation of Heat Shock Proteins and Ascorbate Peroxidase By CtHsfA2b from African Bermudagrass conferring Heat Tolerance**

Bingru Huang* and Xiuyun Wang

**2:15 PM**

**Light Regulation of Arabidopsis PIRIN1 Indicates Functions in Environmentally-induced Stress Physiology of the Seedling**

Yang Chen*, Carlos Montero, Danielle Orozco-Nunelly, DurreShahwar Muhammad, Ashley Williams, Thomas Ronan, Benjamin Okkema and Katherine Warpeha

**2:30 PM**

**Single-cell Type Proteomics for Studying Stress-induced Pollen Infertility**

Suping Zhou, Hui Li, Yingde Zhu*, Sarabjit Bhatti and Ted Thannhauser

**2:45 PM**

**Photosynthesis Response of Tomato Plants Subjected to Drought Treatments That Differed in the Rate but Not Severity or Duration of Exposure to Drought Stress**

Krishna Nemali* and Marc van Iersel

**3:00 PM**

**Effects of Applying Hydrogen Peroxide on Phosphorus Uptake and Adhase Activity of Flooded Snap Bean Roots**

Danyang Liu*, David Liu, Anna-Lisa Paul, Kelly Morgan and Huangjun Lu

**3:15 PM**

**Variation in Salt Tolerance Among Genetically Diverse Lines of Cultivated Sunflower (Helianthus annuus L.)**

Caitlin D.A. Ishibashi* and John M. Burke

**3:00 PM – 3:30 PM**

**Valdosta Room**

**Oral Session-Environmental Stress Physiology 2**

**Moderator:** Krishna Nemali
2:45 PM The Effects of Foliar Nutrient Applications on Fruit Split, Quality, and Yield and Leaf Nutrient Concentration of ‘Wonderful’ Pomegranate (Punica granatum L.)
John M. Chater* and Lauren Garner

3:00 PM Fertilization Is One of the Most Economical and Environmentally-friendly Management Tools in Container Nursery Crop Production
Youbin Zheng* and Mary Jane Clark

3:15 PM Changes in Nitrate Contents of Hydroponically Grown Leaf Lettuce As Influenced By the Ratio of Ammonium and Nitrate Forms of Nitrogen in Nutrient Solution
Changhyeon Kim, Larry J. Cihacek and Chiwon Lee*

2:00 PM – 3:45 PM Capitol Center Room
Oral Session-Fruit Breeding 1
Moderator: Terrence James Frett

2:00 PM Evaluation of Field Book: An Open-source Android App for Collecting Phenotypic Data in a Peach Breeding Program
Ksenija Gasic*, Trevor Rife, Jesse A. Poland, Sook Jung, Kate M. Evans, Nnadozie Oraguzie, Lisa DeVetter, Cameron Peace, Mercy Olmstead and Dorrie Main

2:15 PM High density, Multi-population Consensus Genetic Linkage Map for Peach (Prunus persica L. Batsch)
Laima Antanavičiūtė*, Pere Arus, Asma Abdelghafar, Daniele Bassi, Laura Rossini and Ksenija Gasic

2:30 PM Pedigree-based Quantitative Trait Loci Analysis for Fruit Quality and Phenological Traits in the University of Arkansas Peach and Nectarine Breeding Program.
Terrence James Frett*, John Clark, Alejandra Salgado, Jonathan Fresnoedo-Ramirez, Paul Sandefur, Ksenija Gasic, Cameron Peace, Marco Bink, Eric van de Weg and Sujeet Verma

2:45 PM Introgressing Multiple Disease Resistance Alleles into Elite Apple Cultivars By DNA-informed Breeding
Feixiong Luo*, Paul Sandefur, Kate Evans, John Norelli and Cameron Peace

3:00 PM Major Locus for Tolerance to Botryosphaeria dothidea in Prunus
Daniel Mancero-Castillo*, Thomas Beckman, Jose X. Chaparro and Philip Harmon

3:15 PM Evaluating Bacterial Spot [Xanthomonas arboricola pv. Pruni (Xap)] Resistance for Molecular Characterization and Incorporation of Marker-assisted Breeding (MAB) into the University of Arkansas Peach and Nectarine Breeding Program
Terrence J. Frett*, John Clark, Paul Sandefur, Brant Smith, Burton H. Bluhm, Andrew C. Jecmen, Jonathan Fresneno-Ramirez, Eric van de Weg, Marco Bink, Cameron Peace, Ksenija Gasic and Sujeet Verma

3:30 PM Implementing Marker-assisted Selection (MAS) for Bacterial Spot [Xanthomonas arboricola pv. Pruni (Xap)] Resistance in the University of Arkansas Peach and Nectarine Breeding Program
Terrence James Frett*, John Clark, Paul Sandefur, Andrew C. Jecmen, Ksenija Gasic, Cameron Peace and Seonghee Lee

2:00 PM – 5:00 PM Georgia Hall Pre-Function
Exhibitors’ Workshop-New Innovations in Commercial Horticultural Applications 2

Description: To introduce conference participants to new and innovative technologies available for research, teaching, and extension.

2:00 PM Web-based Solutions for Mesh Networks, Weather Stations and Portable Instrumentation
Wendy Sayre*

2:20 PM The LI-6800: The Next Generation of Gas Exchange and Fluorescence Instrumentation
Eric Price*

2:40 PM Latest Light Measuring Innovations from Apogee Instruments
Schuyler Smith*

3:00 PM Collect Data, Photos, and GPS Coordinates with a Handheld Windows Tablet
Steven Gylling*

3:20 PM Decagon Devices
Sandy Kopczynski*

3:00 PM – 4:00 PM Atlanta 3 Room
Water Utilization and Management (WUM) Working Group Business Meeting
Chair: Susmitha Nambuthiri
Chair-elect: John Majsztrik
To gather and disseminate information on water conserva-
tion, crop water requirements, irrigation methods, and effi-
cient and effective water management.

3:15 PM – 3:45 PM    Macon Room

Pomology (POM) Working
Group Business Meeting
Chair: Gregory Peck
Chair-elect: Elina Coneva
Secretary: Stefano Musacchi

To assist the planning and development of research, exten-
sion, and teaching programs in pomology and to serve the
current and future needs of the fruit industry.

3:30 PM – 4:30 PM    Atlanta 4/5 Room

Undergraduate (UG) Working
Group Business Meeting
Chair: Jacob Oakley
Chair-elect: Dylan Neuhaus

To foster collegiality among undergraduate students in hor-
ticultural sciences.

3:30 PM – 5:15 PM    Savannah 1 Room

Oral Session-Marketing and Economics
Moderator: Mary Meyer

3:30 PM    Does Consumer Awareness of Neonicotinoid Insecticides Influence Their Preferences for Plants?
Alicia Rihn* and Hayk Khachatryan

3:45 PM    Seed Your Future: A National Initiative to Promote Horticulture
Mary Meyer*, Douglas Needham, Brian Trader, John Dole, Michael Neff and Marnie Conley

4:00 PM    Benchmarking the Efficiency of Transplanting Plant Cuttings
Yai Ulrich Adegbola* and Paul Fisher

4:15 PM    The Social Responsibility Journey of the Canadian's Peat Moss Industry
Jean-Michel Couture* and Stephanie Boudreau

4:30 PM    Horticulture and Social Media: Florida Hops Case Study
Richard Smith*, Brian Pearson, Amanda Morgan, Chris Marble and Crystal Conner

4:45 PM    Virginians Perceptions of Fresh Produce Food Safety
Bridget Behe*, Amber Vallotton and Joyce Latimer

5:00 PM    The Role of Trust: How Consumers Value Information from Different Retail Outlets
Ben Campbell*, Julie Campbell and Victoria Wallace

3:45 PM – 5:15 PM    Savannah 2/3 Room

Workshop-Yes Virginia, There Really Is an Economic Impact of Consumer Horticulture.
Sponsor: Consumer Horticulture and Master Gardeners
Moderator: Lucy Bradley
Coordinator: Lucy Bradley

1. Define economic impact for consumer horticulture pro-
grams. 2. Identify realistic economic indicators for consumer horticulture programs. 3. Review case studies where eco-
nomic impact was successfully documented.

Description: Presenters will introduce a working definition of the economic impact of consumer horticulture programs. They will also provide an overview of economic indicators that can be used to evaluate the financial impact of con-
sumer horticulture programs. Specific examples of effective
documentation of economic impact will be shared as will a
summary of a review of the literature regarding assessment
of economic impact consumer horticulture.

3:45 PM    Considerations to Quantify the Impact of Consumer Gardening
Bridget Behe*

4:25 PM    Designing Evaluation Metrics That Meet State Needs and Recognize Local Realities
Natalie Bumgarner* and Joseph Donaldson

4:45 PM    Exploring Economic Impacts of Educational Programming for Sustainable Residential Landscapes: A Literature Review
Charlotte Glen*, Gary Moore, Koralalage Sunil Upali Jayaratene and Lucy Bradley

4:00 PM – 5:30 PM    Augusta Room

Oral Session-Growth Chambers and Controlled Environments 3
Moderator: Hye-Ji Kim

4:00 PM    Growth Promotion By a Microbial Biostimulant Depends on Application Frequency in Semi-protected Fall-to-
Spring Lettuce Production in Ohio
Zheng Wang*, Julie Laudick and Matthew Kleinhienz

4:15 PM    Seed Density, Fertilizer Concentration, Temperature, and Substrate Depth Effect on Three Microgreen Species of the Brassicaceae Family
Jonathan A. Allred* and Neil Mattson
4:30 PM  The Effects of Early and Late-season Production with Row Cover Usage of Lettuce (Lactuca sativa) in High Tunnels
Krystal Conway*, Anthony Silvernail and Kirk Pomper

4:45 PM  Temperature Drop Improved Responses of Greenhouse Sweet Peppers to Long Photoperiod of Supplemental Lighting
Xiuming Hao*, Yun Zhang, Xiaobin Guo, Celeste Little, Jingming Zheng and Shalin Khosla

5:00 PM  Effects of Water Stress and Cold Treatments on the Germination of Two Conifers (Pinus nigra and Pinus brutia) Species from Turkey
Ismail Koc*, Dilek Yildiz and Pascal Nzokou

5:15 PM  Evaluating Water Use of Greenhouse Tomato As Affected By Light Quality of LED and HPS Supplemented during Winter Months
Hye-Ji Kim* and Cary Mitchell

4:00 PM – 5:30 PM  Macon Room
Oral Session-Organic Horticulture 2
Moderator: Kathleen Delate

4:00 PM  The Influence of High-tunnel Production on Yield and Fruit Quality of Organically Grown Tomato
Xin Zhao*, Dustin Huff, Zack Black, Jeffrey Brecht, Kim M. Cordasco and Laila Khandaker

4:15 PM  Results of Two-year Study into the Effect of Winter Cover Crops on Production of High-tunnel Vegetable Crops
Luke Freeman* and Curt Rom

Julie Laudick*, Brian Gardener and Matthew Kleinhenz

4:45 PM  Improving Conservation through Reduced Tillage and Cover Crop-based Rotations in Organic Vegetable Production
Kathleen Delate* and Cynthia Cambardella

5:00 PM  High Tunnel Pest Exclusion (HTPE) System Using Shade Cloth for Reducing Leaffooted Bugs and Caterpillars from Vegetable Crops
Ayanava Majumdar*, James Miles and William East

5:15 PM  Hoop House and Open Field Organic Tomato Trials for Production and Quality Characteristics in the Upper Midwest
Kitt Healy, Brian Emerson, Terri Theisen, Thomas Hickey and Julie C Dawson*

4:00 PM – 5:30 PM  Capitol North Room
Workshop-Food Safety: Routes of Contamination on the Fresh Produce and the National Implementation of Food Safety Modernization Act (FSMA)
Sponsor: Vegetable Crops Management
Coordinator: David Liu

The objectives of this workshop are 1. to promote research and extension on food safety of the fresh produce industry; 2. to provide the science framework on food safety for vegetable production and handling; and 3. to increase the vegetable industry's awareness on food safety.

Description: Food safety is critical to vegetable producers, handlers, and consumers. Any outbreak of foodborne illness may cause severe public health problems. In the US, there are more than 9 million cases of food borne illness including severe outbreaks attributed to Cyclospora cayetanensis every year. These cases of food borne illness can be significantly reduced or minimized if vegetable producers, handlers, and consumers get trained on the basics of food safety to prevent contamination on fresh produce and understand the Food Safety Modernization Act (FSMA) guidelines. The workshop will provide three presentations to review some of the current advances in Cyclospora outbreaks; intensive field level fresh produce safety programming, and the national implementation of Food Safety Modernization Act (FSMA).

4:00 PM  Implementation of Food Safety Modernization Act (FSMA) in Fresh Produce of Vegetables
Qingren Wang*

4:25 PM  Cyclospora Outbreaks, Routes of Contamination, and Implications on the Fresh Produce Industry
Ynes Ortega*

5:00 PM  The 10-year Anniversary of Intensive Field-level Fresh Produce Safety Programming in Arizona: What Works and What Doesn't
Kurt Nolte*

4:00 PM – 5:30 PM  Capitol Center Room
Workshop-The Biology of Precision Breeding and Its Application to Plant Genetic Improvement
Sponsor: Genetics & Germplasm
Moderator: Dennis Gray
Coordinator: Sadanand Dhekney
Precision breeding (PB) is a newly enabled approach to plant genetic improvement that transfers only specific desirable traits among sexually-compatible relatives via the relatively stable mitotic cell division pathway in order to avoid the significant genetic disruption imposed upon conventional breeding by meiosis (sexual reproduction). The workshop's objective is to present the concept of 'Precision Breeding' for plant genetic improvement, its status, and the ramifications to agricultural development when PB is implemented.

**Description:** Precision breeding (PB) is a newly-enabled approach to plant genetic improvement that transfers only specific desirable traits among sexually-compatible relatives. PB is a logical extension of conventional breeding (CB) inasmuch as it is fully consistent with the plant lifecycle. PB builds upon decades of both fundamental and applied research aimed at bypassing the disruption of trait recombination caused by the sexual reproduction process (meiosis) by allowing gene insertion to be accomplished via the significantly more stable and predictable mitotic cell division pathway. For an increasing number of crop plants, it is now possible to transfer only pre-tested genes and other genetic elements that express known traits among sexually-compatible relatives. PB allows genetic improvement to be accomplished “precisely” by making changes only to desired traits, while leaving the rest of the plant’s favored qualities intact; this is often impossible with conventional, meiosis-driven, breeding, other than for certain homozygous self-compatible crop species. Precision breeding adopts teachings and discussions that focus within the well-established frameworks of botany, plant genetics and breeding, using accepted scientific terminology. This workshop will describe the development of precision breeding, its applications already demonstrated in apple, grape and potato, and its implications relative to future regulatory requirements in the USA.

**4:00 PM**

**The Biology of Precision Breeding**

Dennis Gray*, Zhijian Li, John Cordts, Trudi Grant, Deborah Dean and Sadanand Dhekney

**4:30 PM**

**New Cultivars Released or in Development Using Precision Breeding**

Sadanand Dhekney*, Zhijian Li, Trudi Grant and Dennis Gray

**4:50 PM**

**Regulatory Issues Associated with Precision Breeding Technologies**

John Cordts, Dennis Gray and Robert Trigiano*

**5:10 PM**

**Identification and Testing of Endogenous Genetic Elements for Precision Breeding**

Zhijian Li*, Trudi Grant, Sadanand Dhekney and Dennis Gray

**4:00 PM – 5:45 PM**

**Valdosta Room**

**Oral Session-Ornamentals/ Landscape and Turf 2**

**Moderator:** Chris Marble

**4:00 PM**

**Selection, Evaluation, and Introduction of Betula spp. By the NDSU Woody Plant Improvement Program**

Todd West*

**4:15 PM**

**Landscape Potential of Rare Species of Dirca Assessed at Five Sites Across the United States**

William Graves*

**4:30 PM**

**Florida-Friendly Landscaping™: Promoting Biodiversity in the Urban Environment**

Esen Momol*

**4:45 PM**

**Drought and Heat Promote Macrophomina phaseolina Infection in Impatiens hybrida**

Shaun Broderick*, Clarissa Balbalian and Maria Tomas-Peterson

**5:00 PM**

**Safety of Preemergence Herbicides Applied during Propagation of Three Woody Nursery Crops**

Chris Marble* and Annette Chandler

**5:15 PM**

**National Grass Trial Results from Eight States with 22 Cultivars, 2012-2015**

Mary Meyer*, Barbara Fair, Cynthia McKenney, Brent Pemberton, Matthew Taylor, Pamela Bennett, James Klett, Alan Shay, Kimberly Moore, Leonard Perry and Jane Rozum

**5:30 PM**

**Comparison of Fresh, Paraffin-based, and Resin-based Techniques for Sectioning Bark of Dirca L.**

Zachary J. Hudson*, William R. Graves, Tracey M. Stewart and Harry T. Horner

**4:15 PM – 6:00 PM**

**Capitol South Room**

**Oral Session-Pomology 3**

**Moderator:** Zachary Brym

**4:15 PM**

**The Fruiting Wall Orchard: Tree Training Results for Sweet Cherries, Nectarines, Apricots, and Plums**

Gregory Lang*

**4:30 PM**

**Modeling Dormancy for Changing Crop Suitability**

Denise Neilsen*, Paul Wiersma, Rebecca Darbyshire, Gerry Neilsen, Tom Forge and Gaetan Bourgeois

**4:45 PM**

**Stem Water Potential Is a Sensitive Indicator of Sweet Cherry Fruit Growth and Quality during Near-harvest Irrigation Withholding**

Todd Einhorn*, Matthew Whiting, Ambroise Sarret and Hannah Mazeski

**5:00 PM**

**Smaller ‘Montmorency’ Tart Cherry Trees with Larger Relative Canopy Dimensions Produce More Fruit with Higher Sugar Content**

Zachary T. Brym*
5:15 PM  Evaluating Fruit Quality and Maturity in Large Open Vase-trained ‘D’Anjou’ Trees
Sara Serra*, David R. Rudell, James Mattheis and Stefano Musacchi

5:30 PM  Performance of Pear Rootstocks in North America
Jaume Lordan*, Terence Robinson, Suzanne Blatt, Poliana Francescatto and Charles Embree

5:45 PM  Peach Fruit Bagging in the Southeastern U.S.
Jaine Allran*, Guido Schnabel and Juan Carlos Melgar

4:30 PM – 5:30 PM  Atlanta 4/5 Room
Association of Collegiate Branches (ACB) Annual Business Meeting

5:00 PM – 8:30 PM  Level 1 Foyer
Aquarium Social Event
Advance Registration Required

Atlanta is home to the largest aquarium in the western hemisphere. Join other conference attendees in an outing to see this interesting venue. Ticket includes transportation to and from the aquarium, admission, and a meal ticket to enjoy dinner in the aquarium cafe.

5:15 PM – 5:45 PM  Savannah 2/3 Room
Consumer Horticulture and Master Gardeners (CHMG) Working Group Business Meeting
Chair: Ellen Bauske
Chair-elect: Sheri Dorn

To become familiar with cooperative extension home horticulture programs within the United States, to identify and develop the ability to respond to home horticulture information needs, and to improve methods of information delivery to home horticulture audiences.

5:30 PM – 6:00 PM  Capitol Center Room
Genetics and Germplasm (GG) Working Group Business Meeting
Chair: Jill Bushakra
Chair-elect: Michael Dossett
Secretary: Theodore Kisha

To provide a forum for plant breeders, geneticists, botanists, general horticulturists, and others interested in collecting, preserving, evaluating, distributing, and/or using germplasm in or for research or teaching programs.

5:30 PM – 6:00 PM  Capitol North Room
Vegetable Crops Management (VCM) Working Group Business Meeting
Chair: David Liu
Chair-elect: T. Casey Barickman
Secretary: Ramon Arancibia

To promote research and extension of a systems approach to production and utilization of vegetables.

6:00 PM – 7:00 PM  Augusta Room
Vegetable Breeding (VGBR) Working Group Business Meeting
Chair: Samuel F. Hutton
Chair-elect: William Kazokas
Secretary: Carlos Avila

To promote the exchange of information on breeding procedures, screening techniques, and other areas of specific interest to vegetable breeders, to encourage the exchange of germplasm among vegetable breeders, and to maintain current lists of vegetable variety names and descriptions.

6:00 PM – 8:00 PM  Capitol Center Room
SCRI Project Meeting
Coordinator: Dennis Gray
### Thursday, August 11, 2016

**7:00 AM – 8:00 AM**
**The Deli**
**Graduate and Undergraduate Student Morning Gathering - Thursday**  
**Sponsor: Graduate Student Working Group**

**7:00 AM – 2:00 PM**
**Georgia Booth/Room**
**Poster Presenter Recording Room - Thursday**

**7:00 AM – 2:00 PM**
**Georgia Booth/Room**
**Speaker Ready Room - Thursday**

**7:30 AM – 3:00 PM**
**Rotunda Registration Counter**
**Registration Open - Thursday**

**8:00 AM – 9:30 AM**
**Capitol Center/South**
**Presidential Address and ASHS Annual Business Meeting**  
**Speaker:** Curt Rom  
**Topic:** What Will We Grow Next?

**8:00 AM – 5:00 PM**
**Valdosta Room**
**International Symposium on Germplasm of Ornamentals**  
Separate registration is required.

**9:00 AM – 1:00 PM**
**Georgia 14 Room**
**Certified Horticulturist Examination**

**9:00 AM – 3:00 PM**
**Georgia Hall Pre-Function**

**9:00 AM – 3:00 PM**
**Georgia Ballroom**
**Poster Hall Open - Thursday**

**9:30 AM – 10:30 AM**
**Capitol Center/South**
**Featured Speaker: Dr. Jian-Kang Zhu**

**10:30 AM – 12:00 PM**
**Atlanta 3 Room**
**American Pomological Society (APS) Annual Business Meeting**  
**Sponsor: American Pomological Society**  
**Presiding:** Peter Hirst

**10:30 AM – 12:00 PM**
**Savannah 2/3 Room**
**Oral Session-Vegetable Crops Management 3**  
**Moderator:** Chris Benedict

**10:30 AM**
**Designing and Implementing Multi-dimensional Outreach Activities**  
Chris Benedict* and Carol Miles

**10:45 AM**
**Using the GoPro InfraBlue22 Lens for NDVI Vegetable Measurements**  
Kurt Nolte* and Rosa Bevington

**11:00 AM**
**Vegetable Plant Stand Counting: Using RGB and NIR Cameras**  
Rosa Bevington* and Kurt Nolte

**11:15 AM**
**Low-temperature Exposure at Early Foliar Stages Affects Both Cauliflower Head Initiation and Development Rate**  
Gaetan Bourgeois*, Stéfanie Larocque-Desroches, Virginie Logier-Paquette, Danielle Choquette, Andréanne Ferland and Maxime Beaudoin-Galaise

**11:30 AM**
**Effects of Post-anthesis Detasseling on Sweet Corn Yield**  
Rebecca Brown*
11:45 AM  Deterioration of Biodegradable Plastic Mulch in Pumpkin Production in Northwest Washington  
Shuresh Ghimire*, Ed Scheenstra, Jeremy Cowan, Henry Sintim, Markus Flury, Debra A. Inglis and Carol Miles

10:30 AM – 12:00 PM  Augusta Room

Workshop-Sensor-based Technology for Ecophysiological Research of Horticultural Crop Production Systems
Sponsor: Crop Physiology
Moderator: T. Casey Barickman
Coordinator: T. Casey Barickman

The objective of this workshop is to introduce how sensor-based technologies can be used in plant ecophysiological research for horticultural crop production systems.

Description: Plant ecophysiology is the study of how the environment, both physical and biological, interacts with plant physiological responses, such as plant growth, water relations, gas exchange, stress, and defense. In particular, it examines how the climate and nutrients affect the plant's physiological processes and how plants respond to highly variable environmental conditions. In order to understand how the environment interacts with plant physiology, researchers have developed innovative new technologies for sensing the environment and plant health. Sensors are devices that measure physical properties and record quantitative information. For example, one type of soil sensing technology detects moisture indicating when to irrigate and could increase irrigation efficiency for horticultural crops. Although collecting sensor data can be easy, data are only useful if the sensors are properly calibrated, placed in the correct setting for a particular parameter, and the limitations of sensors are understood. This workshop will cover topics such as how to select the best sensor(s) for a particular research purpose, how to determine the optimal number of sensors to be used, and how to use sensors to collect accurate and precise data.

10:30 AM  Unlocking the Potential of Soil Sensor Data
John Lea-Cox*

11:00 AM  Arduino: A Low-cost Option for Automating Data Collection and Controlling Environmental Conditions
Marc van Iersel*

11:30 AM  A Review of Instruments and Approaches for Automated Measurement of Crop Water Status
Bruce Bugbee*

10:30 AM – 12:00 PM  Macon Room

Workshop-Washing Your Produce—Sanitizing Solutions
Sponsor: Produce Quality, Safety, and Health Properties

Moderator: Matthew Kleinhenz
Coordinator: Annette Wszelaki

The objectives of this session are to: 1. Provide educators with current options and best management practices for enhancing food safety postharvest; 2. Address compliance with NOP and FSMA standards in the postharvest arena; and 3. Introduce participants to novel emulsified essential oil-based sanitizers that were recently evaluated as organic alternatives for washing produce.

Description: Food safety is one of the utmost concerns to the produce industry. Based on outbreak investigations, points of original contamination occurred during growing, harvest, packing or holding of produce on the farm. The root cause of many outbreaks has been linked to postharvest contamination. Postharvest water contamination, in particular, including water used for rinsing, washing, cooling, waxing, icing, or moving fruits and vegetables, can be quickly amplified by errors in postharvest management. Current regulations and guidance documents (EPA, USDA-NOP, FDA-FSMA) on appropriate postharvest handling, including washing and packing house sanitation, can be confusing to interpret and thus many times are not successfully implemented. Proper application of sanitizers can reduce the number of pathogens and prevent cross contamination in wash water and on food contact surfaces. The advantages and drawbacks of different sanitizers, intended use in growing operations or on surfaces, and management factors that influence the useful and adverse results of these sanitizers are rarely understood. The need for effective integration of regulations, such as the National Organic Program and the FSMA Produce Safety Rule, with best management practices for contaminated water and increased demand for mitigation steps represents a significant and reoccurring risk for the produce industry. We will discuss the integration of sanitizers into postharvest handling to meet FSMA and NOP requirements, as well as the evaluation of some novel sanitizers.

10:30 AM  So Many Options, so Little Time: Selecting the Right Sanitizer for Your Operation
Diane Ducharme*

10:50 AM  Hitting the Mark for Food Safety and Organic Production in Postharvest
Annette Wszelaki*

11:10 AM  Filling the Pipeline: Considerations for Novel Sanitizers in Organic Production
Laurel Dunn*

11:30 AM  Panel Discussion with Speakers
Diane Ducharme*, Laurel Dunn and Annette Wszelaki

Career Track - Career and Recruiter Talks

Find out what different career options are available for horticulturists. Presenters who work as horticultural therapists, consultants, professors, and industry scientists will be speaking about what they do and tips for careers in their fields. In
addition, there will be representatives speaking about types of jobs and careers in specific companies and universities.

**Oral Session-Fruit Breeding 2**

**Moderator:** Michael Dossett

**10:30 AM** Evaluating New Color Sensor Technology—the Nix Pro for Horticulture Applications  
Jennifer Lewter*, John Clark, Bill Belovicz, Jamie Randell and Ksenija Gasic

**10:45 AM** DNA Test Cards: Delivering Trait-predictive Discoveries to Breeders  
Cameron Peace*, Julia Piaskowski, Paul Sandefur, Ashley Powell, Feixiong Luo, Daniel Edge-Garza, Terrence Rowland, Chris Johnson and Stijn Vanderzande

**11:00 AM** Development and Characterization of a Molecular Marker Associated with Female Flowers in Muscadine Grape (*Vitis rotundifolia*)  
Patrick Conner*, Paige Catotti, Joann Conner, Jennifer Lewter and John Clark

**11:15 AM** *Vaccinium arboreum* Is a Potential Source for Breeding Deeper Root Systems in Southern Highbush Blueberry  
Gerardo H. Nunez*, Hilda Rodriguez-Armenta, Rebecca Darnell and James W. Olmstead

**11:30 AM** Development of Genomic Information in American Cranberry  
Giovanni Covarrubias-Pazaran*, Brandon Schlautman, Luis Diaz Garcia, Lorraine Rodriguez-Bonilla, Joseph Deutsch, Edward Grygleski, Massimo Iorizzo, James Polashock, Nicholi Vorsa and Juan Zalapa

**11:45 AM** Identifying Hurdles and Potential for Developing New Early Season Red Raspberry (*Rubus idaeus* L.) Cultivars in British Columbia  
Michael Dossett* and Chaim Kempler

**12:00 PM** Post-release Performance of MP-29, an Interspecific Plum-peach Hybrid Rootstock for Peach  
Thomas Beckman* and José X. Chaparro

**12:15 PM** Fruit Characters and Volatile Organic Components in Peach-to-Nectarine Mutants  
Chunxian Chen*, Jinhe Bai, William Okie and Anne Plotto

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**Oral Session-Ornamental Plant Breeding 2**

**Moderator:** Qiuxia Chen

**11:15 AM** QTL Mapping of Flowering and Branching Traits in Petunia  
Qiuxia Chen*, Ryan M. Warner and Yufang Guo

**11:30 AM** Map Construction and Black Spot Resistance QTL Detection in Diploid Rose  
Muqing Yan*, David Byrne, Patricia Klein and Qianni Dong

**11:45 AM** Protoplast Viability in the Lilacs and Prospects for Cell Manipulation  
Nathan Maren* and Todd West

**12:00 PM** Tetraploid Induction of *Hibiscus moscheutos* in Tissue Culture  
Zhitong Li* and John Ruter
12:00 PM – 12:30 PM        Augusta Room

**Crop Physiology (CRPP) Working Group Business Meeting**

Chair: T. Casey Barickman  
Chair-elect: Samar Shawaqfeh  
Secretary: Yan Chen

To provide a cross-commodity forum for discussions of the integrative physiology of horticultural crop growth, development, and cropping. Areas of interest include (but are not limited to): patterns of vegetative and reproductive development; crop radiation interception and microclimate; dry matter production and partitioning; cultural and environmental influences on crop physiology and productivity; integration of carbon, water and nutrient physiology; modeling of physiological processes.

12:00 PM – 12:30 PM        Macon Room

**Produce Quality, Safety, and Health Properties (QUAL) Working Group Business Meeting**

Chair: Penelope Perkins-Veazie  
Chair-elect: Matthew Kleinhenz  
Secretary: Chris Gunter

To promote more creative research, teaching, and industry liaison among horticulturists and food scientists.

12:00 PM – 2:00 PM        Atlanta 2 Room

**Featured Speaker Luncheon:**  
Craig A. Campbell

Coordinator: Angela Davis

Sponsored by Industry Division

This is a ticketed event. Advance registration for this event is required.

**Growing Roots, Shoots, and Fruits – Expanding Portfolios of Biorational Pesticides for Organic and Conventional Crop Producers**

Craig Campbell*

Abstract: Across the world, there is a growing interest in sustainable food production. This awareness about the importance of environmental stewardship shows that people are ready to be reacquainted with the plants, animals, and land that produce our food. The time seems right to increase the adoption of biorational pesticides & biopesticides (BPB) in all segments of agriculture. Showcasing the excellent research on IPM solutions based on BPB to replace or complement conventional chemicals is one way to do this. Fruits and vegetables form the cornerstone of a healthy diet and we can do more to show the public how horticulture benefits society.

It is important to remember that BPB may require special considerations in their development and commercial use. Product shelf life can be considerably shorter than with conventional pesticides. Product application timing is strongly linked to efficacy. Sometimes biopesticides cannot on their own provide complete control of pathogens or insects, but are highly effective when used along with other products. Biopesticides in general, and particularly microbial products, have important nuances. First in the research phase, and later when they are used by growers (stored, prepared, tank-mixed, and applied).

Major grocery chains are regulating pesticide use on produce while also demanding larger and larger quantities of certified organic fruits and vegetables. Recently some of the biggest food companies announced that they are recreating food recipes in response to consumer demands for natural ingredients. For example, Kraft Foods will soon replace all artificial colorants in its iconic macaroni and cheese with turmeric, paprika, and annatto. Think of how the demand for these three horticultural crops could increase. Nestle Foods intends to stop using synthetic vanillin and start using natural vanilla in some or all of its candy. Scientists like us need to help producers and consumers alike by researching the most effective crop production strategies.

12:00 PM – 4:00 PM        Capitol North Room

**Career, Assistantship, and Graduate School Fair**

Visit the ASHS Career, Assistantship, and Graduate School Fair for information on job, career, and internship openings. Also, meet with industry, public garden, and university professionals to get their insight on a variety of career paths.

12:15 PM – 1:15 PM        Atlanta 4/5 Room

**Propagation (PROP) Working Group Business Meeting**

Chair: Javier Castillon  
Chair-elect: Youping Sun

To exchange ideas and information on propagation of horticultural crops and to provide interaction between industry and public institutions interested in propagation of horticultural crops.

12:30 PM – 1:15 PM        Georgia Ballroom

**Poster Session - Citrus Crops**

*Citropsis gilletiana for Citrus Germplasm Enhancement and Cultivar Development*  
Ethan Nielsen* and Jude Grosser (Poster Board #270)

*Impact of Nutrient Applications on Asian Citrus Psyllid Populations and Tree Physiology*  
Julian Gonzales*, Mamoudou Setamou, Shad Nelson and Catherine Simpson (Poster Board #271)
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<td>Tissue-specific High Expression of TFL1 Correlates with Citrus Juvenility</td>
<td>Qingchun Shi*, Gloria Moore and Ed Stover (Poster Board #272)</td>
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<td>Kerrie Badertscher* and Kurt Badertscher (Poster Board #306)</td>
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<td>SNAP-Ed Food Systems District Coordinators Focus on Policy, System, and Environmental Changes to Support SNAP-eligible Residents in Florida</td>
<td>Danielle Treadwell*, David Campbell and Karla Shelnutt (Poster Board #065)</td>
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<td>Farmers Value Networking Opportunities at Florida Regional Small Farms Conferences</td>
<td>Danielle Treadwell*, Mary Beth Henry, Jose Perez and Sebastian Galindo (Poster Board #066)</td>
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**Kale Varieties Grown in Sub-irrigated Earthboxes**  
Gary Bachman*, Christine Coker and Patricia Knight  
*(Poster Board #067)*

**Prospects of Starting Potato Slips in High Tunnels By Small Farms**  
Rose Ogutu*, Lekha Paudel and Marikis Alvarez  
*(Poster Board #068)*

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**12:30 PM – 1:15 PM Georgia Ballroom**

**Poster Session - Plant Biotechnology**

**IGT Genes Shape Plant Shoot and Root Architecture**  
Jessica A. Guseman*, Courtney A. Hollender, Kevin Webb, Doug Raines, Chinnathambi Srinivasan and Chris Dardick  
*(Poster Board #097)*

**An Optimized Accelerated Solvent Extraction Method for the Isolation of Health-promoting Compounds from Non-pungent Peppers**  
Marisa Gomez*, Robert L. Jarret, G.K. Jayaprakasha, Kevin Crosby and Bhimanagouda Patil  
*(Poster Board #098)*

**Characterization of Ankyrin Gene Family and Other Genes Involved in Pepper Fruit Size and Capsaicin Content**  
Lav Kumar Yadav*, Thangasamy Saminathan, Padma Nimmakayala and Umesh Reddy  
*(Poster Board #099)*

**Orchids on Ice: Protecting Imperiled Floridian Orchids through Cryopreservation**  
David Riera*, Amir Khoddamzadeh, Carl Lewis, Wagner Vendrame and Krish Jayachandran  
*(Poster Board #100)*

**Micropropagation and DNA Barcoding Studies in the Genus Scutellaria**  
Carissa Jackson*, Lani Irvin, Brajesh Vaidya, Sadanand Dhekney, Alok Arun and Nirmal Joshee  
*(Poster Board #101)*

**Characterization of Flowering-associated Genes in Citrus and Applications for Reducing Breeding Time**  
Katie Rogers*, Vicente Febres, Gloria Moore, José X. Chaparro and Bala Rathinasabapathi  
*(Poster Board #102)*

**Retrotransposon-based Molecular Markers in Chokecherry (Prunus virginiana L.) and Their Transferability in Rosaceae Family**  
Wenhao Dai*, Yinghai Liang and Ryan R. Lenz  
*(Poster Board #103)*

**Improvement of Drought Resistance through Manipulation of the Gibberellic Acid Pathway**  
Yaping Zhang* and Cai-Zhong Jiang  
*(Poster Board #104)*

**Identification of the Pathogen of Powdery Mildew Disease on Dandelions**  
Wei Yang*, Aiong Shi, Jianbing Ma, Jim Correll, Michael Evans, Dennis Motes, Haizheng Xiong, Yuejin Weng and Jun Qin  
*(Poster Board #105)*

**Association Analysis of Resistance to Verticillium Wilt in Spinach**  
Aiong Shi*, Beiquan Mou, Jim Correll, Dennis Motes, Yuejin Weng, Jun Qin and Wei Yang  
*(Poster Board #106)*

**Isolation and Determination of Four Phenolic Compounds from Peel of Color-fleshed and White-fleshed Potatoes**  
Young-Eun Park, Jin-cheol Jeong, Jong-Taek Seo, Yul-Ho Kim, Ki-Deog Kim, Jong-Nam Lee, Su-Young Hong, Su-Jeong Kim, Hwang-Bae Sohn, Jung-Hwan Nam*, Hee-Jhun Park and Kyung-Tea Lee  
*(Poster Board #107)*

**Identification of the SICBL4-SICIPK24 Calcium Signaling Pathway Involved in Salt Response in Tomato (Solanum lycopersicium L.)**  
Joo-Hyuk Cho, Sung-Chur Sim* and Kyung-Nam Kim  
*(Poster Board #108)*

**Editing of Nitrate Reductase Gene Targeted By CRISPR/Cas9 in Petunia Protoplast System**  
Geung-Joo Lee*, Luhua Tu, Jong Suk Lee, Yong-Tae Jin, Yongsam Jeon, Sangsu Bae and Saminathan Subburaj  
*(Poster Board #109)*

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**12:30 PM – 1:15 PM Georgia Ballroom**

**Poster Session - Plant Nutrient Management**

**Growth and Yield Response of ‘Valencia’ Sweet Orange Infected with Huanglongbing to Foliar Applications of Essential Nutrients**  
Robert Ebel*, Kelly Morgan, Robert Rouse and Pamela Roberts  
*(Poster Board #370)*

**Nitrogen Rates Reduce Phytochemical Content in Peach Fruit**  
Mercy Olmstead, Thomas A. Colquhoun, James W. Olmstead, Harry J. Klee, Charlie Sims and Tripti Vashisth*  
*(Poster Board #371)*

**Aging of Coir Dust Root Substrate Can Eliminate Its Influence on Vegetable Seedling Growth Suppression As a Result of Reduced Phenolic Compounds**  
Jong-Myung Choi, Jwa Kyung Sung, Nu Ri Lee and Chiwon W. Lee*  
*(Poster Board #372)*

**Growth Response of Kale ‘Ripbor’ to Different Growing Medium Conditioners**  
Lord Abbey, Samuel K. Asiedu* and Ekene M. Ihesiuolo  
*(Poster Board #373)*
On-farm Evaluation of Six Commercially Available Biofertilizers on Organic Tomato and Broccoli
Julie Laudick*, Zheng Wang and Matthew Kleinhenz (Poster Board #374)

Yield of Porophyllum ruderale Jacq. As a Function of the Concentration of Nutrient Solution
Porfirio Juarez-Lopez*, Jesús A. Martinez Valdepeña, Iran Alia-Tejacal, Victor Lopez-Martinez, Gelacio Alejo-Santiago, Manuel Sandoval-Villa and Rosendo Balois-Morales (Poster Board #375)

Influences of Land Use with Different Crops on Soil Fertility and Productivity in the Area Above the Three Gorges Reservoir of China
Li Ma*, Qingren Wang and Yuncong Li (Poster Board #376)

Winter Cover Crops Increase Mycorrhization and Yield of Subsequent Cash Crops: A Meta-Analysis
Heather D. Toler*, Robert Auge and David Butler (Poster Board #377)

Nitrogen Form and Ratio Impact Swiss Chard (Beta vulgaris subsp. cicla) Shoot Tissue Carotenoid and Chlorophyll Concentrations
T. Casey Barickman* and Dean A. Kopsell (Poster Board #378)

Maize (Zea mays L.) Protein Nitrogen Response to Zinc Fertilization
Vasile Cerven* (Poster Board #379)

Effects of Application Rate and Timing of Slow-release Fertilizer and Supplemental Potassium on Yield of Greenhouse-grown Ginger
Hye-Ji Kim* and Susan Miyasaka (Poster Board #380)

12:30 PM – 1:15 PM Georgia Ballroom
Poster Session - Plasticulture

Growing Day-neutral Strawberries in High Tunnels to Target Fall Markets in Southern Indiana
Wenjing Guan* and Larry Sutterer (Poster Board #237)

Biodegradable Mulch Films: Their Constituents and Suitability for Organic Agriculture
Jeremy Cowan, Shuresh Ghimire and Carol Miles* (Poster Board #238)

Comparison of Weathering at Two Diverse Geographic Locations and Simulated Weathering on the Physicochemical Properties of Biodegradable Plastic Mulches
Douglas G. Hayes*, Larry C. Wadsworth, Annette Wszelaki, Markus Flury, Henry Sintim and Carol Miles (Poster Board #239)

12:30 PM – 1:15 PM Georgia Ballroom
Poster Session - Produce Quality, Safety, and Health Properties

Compositional Equivalency of Conventional and Organically-grown Sweetpotatoes
David Picha*, Mary Bowen and C. Scott Stoddard (Poster Board #195)

Carotenoid Content of Butternut Squash Cultivars Following Harvest and Storage
Penelope Perkins-Veazie*, Jonathan Schultheis, Guoying Ma and Travis Birdsell (Poster Board #196)

Bioactive Compounds in the Pulp, Jelly, and Popsicle Made from the Amazonian Fruit Camu-Camu
Maria Luiza Grigio, Jodie V. Johnson, Edvan Alves Chagas and Bala Rathinasabapathi* (Poster Board #197)

Regulatory Mold and Yeast Testing Impact on the Cultivation of Cannabis
Kurt Badertscher* (Poster Board #198)

Fruit Quality and Volatile Compounds of Seedless Watermelon As Affected By Grafting
Yufan Tang*, Xin Zhao, Qianru Liu, Denise M. Tieman, Harry J. Klee, Jeffrey Brecht and Kim M. Cordasco (Poster Board #199)

Variation in Mineral Composition Among Species of Brassica Crops
Kang-Mo Ku*, Moo Jung Kim, Tyler Simpson, Talon M. Becker and John Juvik (Poster Board #200)

Epicuticular Wax on Leaves of the Rosette and Inflorescence of Lettuce
Kang-Mo Ku*, Yu-Chun Chiu, Matthew A. Jenks and John A. Juvik (Poster Board #201)

Effect of High CO2 Level on Growth and Nutritional Quality of Lettuce and Spinach
Anju Giri and C.B. Rajashekar* (Poster Board #202)

Influence of Cultivar and Growth Stage on Phytochemicals in Pac Choi
Chad G. Uzdevenes*, Liwei Gu and Xin Zhao (Poster Board #203)

The Effect of Sowing Date on Plant Growth and Nutritional Value of Cichorium spinosum L. Plants
Petropoulos Spyridon, Antoniades Vasilios, Francesco Di Gioia*, Ângela Fernandes, Lillian Barros and Isabel C.F.R. Ferreira (Poster Board #204)

Growing Environment Effects the Levels of Health Promoting Compounds in Tomato
Ji Sun Lee*, G.K. Jayaprakasha, Kevin Crosby and Bhimanagouda Patil (Poster Board #205)
**Thursday, November 1, 2018**

**12:30 PM – 1:15 PM**  
**Georgia Ballroom**

**Poster Session - Temperate Tree Nut Crops**

- **A Prospective Study to Determine Causes of Physiological Disorder in 'Chandler' Walnut Fruits.**  
  Claudia Bonomelli and Pilar Gil Montenegro* (Poster Board #309)

- **Soil-applied Zinc-EDTA: Effects on Dormant-season Shoot and Root Carbohydrate Storage Reserves in 'Wichita' Pecan Grown on an Alkaline and Calcareous Soil.**  
  Richard Heerema, James L. Walworth, Barry Dungan, Yuqing Wang* and F. Omar Holguin (Poster Board #310)

- **Modeling Nut Growth As a Function of Heat Unit Accumulation in Pistacia vera.**  
  Gurreet Brar*, Louise Ferguson and Cara Allan (Poster Board #311)

- **Irrigation Management of Young Pecan Trees.**  
  Lenny Wells* (Poster Board #312)

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**1:15 PM – 2:00 PM**  
**Georgia Ballroom**

**Poster Session - Floriculture 2**

- **The ASCFG: Providing Education Support and Research for Commercial Cut Flower Growers**  
  H Wien*, Judy M. Laushman and John Dole (Poster Board #290)

- **Searching for an Optimum Supplemental LED Intensity for Winter Production of Cut Gerbera at Northern Latitudes.**  
  David Llewellyn, Katherine Schiestel, Melanie Yelton* and Youbin Zheng (Poster Board #291)

- **Greenhouse Propagation of Ornamental Ipomoea batatas Cultivars Under Light-emitting Diodes (LEDs) and Natural Light.**  
  Debra Newman, Michael Hazlett, Steven Newman* and Abhay Thosar (Poster Board #292)

- **Silicon Accumulation and Distribution in Petunia and Sunflower.**  
  Jennifer Boldt*, James Locke and James Altland (Poster Board #293)

- **Cuphea Species and Cultivars Differ in Occurrence of Intumescence.**  
  Chad T. Miller* and Kimberly Williams (Poster Board #294)

- **Effect of Medium Composition on the Lower Leaf Yellowing of Phalaenopsis Plantlets in Vitro.**  
  Yao-Chien Chang* and Yi-Jhen Chen (Poster Board #295)
Application of Ice to Phalaenopsis Orchid Roots Does Not Affect Quantum Efficiency of Photosystem II
Cindy Young*, Sierra McDonald and Paul Thomas (Poster Board #296)

1:15 PM – 2:00 PM Georgia Ballroom
Poster Session - International Horticultural Issues & Networking

Using School Gardens to Support School Feeding Programs at Elementary Schools in Uganda
Gail Nonnecke*, Dorothy Masinde, Laura Byaruhanga, Dennis Lutwama and David Acker (Poster Board #069)

Identification of Genetic Diversity, Production, and Marketing of Jackfruit (Artocarpus heterophyllus) through Jackfruit Growers Association
K.N. Srinivasappa*, S.M. Savitha, M. Padmavathi and B. Manjunath (Poster Board #070)

Preserving Guam Rare Native Plants through a Plant Extinction Prevention (PEP) Program
James McConnell*, Ron Manzano, Jonathan Davis, Mario Martinez, John Horeg, Gregorio Borja and Mari Marutani (Poster Board #071)

Krishi Vigyan Kendra – A Farm Science Center for Sustainable Rural Livelihoods
K.N. Srinivasappa*, M. Padmavathi, Anand Manegar and B.G. Vasanthi (Poster Board #072)

Impact of Sack Gardening By Youth in a Ugandan School Garden Program
Kevin Duerfeldt*, Sharon Tusilime and Gail Nonnecke (Poster Board #073)

Creating Partnerships: Mississippi State University, Tennessee State University, and University of Jeremie
Christine Coker*, Ronald Stephenson and Reginald Archer (Poster Board #074)

Evaluating Horticultural Practices for Sustainable Tomato Production in Kamuli, Uganda
Sharon Tusilime*, Gail Nonnecke, Dorothy Masinde and Helen Jensen (Poster Board #075)

Current Tomato Seed Management Practices Among in- and out-of-School Youth in Kamuli, Uganda
Sharon Tusilime* and Gail Nonnecke (Poster Board #076)

Response of Seven Woody Ornamentals to Turfgrass Herbicide Applications of Arylex, Penoxsulam, and Pyrimisulfan
Jared Hoyle* and Jacob Reeves (Poster Board #313)

Does Knowing Native Grass Benefits Influence Customer Purchases?
Nicole Roth*, Mary Meyer and Chengyan Yue (Poster Board #314)

U.S. Non-collegiate Golf Course Superintendent’s Perception of the Audubon Cooperative Sanctuary Program
Wyatt Byrd, David Kopsell*, Ann VanDerZanden, Aslihan Spaulding and Dean Kopsell (Poster Board #316)

Educational Needs of Turf and Landscape Industry Workforce in Reno-Sparks Metropolitan Area
Greg Wiecko* (Poster Board #317)

Impact of Parboiled Rice Hull-amended Substrates on the Growth and Quality of Geranium
Jiayin Zhang* and Hye-Ji Kim (Poster Board #318)

Effect of Nitrogen Level on Rate of Decomposition of Plantable Containers in the Landscape
Bethany Harris*, Bodie Pennisi and Mussie Habteselassie (Poster Board #319)

1:15 PM – 2:00 PM Georgia Ballroom
Poster Session - Pomology 2

Molecular Bases of Apple Flowering Inhibition By Defoliation and Gibberellins
Mokhles ELsysy* and Peter Hirst (Poster Board #252)

Washington Regional Cider Apple Juice Characteristics
Travis Alexander*, Andrew Zimmerman, Ed Scheenstra, Jacky King and Carol Miles (Poster Board #253)

Fire Blight Tolerant Asian Pear Cultivars for Alabama
Elina Coneva* and James Pitts (Poster Board #254)

Apple Anthracnose Life Cycle and Disease Cycle
Whitney Garton*, Mark Mazzola and Carol Miles (Poster Board #255)

Analysis of Correlation Between Fruit Size and Weather Data in ‘ Fuji’ Apple
Hyun-Hee Han*, JeomHwa Han, Han Chan Lee, Jae-Hoon Jeong, Suhyun Ryu, InMyung Choi and In-Chang Son (Poster Board #256)

Determination of Nutrient Requirements of Peach Trees from Different Ripening Seasons
Qi Zhou* and Juan Carlos Melgar (Poster Board #257)
Effect of Climate on Spring Phenology and Harvest Dates in ‘Fuji’ and ‘Hongro’ Apples in Korea
Jung Gun Cho*, Hyun Hee Han, Sunil Kumar, Patrick Martin and Han Chan Lee (Poster Board #258)

1:15 PM – 2:00 PM Georgia Ballroom
Poster Session - Postharvest 3

Changes in Quality of Astringent Persimmon during Ripening By Using an Ethylene-producing Tablet at Different Concentration and Temperature
Dosu Park* and CheonSoon Jeong (Poster Board #185)

Determination of Fruit Oil Content and Fatty Acid Composition in Symplocos paniculata Using Near-infrared Reflectance Spectroscopy
Qiang Liu*, Youping Sun, Zhiwei Zhao, Lijuan Jiang and Genhua Niu (Poster Board #186)

Metabolic Profiles and Juice Quality Parameters of 14 USDA-ARS Pomegranate (Punica granatum L.) Cultivars As Determined By 1H NMR, Spectrophotometry, Ion Chromatography, and Refractometry
John M. Chater*, Caroline Mathon, Cynthia K. Larive, Donald Merhaut and John Preece (Poster Board #187)

Assessment of Foliar Fertilization on Red Grapefruit Fruit Quality at Harvest and during Storage
Silvia Marino*, Mark Ritenour, Alan Wright and Diego Ramirez (Poster Board #188)

Effects of Hot Water Treatment and Storage Temperature on Internal Quality and Volatile Compounds of Grapefruit
Jian Li*, Jiaqi Yan, Anne Plotto, Elizabeth Baldwin, Jinhe Bai and Mark Ritenour (Poster Board #189)

Postharvest Handling and Storage Quality of a New Mandarin Hybrid in Florida
Cuifeng Hu*, Mark Ritenour and Fred Gmitter (Poster Board #190)

Effects of a Hot Water or Heated Thiabendazole Dip on Postharvest Degreening of Citrus Fruit
Lili Deng*, Cuifeng Hu, Jiaqi Yan, Jian Li and Mark Ritenour (Poster Board #191)

Effects of Blue or Red LED Light Irradiation on Postharvest Degreening of Citrus Fruit
Lili Deng*, Cuifeng Hu, Jiaqi Yan, Jian Li and Mark Ritenour (Poster Board #192)

Postharvest Evaluations of Avocado Fruit from Reciprocal Crosses of ‘Hass’ and ‘Bacon’
Cristina Pisani*, Ed Stover, Ray Schnell and Mark Ritenour (Poster Board #193)

The Influence of Ripening Temperature on ‘Hass’ Fruit Quality
Mary Arpaia* and David Obenland (Poster Board #194)

Cultivar Assessment for Bacteria Spot of Pepper Resistance in South Florida
Christian F. Miller*, Gene McAvoy, Richard Raid and Monica Ozores-Hampton (Poster Board #350)

Evaluation of Insecticides for the Management of Rough Sweetpotato Weevil, Blosyrus asellus (Coleoptera: Curculionidae) in Hawaii Island
Ishakah Pulakkatu-thodi, Susan Miyasaka* and Sharon Motomura (Poster Board #351)

Cultivar and Calcium Management to Minimize Lettuce Tipburn in Greenhouse Hydroponics
Daniel Leskovar, Vasilie Cerven* and Yahia Othman (Poster Board #352)

Multi-year Yellow Squash and Zucchini Trials in Georgia
Timothy Coolong* (Poster Board #353)

Results of the LSU Agcenter and Mississippi State University 2014 Fall Broccoli Variety Trial
Kathryn Fontenot*, Christine Coker, Robert Williams and Michael Ely (Poster Board #354)

Evaluation of Carrot Cultivars for Production in Northern Climates
Mami Kuwahara*, Zhigang Wu and Chiwon Lee (Poster Board #355)

Evaluation of Lettuce Cultivars for Hydroponic Culture
Casey McCollum, Changhyeon Kim and Chiwon Lee* (Poster Board #356)

Evaluation of Tomato Cultivars for Locally Grown Value-added Processing in North Carolina
Courtney DeKalb*, Nicole Sanchez, Matt Waldschmidt, Penelope Perkins-Veazie and Chris Gunter (Poster Board #357)

Relative Salt Tolerance of 18 Chili Pepper Cultivars
Youping Sun* and Genhua Niu (Poster Board #358)

Yield and Fruit Quality of Field-grown Grafted Tomato with Different Plant Spacings
Laila Khandaker, Xin Zhao*, Zack Black, Jeffrey Brecht and Kim M. Cordasco (Poster Board #359)
Yield and Fruit Quality of Grafted Tomato Plants in Organically Managed High Tunnels Containing Zones with Different Compost Application Histories
Bizhen Hu*, Jennifer Moyseenko and Matthew Kleinhenz (Poster Board #360)

Grafting English Cucumber Onto a Gourd Rootstock Improves Pot Cucumber Yield and Disease Resistance in Greenhouse
Kedong Da* and Samantha Smith (Poster Board #361)

Effect of Fertilizer Source and Grafting on Quality of High Tunnel-grown Tomato
Fairuz Buajaila*, Ed Scheenstra, Patti Kreider and Carol Miles (Poster Board #362)

Increasing Survival of Grafted Watermelon Transplants
Sahar Dabiran* (Poster Board #363)

1:15 PM – 2:00 PM Georgia Ballroom
Poster Session - Waste Utilization in Horticulture

Impact of Soil Amendments on Organosulfur Compounds in Onion
Eric Turley* and George Antonious (Poster Board #240)

Effect of Plant Species on Nitrogen and Phosphorus Removal in Aquaponic System
Teng Yang* and Hye-Ji Kim (Poster Board #241)

Growth and Yield Comparison of Lettuce, Basil, and Tomato Grown in Aquaponic and Hydroponic Systems
Teng Yang* and Hye-Ji Kim (Poster Board #242)

1:15 PM – 2:00 PM Georgia Ballroom
Poster Session - Water Utilization and Management

Economic and Cultural Effects of Reducing Substrate Moisture Content during Greenhouse Production of Bedding Plants
Yanjun Guo*, Terri Starman and Charles R. Hall (Poster Board #381)

Comparing Stomatal Conductance of Street Tree Species in Traditional Tree Pits and Green Infrastructure Storm Water Trenches
Sasha Eisenman*, Stuart Olshevski and Russell Galanti (Poster Board #382)

Water Relations of Trees Growing in a Green Infrastructure (GI) Storm Water Trench
Russell Galanti* (Poster Board #383)

Alternative Irrigation Scheduling: Comparing the Smartirrigation App to Checkbook, and Soil Moisture-based Irrigation Methods for Watermelon
Luke Miller*, George Vellidis, Wesley Porter, Erick Smith and Timothy Coolong (Poster Board #384)

Effects of Maintained Substrate Gravimetric Water Content from Transplant to Finished Stage on Impatiens x walleriana ‘Xtreme Red’
Anthony T. Bowden*, Adam F. Newby, Daniel E. Wells and Glenn B. Fain (Poster Board #385)

1:15 PM – 2:45 PM Savannah 1 Room
Workshop-Hands-on E-Technology Workshop for Extension Educators
Sponsor: eXtension
Moderator: Danielle Treadwell
Coordinator: Danielle Treadwell

The objectives of this workshop are to: 1. Practice using popular e-technologies on the participants' own devices 2. Identify new ways of utilizing common e-technologies in education 3. Explore new and emerging e-technologies and their applications in education

Description: Do you consider yourself to be fairly comfortable with smart phones, tablets and laptops, but lack the confidence to utilize social media and mobile computing in educational settings? Do you utilize social media in your personal life, but desire to learn how to utilize it more fully in your professional life? Do you consider yourself an early adopter, and enjoy learning about the next greatest technology? If you answered yes to any one of these questions, then this workshop is for you. Participants will work in small groups to become more familiar with social media platforms and mobile computing, exchange ideas and innovations about e-technology for adult learners, and circulate through stations to view and test-drive new technologies. Participants are encouraged to bring their own mobile devices and technology-challenged friends and colleagues.

1:45 PM – 3:15 PM Atlanta 4/5 Room
Workshop-Arduino: Building and Programming Simple Measurement and Control Systems
Sponsor: Growth Chambers and Controlled Environments
Moderators: Rhuanito S. Ferrarezi, Alex Litvin and Michael Martin
Coordinators: Shuyang Zhen, David Gianino and Geoffrey Weaver

1) To explore the basic functions of Arduino microcontrollers. 2) To explain the basic programming structure. 3) To give participants hands-on experience connecting sensors, displays, and relays. 4) To discuss how Arduino microcontrollers can be used to control environmental conditions. 5) To show how these microcontrollers can be used for automated data collection and display.
THURSDAY PROGRAM SCHEDULE

Description: Arduino microcontrollers are low-cost open-source devices that can be used to build systems to automate data collection and to control experimental conditions (such as soil moisture, temperature, CO2, and light). This workshop will give participants an introduction into the use of Arduinos. The workshop will cover programming, wiring, and data collection and display. Participants will learn how to use sensors with a serial or voltage output signal and how to use the data coming from these sensors to control external devices (such as irrigation valves) using relays. The workshop will also cover how to write data to an SD card and how to display data on a screen attached to the Arduino. There will be a display of various Arduino-based systems that measure and control light levels, irrigation, and temperature.

Because of the hands-on nature of the workshop, all participants will need their own hardware and bring a laptop with the free Arduino software installed.

Note: there is a registration fee of $80 for the workshop. These funds will be used to buy workshop supplies. Every participant will get an Arduino microcontroller and associated hardware, which is theirs to keep.

Note: participation is limited to 25 people.

Arduino: Building and Programming Simple Measurement and Control Systems
Rhuanoiti S. Ferrarezi*
Alex Litvin
Michael Martin
Shuyang Zhen
David Gianino
Geoffrey Weaver
Marc van Iersel

1:45 PM – 3:15 PM  Macon Room
Workshop-Asserting the Relevancy and Impact of Postharvest Programs Around the World
Sponsor: Postharvest
Coordinator: Mark Ritenour

To explore postharvest research and outreach activities in terms of perceived benefits to funding agencies, policymakers, industry stakeholders, and society in general, and to adopt practices that not only solve postharvest problems, but also communicate the value of postharvest programs to these diverse groups.

Description: Despite the fact that postharvest fruit and vegetable losses continue to be high (often 30% to 60%), even in developed countries, and that there have been concerted efforts to publicize the needs and opportunities for postharvest research and outreach activities to mitigate these losses, there is a perceived decline in interest in postharvest research and outreach activities from funding agencies, policymakers, industry stakeholders, and society in general. Are postharvest issues perceived to be as relevant to these groups as they were in past decades? If so, what are the postharvest issues that resonate most with these groups? If not, how might postharvest research, extension and teaching professionals better communicate the value and impact of postharvest programs to these diverse groups?

1:45 PM  Introduction to the Workshop
Mark Ritenour*

1:50 PM  What’s “Hot” in Postharvest Research in the United States
Gene Lester*

2:15 PM  Postharvest Interventions for Sustainable Development of the Horticulture Sector in Lesser Developed Countries
David Picha*

2:40 PM  Connecting Postharvest Research and Outreach Programs with Industry and Society
Mark Ritenour*

3:05 PM  Group Discussion and Conclusions
Mark Ritenour*

2:00 PM – 3:00 PM  Georgia Hall Pre-Function
Career Track-Resume Review 3
Individual appointment with academic and industry professionals for 15-minute resume review. Appointments required.

2:00 PM – 3:30 PM  Capitol South Room
Workshop-Herbicide Drift and Carryover to Horticultural Crops
Sponsor: Weed Control & Pest Management
Moderator: Harlene Hatterman-Valenti
Coordinator: Harlene Hatterman-Valenti

The objective of this workshop is to describe the potential injury to herbaceous and woody horticultural crops from herbicide drift and carryover and to explain how the EPA Drift Reduction Technology program has developed a system to rank spray technologies for drift reduction.

Description: Drift and carry-over injuries, by nature, involve sub-lethal dosing from pre- and post-emergence herbicides. With the development of glyphosate-resistant crops and the quick conversion to these cropping systems, glyphosate was often the herbicide suspected for off-target injury. However, dicamba-resistant soybean and the adoption of this technology to combat glyphosate-resistant weed problems, may cause even more drift injury to off-target horticultural crops. In addition, many herbicides applied to crops or ornamental areas have the potential to persist in soil and to injure desirable vegetation or rotationally grown crops.
This workshop will demonstrate the potential injury to herbaceous and woody horticultural plants from herbicide residues that drift off-target or carryover/persist in soil and other materials. The last part of the workshop will demonstrate how the EPA Drift Reduction Technology program encourages the manufacture, marketing, and use of spray technologies scientifically verified to significantly reduce pesticide drift. Initially, the focus of the program was on spray technologies used primarily for pesticide applications to row and field crops by ground or aerial application equipment, but there is hope to expand this program to include technologies for orchard and vineyard crops.

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>2:00 PM</td>
<td>The Potential for Injury to Horticultural Crops from Herbicide Carryover and Material Contamination</td>
<td>Timothy Miller*</td>
</tr>
<tr>
<td>2:20 PM</td>
<td>Diagnosing Drift and Carryover Injury in Nursery/Landscape Trees</td>
<td>Hannah Mathers* and K. M. Daniel</td>
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<tr>
<td>2:40 PM</td>
<td>Defining Glyphosate and Dicamba Drift Injury to Field Pea, Dry Bean, and Potato</td>
<td>Harlene Hatterman-Valenti*, G. Endres, B. Jenks, M. Ostlie, T. Reinhardt, A. Robinson and R. Zollinger</td>
</tr>
<tr>
<td>3:00 PM</td>
<td>Effect of Simulated Drift on Various Plant Species</td>
<td>Travis Gannon*</td>
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**Augusta Room**

**Workshop-Methods and Opportunities in Rhizosphere Research and Management**

*Sponsor: Root Growth & Rhizosphere Dynamics*

**Moderator:** J. Pablo Morales-Payan  
**Coordinator:** J. Pablo Morales-Payan

The objective of this workshop is to share with the audience information and methodology on root growth and rhizosphere research.

**Description:** The rhizosphere is an essential but sometimes overlooked component of crop systems. This workshop is designed to present information on new research and monitoring techniques for rhizosphere studies, breeding of root traits, and manipulation of the rhizosphere with exogenous growth substances and/or management practices to enhance crop performance.

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<tbody>
<tr>
<td>2:00 PM</td>
<td>Using a Non-contact Electromagnetic Induction Sensor to Measure Moisture Extraction By Root Systems of Sweetpotato Genotypes</td>
<td>Arthur Villordon* and Don LaBonte</td>
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<tr>
<td>2:20 PM</td>
<td>Breeding for Rhizosphere Traits: From Theory to Practice</td>
<td>Gerardo H. Nunez*</td>
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<tbody>
<tr>
<td>2:40 PM</td>
<td>Priming the Rhizosphere with Natural Products: <em>Ascophyllum</em> Extracts</td>
<td>Jeff Norrie*</td>
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<tr>
<td>3:00 PM</td>
<td>Effects of Bioregulators on the Rhizosphere of Tropical Horticultural Crops</td>
<td>J. Pablo Morales-Payan*</td>
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<tr>
<td>2:00 PM – 4:00 PM</td>
<td>Project Leaders – National Strawberry Sustainability Initiative Program</td>
<td>Curt Rom</td>
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<tr>
<td>2:45 PM – 3:15 PM</td>
<td>eXtension (EEXT) Working Group Business Meeting</td>
<td>Danielle Treadwell</td>
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<tr>
<td>3:00 PM – 5:00 PM</td>
<td>Exhibitor Move Out - Thursday</td>
<td>Chris Currey</td>
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<tr>
<td>3:15 PM – 3:45 PM</td>
<td>Growth Chambers and Controlled Environments (CE) Working Group Business Meeting</td>
<td>Marc van Iersel</td>
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**Georgia Hall Pre-Function**

**Poster Removal**

All posters are to remain up until the last poster session has ended. The removal can begin at 3 PM on Thursday. Any posters that are still in the hall after 4 PM will be removed by the general contractor. ASHS cannot accept responsibility for loss or damage to any posters that are not removed at the scheduled removal period.

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<tr>
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<td>3:15 PM – 3:45 PM</td>
<td>Growth Chambers and Controlled Environments (CE) Working Group Business Meeting</td>
<td>Marc van Iersel</td>
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</table>

To provide leadership for horticulturists in the use of growth chambers and controlled environments and to provide a means for cooperative research and teaching among those using or interested in such facilities in their programs.
3:15 PM – 3:45 PM  Macon Room

Postharvest (PH) Working Group Business Meeting
Chair: Mark Ritenour
Chair-elect: Randolph Beaudry
Secretary: Peter Petracek

To exchange ideas and information relating to postharvest biology and technology of horticultural crops, to increase the awareness among other researchers, research administrators, legislators, and the public of the importance of the postharvest aspects of horticulture to the physical, economic, and psychological well-being of the population, and to integrate activities with those of associated Working Groups.

3:30 PM – 4:00 PM  Augusta Room

Root Growth and Rhizosphere Dynamics (RHIZ) Working Group Business Meeting
Chair: J. Pablo Morales-Payan
Chair-elect: Arthur Villordon

To provide a forum to promote and exchange information on basic and applied research about the plant rhizosphere, soil microorganisms, root growth and development, and root modeling, which apply to horticultural (fruit, vegetable, ornamentals), forest, and agronomic crops grown in synthetic or field soils.

3:30 PM – 4:00 PM  Capitol South Room

Weed Control and Pest Management (WCPM) Working Group Business Meeting
Chair: Harlene Hatterman-Valenti
Chair-elect: Josh Freeman
Secretary: Mary Rogers

To share new ideas and other research information concerning pest control in the varied areas of horticultural crop production.

3:30 PM – 5:15 PM  Savannah 1 Room

Oral Session-Consumer Horticulture and Master Gardeners
Moderator: Sheri Dorn

3:30 PM  The 20 Questions of Plant Diagnosis Used As a Method to Train Master Gardener Volunteers
Pamela Bennett*, Curtis Young, Amy Stone, Joseph Boggs, James Chatfield and Erik Draper

3:45 PM  Use of Audio Podcasts As a Catalyst for Extending the Reach of Extension Master Gardener Volunteer Urban Horticulture Programs
Lucy Bradley*, Harold Johnson, Cheralyn Schmidt, Delphine Sellars and Lisa Sanderson

4:00 PM  Uncovering the Motivations of Kentucky Extension Master Gardener Program Volunteers
Richard Durham* and Tanya C. Franke-Dvorak

4:15 PM  A Review of Extension Master Gardener Program Recordkeeping Systems
Sheri Dorn*

4:30 PM  First Year Impact of Extension Floral Design Program
James DelPrince*

4:45 PM  Consumer Preferences of Seven Indigo Purple Tomato Varieties Grown in Kentucky
Srijana Thapa Magar*, Kirk Pomper, Jeremiah Lowe and Sheri Crabtree

5:00 PM  Awareness, Support and Perceived Impact of the Connecticut Pesticide Bans
Julie Campbell*, Victoria Wallace and Ben Campbell

4:00 PM – 5:15 PM  Macon Room

Oral Session-Floriculture 2
Moderator: Nicholas J. Flax

4:00 PM  Commercial Greenhouse Producers Can Produce High-Quality Annual Bedding Plants in Biopolymer-Based Biocontainers and Are Willing to Use Them
Nicholas J. Flax*, Chris Currey, James A. Schrader, David Grewell and William R. Graves

4:15 PM  Biocontainer Type and Paclobutrazol Drench Concentration Affect Growth of Angelonia and Petunia
Nicholas J. Flax*, Chris Currey, James A. Schrader, David Grewell and William R. Graves

4:30 PM  The Impact of Deficit Irrigation on the Postharvest Vase Life of Cut Delphinium ‘Guardian Blue’ Flowers
Leslie K. Peck*, Jim Owen, Joyce Latimer, Margaret Aiken and Holly Scoggins

4:45 PM  Evaluating Calibrachoa (Calibrachoa × hybrida Cerv.) Variety Sensitivity to Iron Deficiency at High Substrate-pH
Ryan Dickson* and Paul Fisher

5:00 PM  Exponential Growth of Gladiolus ‘Glamini’ Under the Influence of Plant Growth Regulators
Jaser Aljaser* and Neil Anderson
4:00 PM – 5:15 PM  Savannah 2/3 Room

**Oral Session-Plant Nutrient Management 2**

**Moderator:** William Sciarappa

4:00 PM  **Comparing Soil Health Among Graminaceous Crops with the Solvita CO\textsubscript{2} Release System**
William Sciarappa*

4:15 PM  **Evaluating the Consistency of Soil Lab Results Based on Soil Recommendations for a Horticulture Crop**
Edward Bush*, Mike Breithaupt, Sue Chin and Lauren Liuzza

4:30 PM  **Use of Compost and Limestone to Establishing Substrate pH and the Impact on pH Buffering Capacity**
Matthew Taylor* and Rachel Kreis

4:45 PM  **Investigating a Composting Management System for Brown Algae (Sargassum fluitans and Sargassum natans)**
Tina Waliczek and Kevin Walsh*

5:00 PM  **Effect of Application Rate and Timing of Meat and Bone Meal As an Organic Fertilizer on Growth and Yield of Sweet Corn**
Tiare Silvasy*, Amjad A. Ahmad, Koon-Hui Wang and Theodore Radovich
POSTER PRESENTERS

ALAM-ELDEIN, Shamel: Poster Board #279 – Effect of Strand Thinning on Yield and Fruit Quality of Egyptian Dry Date Palm (Phoenix dactylifera L.) cv. Sultani (Tuesday/Georgia Ballroom)

ALCARAZ-MÉLÉNDEZ, Lilia: Poster Board #365 – Morphological Comparison and Content of Oilsseeds Jatropha curcas (L.) Un-grafted and Grafted on Rootstock of Jatropha cinerea (Ortega) Muell. Arg. (Tuesday/Georgia Ballroom)

ALEXANDER, Travis: Poster Board #253 – Washington Regional Cider Apple Juice Characteristics (Thursday/Georgia Ballroom)

ALTLAND, James: Poster Board #299 – Effect of Rice Hull Mulch on Nutrient Concentration of Fertilized Irrigation Water (Wednesday/Georgia Ballroom)

ANTONIOUS, George: Poster Board #092 – A New Insecticide/ Acaricide Formulation from Lycopersicon hirsutum f. glabratum (Wednesday/Georgia Ballroom)

ARANCIBIA, Ramon: Poster Board #346 – Sweetpotato Yields Among Small Vegetable Farmers and Potential to Increase Production in Southeast Virginia (Tuesday/Georgia Ballroom)

ARMSTRONG, Keisha: Poster Board #009 – Micronutrients and Essential Oils in Sweet Basil (Ocimum basilicum L.) Grown in an Aquaponics System (Tuesday/Georgia Ballroom)

ARNOLD, Michael: Poster Board #049 – Aggie B.L.U.E. Print Laboratories: Building Lasting University Environments-a Multi-Disciplinary Teaching Opportunity (Tuesday/Georgia Ballroom)

ARPALAI, Mary: Poster Board #194 – The Influence of Ripening Temperature on ‘Hass’ Fruit Quality (Thursday/Georgia Ballroom)

ARZANI, Kazem: Poster Board #180 – Watercore incidence in ‘Red Delicious’ Apple in Relation to I₀ Values: Effect of Harvest Date, and Harvesta and Retain Applications (Wednesday/Georgia Ballroom)

ASIEDU, Samuel K.: Poster Board #373 – Growth Response of Kale ‘Ripbor’ to Different Growing Medium Conditioners (Thursday/Georgia Ballroom)

BACHMAN, Gary: Poster Board #067 – Kale Varieties Grown in Sub-irrigated Earthboxes (Thursday/Georgia Ballroom)

BADERTSCHER, Kerrie: Poster Board #063 – Certified Horticulturist Exam for CEA / Greenhouse is Crucial for ASHS (Wednesday/Georgia Ballroom); Poster Board #306 – Current Research Needs Identified By the Cannabis Industry (Thursday/Georgia Ballroom)

BADERTSCHER, Kurt: Poster Board #021 – Cultivation to Go (Tuesday/Georgia Ballroom); Poster Board #096 – Pesticide-free Rhizosphere Protection-Bug Bags (Wednesday/Georgia Ballroom); Poster Board #198 – Regulatory Mold and Yeast Testing Impact on the Cultivation of Cannabis (Thursday/Georgia Ballroom)

BAI, Jinrong: Poster Board #148 – Preliminary Study on the Optimization of the Heavy-Ion Dose for Mutation Breeding in Three Lilium Species (Wednesday/Georgia Ballroom)

BARICKMAN, T. Casey: Poster Board #378 – Nitrogen Form and Ratio Impact Swiss Chard (Beta vulgaris subsp. cicla) Shoot Tissue Carotenoid and Chlorophyll Concentrations (Thursday/Georgia Ballroom)

BARKAT, Noorani: Poster Board #167 – Impact of Harvesting Time on the Levels of Nitrate and Flavonoids in Spinach (Tuesday/Georgia Ballroom)

BAROCCO, Andrew: Poster Board #008 – Evaluation of Exotic and Ornamental Sweetpotato Germlasm for New Sources of Sweet-potato Weevil (Cylas formicarius) Resistance. (Tuesday/Georgia Ballroom)

BARRAZA, Gabriel: Poster Board #016 – Handheld Sensors Application for Fertilizer Management in Landscaping Ornamental Justicia brandegeana (Wednesday/Georgia Ballroom)

BARTLEY, Paul: Poster Board #057 – CPA Horoscope: The Future of Particle Analysis (Wednesday/Georgia Ballroom)

BARTLEY, Paul C.: Poster Board #058 – The Nuts and Bolts of Computerized Particle Analysis (Wednesday/Georgia Ballroom); Poster Board #059 – CPA Vs. Rotap: Granulometric Analytical Comparison (Wednesday/Georgia Ballroom)

BAUSKE, Ellen: Poster Board #064 – Chainsaw Safety Training for Landscape and Tree Care Workers (Wednesday/Georgia Ballroom)

BELISLE, Catherine: Poster Board #177 – Evaluation of Volatile Compounds Responsible for the Aroma of Fresh Peaches (Wednesday/Georgia Ballroom)

BHATTARAI, Krishna: Poster Board #139 – Sequencing and Analysis of Leaf Transcriptomes of Impatients Cultivars Differing in Downy Mildew Resistance (Tuesday/Georgia Ballroom); Poster Board #140 – Sequencing and Analysis of the Transcriptomes of Young Ovaries of Lantana (Tuesday/Georgia Ballroom)

BJORKMAN, Thomas: Poster Board #038 – Profitability of Eastern Broccoli Is Highly Dependent on Plant Population (Wednesday/Georgia Ballroom); Poster Board #339 – Fall Incorporation of Cover Crops Reduces Snap Bean Stand (Tuesday/Georgia Ballroom)

BLANCHARD, Caroline: Poster Board #001 – Paternity Identification in Sweetpotato (Ipomoea batatas) Using DNA Markers (Tuesday/Georgia Ballroom)

BLYTHE, Eugene: Poster Board #029 – Highlights: A Newsletter Reporting on Trial Gardens and Horticultural Research at the South Mississippi Branch Experiment Station (Wednesday/Georgia Ballroom)

BLYTHE, Eugene: Poster Board #305 – Chemical Composition of the Essential Oil of a Lavender-flowered Selection of Trailing Lan-tana (Thursday/Georgia Ballroom)

BOLDT, Jennifer: Poster Board #293 – Silicon Accumulation and Distribution in Petunia and Sunflower (Thursday/Georgia Ballroom)

BORSUK, Aleca: Poster Board #014 – Effects of LED Lighting Spatial Configuration on Spaceflight Analog Amaranth Crops (Tuesday/Georgia Ballroom)

BOWDEN, Anthony T.: Poster Board #385 – Effects of Maintained Substrate Gradimetric Water Content from Transplant to Finished Stage on Impatiens x walleriana 'Xtreme Red' (Thursday/Georgia Ballroom)

BOYER, Cheryl: Poster Board #037 – The Center for Rural Enterprise Engagement: Helping Green Industry Businesses Navigate New Media Marketing (Wednesday/Georgia Ballroom)

BOYER, Cheryl: Poster Board #039 – The E-Commerce Landscape: An Environmental Scan of Online Greenhouse Retailing (Tuesday/Georgia Ballroom)

BOYER, Cheryl: Poster Board #055 – Facilitating Exposure and Understanding of Extension Resources to Undergraduate Students (Tuesday/Georgia Ballroom)

BRANHAM, Sandra E.: Poster Board #156 – Genotyping-by-se-quecing of Glossy Mutants (Tuesday/Georgia Ballroom)
BRANSTROM, Isabel A.: Poster Board #289 – Postharvest Storage Conditions and Flower Life of Tulips (Wednesday/Georgia Ballroom)

BRAR, Gurreet: Poster Board #311 – Modeling Nut Growth as a Function of Heat Unit Accumulation in Pistacia vera (Thursday/Georgia Ballroom)

BRYLA, David: Poster Board #263 – Suitable Sources of Nitrogen and Potassium Fertilizer for Fertigation of Northern Highbush Blueberry (Wednesday/Georgia Ballroom)

BUAJAILA, Fairuz: Poster Board #362 – Effect of Fertilizer Source and Grafting on Quality of High Tunnel-grown Tomato (Thursday/Georgia Ballroom)

BURNETT, Stephanie: Poster Board #221 – The Effects of Light and Soil Moisture on Propagation of Linnaea borealis (Tuesday/Georgia Ballroom)

BYRNE, David: Poster Board #327 – National Clean Plant Network for Roses (Wednesday/Georgia Ballroom)

BYRTUS, James: Poster Board #207 – Light-emitting Diodes as an Alternative to Cool-white Fluorescents for Healing of Grafted Tomato Transplants (Tuesday/Georgia Ballroom)

CAI, Meiping: Poster Board #141 – The Effects of Ethyl Methanesulphonate and Sodium Azide on Plant Growth in Azalea (Rhododenron) (Tuesday/Georgia Ballroom)

CALSOYAS, Israel: Poster Board #153 – Comparison of Six Green Chile (Capsicum annuum L) Cultivars on Harvest Efficiency with Etgar® Picker (Tuesday/Georgia Ballroom)

CAO, Zhe: Poster Board #150 – QTL Identification for Plant and Flower Traits Using Interspecific Recombinant Inbred Populations Derived from Petunia axillaris, P. exserta, and P. integrifolia (Wednesday/Georgia Ballroom); Poster Board #151 – De Novo Assembly, Annotation, and Characterization of Root Transcripts of Caladium (Caladium ×hortulanum) (Wednesday/Georgia Ballroom)

CERVEN, Vasile: Poster Board #352 – Cultivar and Calcium Management to Minimize Lettuce Tipburn in Greenhouse Hydroponics (Thursday/Georgia Ballroom); Poster Board #379 – Maize (Zea mays L) Protein Nitrogen Response to Zinc Fertilization (Thursday/Georgia Ballroom)

CHANG, Yao-Chien: Poster Board #295 – Effect of Medium Composition on the Lower Leaf Yellowness of Phalaenopsis Plantlets in Vitro (Thursday/Georgia Ballroom)

CHAO, C. Thomas: Poster Board #134 – Malus angustifolia (Southern Crab Apple) Exploration in Arkansas, Mississippi, Louisiana, and Alabama (Thursday/Georgia Ballroom)

CHAO, Chihcheng: Poster Board #128 – Germplasm Collection of Malus sieversii from Central Asia Is Well-preserved in the USDA-ARS National Plant Germplasm System (Thursday/Georgia Ballroom)

CHATER, John M.: Poster Board #187 – Metabolic Profiles and Juice Quality Parameters of 14 USDA-ARS Pomegranate (Punica granatum L) Cultivars As Determined By 1H NMR, Spectrophotometry, Ion Chromatography, and Refractometry (Thursday/Georgia Ballroom)

CHHAJED, Shweta: Poster Board #388 – Transcriptome Analysis of Differentially Expressed Genes upon Treatment with Hydrogen Cyanamide in Peach (Wednesday/Georgia Ballroom)

CHO, Jung Gun: Poster Board #258 – Effect of Climate on Spring Phenology and Harvest Dates in ‘Fuji’ and ‘Hongro’ Apples in Korea (Thursday/Georgia Ballroom)

CHOI, Hyogil: Poster Board #269 – Effects of Supplemental LED Light on a Strawberry Plant on the Bottom Bed When Cultivated on a Two-floor Bed System (Wednesday/Georgia Ballroom)

CLOSE, David: Poster Board #031 – Developing and Implementing the Healthy Virginia Lawns Program (Wednesday/Georgia Ballroom)

COKER, Christine: Poster Board #074 – Creating Partnerships: Mississippi State University, Tennessee State University, and University of Jeremie (Thursday/Georgia Ballroom)


CONEVA, Elina: Poster Board #254 – Fire Blight Tolerant Asian Pear Cultivars for Alabama (Thursday/Georgia Ballroom)

CONTRERAS, Carolina: Poster Board #168 – Identification and Characterization of the Lipoxygenase Gene Family during Development of Pepino (Solanum muricatum Aiton) (Tuesday/Georgia Ballroom)

COULONG, Timothy: Poster Board #329 – Assessments of Flavor and Health-associated Compounds and Taste Panel Preferences in Watermelon (Tuesday/Georgia Ballroom); Poster Board #353 – Multi-year Yellow Squash and Zucchini Trials in Georgia (Thursday/Georgia Ballroom)

CORLETO, Karen: Poster Board #206 – Determination and Quantification of Amino Acids in Vegetables By HPLC Fluorescence Detection (Thursday/Georgia Ballroom)

CORRALES-GARCÍA, Joel: Poster Board #035 – Agricultural and Economic Importance of the Main Fruits and Vegetables Produced in Mexico (Wednesday/Georgia Ballroom)

CRABTREE, Sheri: Poster Board #322 – Jump Starting New Pawpaw Variety Production for the Industry: Developing Grafting and Top Working Approaches for Growers (Wednesday/Georgia Ballroom); Poster Board #248 – Consumer Preference for Pawpaw Cultivars and Kentucky State University Advanced Selections (Tuesday/Georgia Ballroom)

CUNNINGHAM, Tisa: Poster Board #330 – Abiotic and Biotic Factors Influencing Quality and Quantity within Brassicaceae Using Various Planting Methods in High Tunnels (Tuesday/Georgia Ballroom)

CURREY, Christopher J.: Poster Board #050 – Does Incorporating Service-learning Across a Greenhouse Production Curriculum Enhance the Learning Experience? (Tuesday/Georgia Ballroom)

DA, Kedong: Poster Board #160 – An Edible Lily ‘lanzhou Lily’ (Lilium davidi var. unicolor) Tissue Culture, Regeneration, and Micropropagation (Thursday/Georgia Ballroom); Poster Board #361 – Grafting English Cucumber onto a Gourd Rootstock Improves Pot Cucumber Yield and Disease Resistance in Greenhouse (Thursday/Georgia Ballroom)

DABIRAN, Sahar: Poster Board #363 – Increasing Survival of Grafted Watermelon Transplants (Thursday/Georgia Ballroom)

DAI, Wenhao: Poster Board #103 – Retrotransposon-based Molecular Markers in Chokecherry (Prunus virginiana L) and Their Transferability in Rosaceae Family (Thursday/Georgia Ballroom)

DASH, Prosanta K.: Poster Board #259 – Abscisic Acid and Kaolin for Heat Stress Mitigation during Strawberry Plug Transplant Establishment (Wednesday/Georgia Ballroom)
DAVIDSON, Joshua: Poster Board #003 – Diversity Analysis and Association Mapping of Fruit Colors in Capsicum annuum (Tuesday/Georgia Ballroom)

DE SALVADOR, Flavio Roberto: Poster Board #165 – Breeding Activities on Pomegranate at the CREA-Fruit Tree Research Center, Rome, Italy (Wednesday/Georgia Ballroom)

DEKALB, Courtney: Poster Board #357 – Evaluation of Tomato Cultivars for Locally Grown Value-added Processing in North Carolina (Thursday/Georgia Ballroom)

DE PRINCE, James: Poster Board #032 – Establishing an Extension Floral Design Program (Wednesday/Georgia Ballroom)

DENG, Lili: Poster Board #191 – Effects of a Hot Water or Heat- ed Thiabendazole Dip on Postharvest Decreening of Citrus Fruit (Tuesday/Georgia Ballroom); Poster Board #192 – Effects of Blue or Red LED Light Irradiation on Postharvest Decreening of Citrus Fruit (Tuesday/Georgia Ballroom)

DERROW, Jennifer: Poster Board #025 – Sun Exposure Affects Growth and Harvest Yield of Ocimum basilicum ‘Cardinal’ L. Grown on an Inexpensive, Vertical Structure (Tuesday/Georgia Ballroom)

DIGIOIA, Francesco: Poster Board #204 – The Effect of Sowing Date on Plant Growth and Nutritional Value of Cichorium spinosum L. Plants (Thursday/Georgia Ballroom); Poster Board #347 – Anaerobic Soil Disinfestation: Carbon Rate Effects on Soil pH, Temperature, Redox Potential, and Tomato Plant Growth (Tuesday/Georgia Ballroom)

DIAZ-PEREZ, Juan: Poster Board #088 – Fruit Yield and Quality of Heirloom Watermelon Cultivars Grown Organically (Wednesday/Georgia Ballroom)

DOWNING, Vincent: Poster Board #011 – Growth and Development of Two Fall-planted Kale Cultivars (Tuesday/Georgia Ballroom)

DUARTE, Emmanuel: Poster Board #012 – Panax Ginseng Extracts as a Novel Antibiotic (Tuesday/Georgia Ballroom)

DUERFELDT, Kevin: Poster Board #073 – Impact of Sack Gardening By Youth in a Ugandan School Garden Program (Thursday/Georgia Ballroom)

EBEL, Robert: Poster Board #370 – Growth and Yield Response of Valencia Sweet Orange Infected with Huanglongbing to Foliar Applications of Essential Nutrients (Thursday/Georgia Ballroom)

EBRAHIMI, Aziz: Poster Board #118 – Assessment of Genetic Diversity and Comparative Analysis of Juglans regia Accessions from Different Countries Using SSR Markers (Tuesday/Georgia Ballroom)

EDGAR, Brian: Poster Board #369 – The Potential of Creating Bioenergy for Small Farmers through Gasification of Woody Plants and Wastes (Tuesday/Georgia Ballroom)

EINHORN, Todd: Poster Board #243 – AVG Reduced Ethylene Production Rates of Pear Flowers and Fruitlets and Increased Fruit Set When Applied One to Two Weeks after Bloom (Tuesday/Georgia Ballroom)

EISENMAN, Sasha: Poster Board #382 – Comparing Stomatatal Conductance of Street Tree Species in Traditional Tree Pits and Green Infrastructure Storm Water Trenches (Thursday/Georgia Ballroom)

ELSYSY, Mohkles: Poster Board #252 – Molecular Bases of Apple Flowering Inhibition By Defoliation and Gibberellins (Thursday/Georgia Ballroom)

EVANS, William: Poster Board #341 – Yield and Nutrient Influences of Organic Fertilizer Blends in a Plasticulture Tomato System (Tuesday/Georgia Ballroom)

EVERS, Elizabeth E.: Poster Board #041 – Consumers of Texas Alternative Agriculture: A Brief Study of Preferences and Beliefs (Wednesday/Georgia Ballroom); Poster Board #042 – Producers of Texas Alternative Agriculture: A Brief Study of Beliefs (Wednesday/Georgia Ballroom); Poster Board #043 – Texas Alternative Agriculture: A Brief Comparison of the Beliefs of Consumers and Producers (Wednesday/Georgia Ballroom)

FERRAREZI, Rhuanito S.: Poster Board #023 – Assessment of Basil Varieties for Production in the UVI Commercial Aquaponic System (Tuesday/Georgia Ballroom); Poster Board #024 – Improving Cantaloupe Fruit Sugar Content in the UVI Commercial Aquaponic System (Tuesday/Georgia Ballroom); Poster Board #277 – Sensor-based Irrigation in Different Sweet Pepper Varieties in the U.S. Virgin Islands (Tuesday/Georgia Ballroom); Poster Board #278 – Greenhouse Production of Slicing Cucumbers in the U.S. Virgin Islands (Tuesday/Georgia Ballroom)

FLAX, Nicholas J.: Poster Board #219 – Controlled-release and Water-soluble Fertilizers Affect Growth and Tissue Nutrient Concentrations of Basil, Dill, and Parsley (Wednesday/Georgia Ballroom); Poster Board #288 – Commercial Evaluation of Large, Biopolymer-based Biocontainers for Herbaceous Perennial Production (Wednesday/Georgia Ballroom)

FONT, Ariana: Poster Board #013 – Anti-bacterial Properties of the Annona montana (Tuesday/Georgia Ballroom)

FONTENOT, Kathryn: Poster Board #354 – Results of the LSU Agcenter and Mississippi State University 2014 Fall Broccoli Variety Trial (Thursday/Georgia Ballroom)

FRAELICH, B. A.: Poster Board #323 – Phytotoxicity of Herbicides, Fungicides, and Insecticides/Acaricides on Ornamental Horticultural Crops in Southeastern U.S. for Interregional Research Program (IR-4) (Wednesday/Georgia Ballroom)

FU, Jianmin: Poster Board #130 – An Ornamental Edible Persimmon New Cultivar: Diospyros Kaki thunb. ‘zhongshi’ (Thursday/Georgia Ballroom)

FU, Wanfang: Poster Board #164 – Rosbreed: Enabling Mark- er-assisted Breeding for Brown Rot (Monilinia spp.) Resistance in Peach (Wednesday/Georgia Ballroom)

FULLER, N.J.: Poster Board #308 – Biomass and Essential Oil Yield and Characterization of 14 Ocimum tenuiflorum Varieties (Thursday/Georgia Ballroom)

GALANTI, Russell: Poster Board #280 – Yield Performance of New Macadamia Nut Selections in Kona, Hawaii (Tuesday/Georgia Ballroom); Poster Board #383 – Water Relations of Trees Growing in a Green Infrastructure (GI) Storm Water Trench (Thursday/Georgia Ballroom)

GARTON, Whitney: Poster Board #255 – Apple Anthracnose Life Cycle and Disease Cycle (Thursday/Georgia Ballroom)

GHIMIRE, Shuresh: Poster Board #349 – Biodegradable Plastic Mulch Provided Weed Control, Yield, and Quality of Pie Pumpkin Comparable to Polyethylene Mulch (Tuesday/Georgia Ballroom)

GIL MONTENEGRO, Pilar: Poster Board #309 – A Prospective Study to Determine Causes of Physiological Disorder in ‘Chandler’ Walnut Fruits. (Thursday/Georgia Ballroom); Poster Board #389 – Physical and Chemical Changes in Silty-Clay Soils in Response to Humic Acid and Sulfuric Acid, and Its Effects on Avocado Plant Water Status (Wednesday/Georgia Ballroom)

GLADFELTER, Heather: Poster Board #228 – Somatic Embryogenesis of the Rare Cultivars, Stewartia malacodendron “Del-marva” and Stewartia ovata “Red Rose” (Wednesday/Georgia Ballroom)
GOENAGA, Ricardo: *Poster Board #281* – Yield and Fruit Quality Traits of Dragon Fruit Lines and Cultivars Grown in Puerto Rico (Tuesday/Georgia Ballroom)

GOMEZ, Marisa: *Poster Board #098* – An Optimized Accelerated Solvent Extraction Method for the Isolation of Health-promoting Compounds from Non-pungent Peppers (Thursday/Georgia Ballroom)

GONZALEZ, Ivan: *Poster Board #271* – Impact of Nutrient Applications on Asian Citrus Psyllid Populations and Tree Physiology (Thursday/Georgia Ballroom)

GREENWELL, Daniel P.: *Poster Board #393* – Effects of a Nonionic Surfactant on Growth, Physiology, and Drought Tolerance of Coleus (*Solenostemon scutellarioides* L. Codd) (Wednesday/Georgia Ballroom)

GRIFFIS, John: *Poster Board #275* – Flowering and Fruiting Data for Purple-fruited Pitanga (*Eugenia uniflora* L.) Grown in Hawaii at the Kona Experiment Station Aid in Selection of Potential New Varieties (Tuesday/Georgia Ballroom)

GRUMET, Rebecca: *Poster Board #114* – Cuccap - Developing Genetic Resources for the Cucurbit Community (Tuesday/Georgia Ballroom); *Poster Board #399* – Cucumber Fruit Peel Metabolome Is Influenced by Stage of Developmental and Market Class (Thursday/Georgia Ballroom)

GU, Sanjun: *Poster Board #081* – Including Low Tunnels in a High Tunnel for Winter Strawberry Production in Cold Hardiness Zone Seven (Tuesday/Georgia Ballroom); *Poster Board #082* – Determining the Ideal Transplanting Dates for Organic Tomato Production in High Tunnels in North Carolina (Tuesday/Georgia Ballroom); *Poster Board #089* – Performance of Twelve Organic Bell Pepper Varieties in the Piedmont of North Carolina (Wednesday/Georgia Ballroom)

GUAN, Wenjing: *Poster Board #237* – Growing Day-neutral Strawberries in High Tunnels to Target Fall Markets in Southern Indiana (Thursday/Georgia Ballroom)

GUO, Yanjun: *Poster Board #381* – Economic and Cultural Effects of Reducing Substrate Moisture Content during Greenhouse Production of Bedding Plants (Thursday/Georgia Ballroom)

GUUSEMAN, Jessica A.: *Poster Board #097* – IGT Genes Shape Plant Shoot and Root Architecture (Thursday/Georgia Ballroom)

HADIZADEH, Hanieh: *Poster Board #111* – Genetic Diversity of a Germplasm Collection of Eremurus Using Molecular and Morphological Markers (Tuesday/Georgia Ballroom)

HAMMOCK, Hunter: *Poster Board #304* – LED Lighting Improves the Yield and Quality of Hydroponically Grown Basil (Thursday/Georgia Ballroom)

HAN, Hyun-Hee: *Poster Board #256* – Analysis of Correlation Between Fruit Size and Weather Data in ‘Fuji’ Apple (Thursday/Georgia Ballroom)

HAN, NaRae: *Poster Board #169* – Change in Glucosinolates Content during Growth and Postharvest Cold Storage of Baemoochee Plant (*K Brassicarophanus*) (Tuesday/Georgia Ballroom)

HAO, Xiuming: *Poster Board #210* – Response of Greenhouse Tomato Photosynthesis to Different Spectra of Intra-canopy LEDs Under Different Ratios of Red-Blue-White Overhead LEDs (Tuesday/Georgia Ballroom); *Poster Board #218* – Comparison of Rockwool and BVB Growth Media for Greenhouse Strawberry Production (Wednesday/Georgia Ballroom)

HARRIS, Bethany: *Poster Board #319* – Effect of Nitrogen Level on Rate of Decomposition of Plantable Containers in the Landscape (Thursday/Georgia Ballroom)

HARRISON, Sarah D.: *Poster Board #019* – Interspecific Hybridization within *Penstemon* and Their Potential Uses in Urban Landscapes (Wednesday/Georgia Ballroom)

HARTIN, Janet S.: *Poster Board #320* – Evapotranspiration Adjustment Factors (ETAF) of 30 Large Landscape Plantings in Six Climate Zones in California (Wednesday/Georgia Ballroom)

HAWKINS, Susan: *Poster Board #132* – Cold-hardiness in Accessions and Hybrids of *Vetex* (Thursday/Georgia Ballroom)

HAYES, Douglas G.: *Poster Board #239* – Comparison of Weathering at Two Diverse Geographic Locations and Simulated Weathering on the Physicochemical Properties of Biodegradable Plastic Mulches (Thursday/Georgia Ballroom)

HERNÁNDEZ, Ricardo: *Poster Board #209* – Supplemental LED Lighting As a Potential Alternative to Plant Growth Regulators (Tuesday/Georgia Ballroom)

HOFMAN, Margaret: *Poster Board #322* – The Effect of Two Plants Grown in Calcinied Clay with Activated Alumina on Nitrogen and Phosphorus Removal in Greenhouse Natural Swimming Pool Mesocosms. (Wednesday/Georgia Ballroom)

HOKANSON, Stan: *Poster Board #124* – A Field Evaluation of Buxus Cultivar and Species Germplasm (Wednesday/Georgia Ballroom)

HOLMES, Sydney: *Poster Board #331* – Influence of Heating Nutrient Solution on Greenhouse-grown Hydroponic Lettuce (Tuesday/Georgia Ballroom)

HONG, Su-Yong: *Poster Board #402* – Comparison of the Nutritional Content of Quinoa (*Chenopodium quinoa* Willd.) Cultivated in South Korea and Peru (Thursday/Georgia Ballroom)

HOYLE, Jared: *Poster Board #313* – Response of Seven Woody Ornamentals to Turfgrass Herbicide Applications of Arlylex, Penoxsulam, and Pyrimisulfan (Thursday/Georgia Ballroom)

HU, Bizhen: *Poster Board #360* – Yield and Fruit Quality of Grafted Tomato Plants in Organically Managed High Tunnels Containing Zones with Different Compost Application Histories (Thursday/Georgia Ballroom)

HU, Cuiyin: *Poster Board #190* – Postharvest Handling and Storage Quality of a New Mandarin Hybrid in Florida (Thursday/Georgia Ballroom)

HUTTON, Mark G.: *Poster Board #342* – Permanent Bed System for Small-scale Organic Reduced-till Agriculture (Tuesday/Georgia Ballroom)

IM, Ju Sung: *Poster Board #395* – Evaluation of Salt Tolerance in Cultivated Potatoes (*Solanum tuberosum* L.) Based on Plant Growth and Tuber Yield (Wednesday/Georgia Ballroom)

INFANTE-CASSELLA, Michelle: *Poster Board #344* – Sudangrass and Sorghum Sudangrass Hybrids As Summer Cover Crops for Rotational Plantings and Soil Health Improvement (Tuesday/Georgia Ballroom)

ISHIBASHI, Caitlin D. A.: *Poster Board #048* – Can You Hear Me Now? Good! How Graduate Students Learn to Communicate Science to the Public (Tuesday/Georgia Ballroom)

JACKSON, Carissa: *Poster Board #101* – Micropropagation and DNA Barcoding Studies in the Genus *Scutellaria* (Thursday/Georgia Ballroom)

JACYSIAGRA, Ewelina: *Poster Board #123* – Rootstock Variability in Pistachio (Wednesday/Georgia Ballroom)
JANG, Dong-Cheol: Poster Board #328 – Effect of Drainage Ratio in Nutrient Supply on Growth and Yield of Paprika (Capsicum annuum L.) in Long-term Recycling Hydroponic Cultivation in South Korea (Tuesday/Georgia Ballroom)

JARRET, Robert L.: Poster Board #125 – Notes on Citrus spp. and Acanthosicyos noudini anus (Wednesday/Georgia Ballroom)


JAYANTY, Sastry: Poster Board #172 – Ethylene Treatments Resulted in Accumulation of Anthocyanins in Fortress Russet Culti- var (Tuesday/Georgia Ballroom)

JENDEREK, Maria M: Poster Board #234 – Establishing Sugarcane (Saccharum spp.) Genetic Resources in Vitro (Wednesday/Georgia Ballroom)

JETT, Lewis: Poster Board #334 – Evaluating High Tunnel and Open-field Specialty Melons for Farm-to-School Markets in West Virginia (Tuesday/Georgia Ballroom)

JIN, Yong Ik: Poster Board #170 – Acrylamide Content in Potato Product Is Affected By Chemical Composition in Cv. “Goun” (Solanum tuberosum L.) of korea (Tuesday/Georgia Ballroom)

JOHNSON, Laura: Poster Board #090 – Evaluation of Organic Fertilizers on the Growth and Yield of New Mexico Green Chile (Capsicum annuum L.) (Wednesday/Georgia Ballroom)

JUAREZ-LOPEZ, Porfirio: Poster Board #375 – Yield of Parophyllum ruderal Jacq. As a Function of the Concentration of Nutrient Solution (Thursday/Georgia Ballroom)

KADERABEK, Laura: Poster Board #297 – A Study to Investigate the Effects of Aboarding and Pile Management on Processed Pine Bark (Wednesday/Georgia Ballroom); Poster Board #298 – Fifty Shades of Gley-Using Munsell Soil Color to Assess Pine Bark’s True Colors (Wednesday/Georgia Ballroom)

KARGAR, Mahnaz: Poster Board #166 – Effect of Maturity on Total Carotenoid Content of Selected Genomically Diverse Banana Cultivated in Southeastern United States (Tuesday/Georgia Ballroom)

KARLSSON, Meriam: Poster Board #338 – Managing Greenhouse Bell Peppers for Optimal Yield (Tuesday/Georgia Ballroom)

KAWAMURA, Sachiko: Poster Board #403 – The Relationship Among Fruit Growth, Sugar Accumulation, and Water Status of Seeded Watermelon and Seedless Watermelon Fruits (Thursday/Georgia Ballroom)

KENNYE, Annette: Poster Board #002 – Survival of Contaminated Water Spray on the Survival of Escherichia coli on Field-grown Tomatoes (Tuesday/Georgia Ballroom)

KHANAL, Badri: Poster Board #368 – Impact of Synthetic Nitrogen Rates on Fresh and Dry Weight Biomass Yield, Above-ground Plant Components, Physiological Parameters of Three Perennial Feedstock Bio-fuel Grass Species (Tuesday/Georgia Ballroom)

KIM, Hye-Ji: Poster Board #214 – Comparison of LED and HPS Supplemental Light Quality on Greenhouse Tomato Production in Northern States during Winter Months (Tuesday/Georgia Ballroom); Poster Board #380 – Effects of Application Rate and Timing of Slow-release Fertilizer and Supplemental Potassium on Yield of Greenhouse-grown Ginger (Thursday/Georgia Ballroom); Poster Board #392 – Morphological and Physiological Evaluations of Grafted Tomato Plants in Response to Salinity Stress (Wednesday/Georgia Ballroom)

KIM, Mi Seon: Poster Board #285 – Inter Simple Sequence Repeat Data Reveals the Physical Characteristics of Helleborus (Wednesday/Georgia Ballroom)


KLETT, James: Poster Board #324 – Colorado Multi-site Woody Plant Trials (Wednesday/Georgia Ballroom)

KOBAYASHI, Kent: Poster Board #047 – Peer Teaching in a Tropical Crop Production Systems Course to Enhance Student Learning (Tuesday/Georgia Ballroom); Poster Board #061 – RSS Feed and News Aggregator Mobile Apps to Disseminate Information for Research, Extension, and Teaching (Wednesday/Georgia Ballroom); Poster Board #336 – Fluorescent and LED Lighting Effects on Hydroponically Grown ‘Winter Density’ Bibb Lettuce (Tuesday/Georgia Ballroom)

KOPSELL, David: Poster Board #316 – U.S. Non-collegiate Golf Course Superintendent’s Perception of the Audubon Cooperative Sanctuary Program (Thursday/Georgia Ballroom)

KOPSELL, Dean: Poster Board #212 – LED Light Quality Impacts Plant Content of Nutritionaly Important Pigments in Sprouting Broccoli (Tuesday/Georgia Ballroom)

KORANKYE, Ernest A.: Poster Board #175 – Stress Physiology of Postharvest Balsam Fir Trees As Influenced By Shaking and Baling (Wednesday/Georgia Ballroom)

KRATSC, Heidi: Poster Board #033 – Factors That May Influence the Purchasing Behavior of U.S. Consumers in Relation to Bioplastic Plant Containers (Wednesday/Georgia Ballroom)

KRZTON-PRESSON, John: Poster Board #348 – Cover Crops and Strip-tillage Influence on Soil Health and Food Safety in a Midwest Muskmelon Production System (Tuesday/Georgia Ballroom)

KU, Kang-Mo: Poster Board #046 – Demonstrating the Role of Plant Epicuticular Waxes in Water Retention on Leaf Surfaces Using Brassica Leafy Vegetables. (Tuesday/Georgia Ballroom)

KU, Kang-Mo: Poster Board #200 – Variation in Mineral Composition Among Species of Brassica Crops (Thursday/Georgia Ballroom)

KU, Kang-Mo: Poster Board #201 – Epicuticular Wax on Leaves of the Rosette and Inflorescence of Lettuce (Thursday/Georgia Ballroom)

KUWAHARA, Mami: Poster Board #355 – Evaluation of Carrot Cultivars for Production in Northern Climates (Thursday/Georgia Ballroom)

LABATE, Joanne A.: Poster Board #129 – Characterization of Mineral Nutrients in National Plant Germplasm System (NPGS) Tomato Varieties (Thursday/Georgia Ballroom)

LADA, Rajasekaran: Poster Board #176 – Changes in Endogenous Hormone Levels Explains Seasonal Variation in Balsam Fir Postharvest Needle Abscession (Wednesday/Georgia Ballroom); Poster Board #401 – Environmental and Nutritional Factors Influencing Maple Tree Sap Flow (Thursday/Georgia Ballroom)

LATTIER, Jason D.: Poster Board #144 – Cross Compatibility Studies in Lilac (Syringa L.) (Wednesday/Georgia Ballroom)

LAUDICK, Julie: Poster Board #374 – On-farm Evaluation of Six Commercially Available Biofertilizers on Organic Tomato and Broccoli (Thursday/Georgia Ballroom)

LAYNE, Desmond: Poster Board #051 – The Capstone Course-Benefits to Senior-level Students in the Agriculture and Food Systems Interdisciplinary Program at Washington State University. (Tuesday/Georgia Ballroom)

LEE, Chiwon: Poster Board #015 – Influence of Artificial Lights on Nitrate and Sugar Contents of Leaf Lettuce (Tuesday/Georgia Ballroom); Poster Board #356 – Evaluation of Lettuce Cultivars for Hydroponic Culture (Thursday/Georgia Ballroom)
LEE, Chiwon W.: Poster Board #372 – Aging of Coir Dust Root Substrate Can Eliminate Its Influence on Vegetable Seeding Growth Suppression As a Result of Reduced Phenolic Compounds (Thursday/Georgia Ballroom)

LEE, Geung-Joo: Poster Board #109 – Editing of Nitrate Reductase Gene Targeted By CRISPR/Cas9 in Petunia Protoplast System (Thursday/Georgia Ballroom); Poster Board #116 – Novel Micro-RNAs Targeting to Genes Associated with Drought Stress in a Crop Camellina sativa (Tuesday/Georgia Ballroom); Poster Board #286 – Identification of Single Nucleotide Polymorphism (SNP) Markers Associated with Botrytis Resistance in Lily (Lilium spp.)(Wednesday/Georgia Ballroom)

LEE, Ji Sun: Poster Board #205 – Growing Environment Effects the Levels of Health Promoting Compounds in Tomato (Thursday/Georgia Ballroom)

LEE, Seung Youn: Poster Board #224 – Deep Simple Morphophysiological Dormancy in Seeds of Epimedium koreanum Nakai native to Korea (Tuesday/Georgia Ballroom)

LEE, Sung-Hee: Poster Board #094 – Effect of Sodium Hypochlorite as a Disease Control Against Violet Root Rot Caused by Helicobasidium mompa on Apple Trees (Wednesday/Georgia Ballroom)

LEONHARDT, Kenneth: Poster Board #147 – Illustrated Distinctive Flower, Leaf, and Fruit Morphology Associated with Polyploidy in Tropical Ornaments (Wednesday/Georgia Ballroom)

LEWTER, Jennifer: Poster Board #161 – Rosbred: Enabling Marker-assisted Selection for Postharvest Deterioration in Peach (Wednesday/Georgia Ballroom)

LEYTON NARANJO, Leynar: Poster Board #145 – Southern Red Mite in Abelia (Wednesday/Georgia Ballroom)

LI, He: Poster Board #226 – Collecting Time Affected Immature Seed Germination of Kalmia latifolia L. Hybrids (Tuesday/Georgia Ballroom)

LI, Jian: Poster Board #189 – Effects of Hot Water Treatment and Storage Temperature on Internal Quality and Volatile Compounds of Grapefruit (Thursday/Georgia Ballroom)

LI, Zhitong: Poster Board #138 – Induction of Tetraploid Hibiscus moscheutos through Soaking of Seeds or Seedlings (Tuesday/Georgia Ballroom)

LIU, Jun: Poster Board #398 – Differential Thermal Analyses in Peach (Prunus persica (L.) Batsch) (Thursday/Georgia Ballroom)

LIU, Qiang: Poster Board #117 – Transcriptome Analysis Revealed the Dynamic Fruit Oil Accumulation of Symplacos paniculata (Tuesday/Georgia Ballroom); Poster Board #186 – Determination of Fruit Oil Content and Fatty Acid Composition in Symplacos paniculata Using Near-infrared Reflectance Spectroscopy (Thursday/Georgia Ballroom); Poster Board #229 – Symplacos paniculata, a New Ornamental Plant Species (Wednesday/Georgia Ballroom)

LOBO, Ramiro: Poster Board #273 – Pitahaya or Dragon Fruit (Hylocereus spp.) Varieties: Evaluation, Morphological Description, and Genetic Characterization (Tuesday/Georgia Ballroom)

LOEWEN, David E.: Poster Board #028 – A Meta-analysis of Tomato Rootstocks to Determine Rootstock Vigor and Genetic Yield Potential (Tuesday/Georgia Ballroom)

LOWE, Jeremiah: Poster Board #249 – Fruit Characteristics of Four Pawpaw (Asimina triloba) Advanced Selections from Kentucky State University (Tuesday/Georgia Ballroom)

MA, Li: Poster Board #376 – Influences of Land Use with Different Crops on Soil Fertility and Productivity in the Area Above the Three Gorges Reservoir of China (Thursday/Georgia Ballroom)

MARINO, Silvia: Poster Board #188 – Assessment of Foliar Fertilization on Red Grapefruit Fruit Quality at Harvest and during Storage (Thursday/Georgia Ballroom)

MARSH, Lurline: Poster Board #080 – Impact of Fertilizer Regime on Yield and Food Safety of Heirloom Tomato Grown on Conventional and Organic Field Sites. (Tuesday/Georgia Ballroom)

MARTINEZ, Mario: Poster Board #364 – Study of Jatropha curcas and Calophyllum inophyllum Oils for Potential Use As Biodiesel Fuel in Guam (Tuesday/Georgia Ballroom)

MAZOUREK, Michael: Poster Board #079 – ESO-Cuc, the Eastern Sustainable Organic Cucurbit Project (Tuesday/Georgia Ballroom)

MCCONNELL, James: Poster Board #045 – Enhancing the Learning Experience of an Online Plant Science Lab Course Using Moodle’s Tools and External Applications (Tuesday/Georgia Ballroom); Poster Board #062 – Using 360 Degree Media and Spherical Projection Technologies to Create an Immersive Experience. (Wednesday/Georgia Ballroom); Poster Board #071 – Preserving Guam Rare Native Plants through a Plant Extinction Prevention (PEP) Program (Thursday/Georgia Ballroom)

MCCOY, Jack: Poster Board #018 – Evaluation of Harvest Time on Postharvest Incidence of Red Drupelet Reversion Development and Firmness of Blackberry Cultivars (Wednesday/Georgia Ballroom)

MCGINNIS, Esther E.: Poster Board #225 – Perigynia Removal Improved Germination in Two Native Sedge Species (Tuesday/Georgia Ballroom)

MELCHER, Gregory J.R.: Poster Board #231 – Effects of Collection Date, Wounding, and Auxin Treatment on Rooting of Amelanchier spicata Propagated By Stem Cuttings (Wednesday/Georgia Ballroom); Poster Board #300 – Amelanchier spicata from Four Provenances in New England Differ in Early Seedling Growth and Are Insensitive to Fertilizer Nitrogen Source (Wednesday/Georgia Ballroom)

MELGAR, Juan Carlos: Poster Board #030 – Using Paper Bags for Growing Peaches in Backyards (Wednesday/Georgia Ballroom); Poster Board #386 – Using the Electrolyte Leakage Method to Determine Freeze Tolerance in Peach Fruitlets (Wednesday/Georgia Ballroom)

MENDONCA, Kylie: Poster Board #246 – Fruit and Flowering Habit of Mature ‘Wonderful’ Pomegranate (Punica granatum L.) (Tuesday/Georgia Ballroom)

MENDOZA, Manoella: Poster Board #181 – The Effects ofNetting, Fruit Position, and Maturity on the Development of Soft Scald in Malus domestica ‘Honeycrisp’ During Storage (Wednesday/Georgia Ballroom)

METALLO, Rosalie: Poster Board #213 – Management of LED Light Quality to Maximize Biomass and Chlorophyll Fluorescence in Sprouting Broccoli in Controlled Environments (Tuesday/Georgia Ballroom)

MILES, Carol: Poster Board #238 – Biodegradable Mulch Films: Their Constituents and Suitability for Organic Agriculture (Thursday/Georgia Ballroom); Poster Board #265 – Application of Biodegradable Mulches in Day-neutral Strawberry Grown in Western Washington (Wednesday/Georgia Ballroom)

MILLER, Brandon: Poster Board #302 – Root Pruning and Auxin Application Alter Root Development of Hickories (Wednesday/Georgia Ballroom)

MILLER, Chad T.: Poster Board #056 – Surveying Incoming Undergraduate Horticulture Students about Their Horticulture Backgrounds and Career Concerns (Tuesday/Georgia Ballroom); Poster Board #257 – Using the Electrolyte Leakage Method to Determine Freezing Tolerance in Peach Fruitlets (Wednesday/Georgia Ballroom)
MILLER to POOLER

Board #294 – Cuphea Species and Cultivars Differ in Occurrence of Intumescence (Thursday/Georgia Ballroom)

MILLER, Christian F.: Poster Board #350 – Cultivar Assessment for Bacteria Spot of Pepper Resistance in South Florida (Thursday/Georgia Ballroom)


MILLS, Sarah A.: Poster Board #390 – The Interactive Effect of Elevated Carbon Dioxide, Temperature, and Water Deficit Stress on Growth and Flower Development of Petunia (Petunia ×hybrida) (Wednesday/Georgia Ballroom)

MIYASAKA, Susan: Poster Board #157 – Use of Pseudo-reference Genomes to Improve Genotyping-by-sequencing of Taro (Colocasia esculenta) (Tuesday/Georgia Ballroom); Poster Board #351 – Evaluation of Insecticides for the Management of Rough Sweetpotato Weevil, Blosyurus asellus (Coleoptera: Curculionidae) in Hawaii Island (Thursday/Georgia Ballroom)

MOHammADi, Ahmad Shah: Poster Board #095 – Variation Among Muskmelon Cultivars in Attractiveness to Striped Cucumber Beetle and Severity of Bacterial Wilt (Wednesday/Georgia Ballroom)

MOrris, Reese: Poster Board #007 – Evaluation of Ginseng (Panax quinquefolius) Germination and Aeroponic Seedling Growth in Response to Stratification Duration, GA3, De-coating, and Media (Tuesday/Georgia Ballroom)

MORSI, Asmaa: Poster Board #211 – Effects of Different Spectra of Supplemental Lighting on Water Use Efficiency of Lettuce Lactuca sativa L. ‘Cherokee’ in the Greenhouse (Tuesday/Georgia Ballroom)

MOu, Beiquan: Poster Board #216 – Fish Hydrolysates Improve Growth of Containerized Lettuce (Wednesday/Georgia Ballroom)

NAM, Jung-Hwan: Poster Board #107 – Isolation and Determination of Four Phenolic Compounds from Peel of Color-fleshed and White-fleshed Potatoes (Thursday/Georgia Ballroom)

NEILY, William: Poster Board #266 – Commercial Extract from the Brown Seaweed Ascyphillum nodosum (Acadian®) Improves Yield and Quality of Hydroponically Grown Strawberries (Wednesday/Georgia Ballroom)

NEWBY, Adam F.: Poster Board #321 – A Novel Approach for Determining Root Biomass in Plant-based Research (Wednesday/Georgia Ballroom)

NEWMAN, Steven: Poster Board #292 – Greenhouse Propagation of Ornamental Ipomoea batatas Cultivars Under Light-emitting Diodes (LEDs) and Natural Light (Thursday/Georgia Ballroom)

NIELSEN, Ethan: Poster Board #270 – Citrus gilletiana for Citrus Germplasm Enhancement and Cultivar Development (Thursday/Georgia Ballroom)

NIMMAKAYALA, Padma: Poster Board #110 – High-resolution Genetic Map for Understanding the Effect of Genome-wide Recombination Rate on Nucleotide Diversity in Watermelon (Tuesday/Georgia Ballroom)

NONNECKE, Gail: Poster Board #069 – Using School Gardens to Support School Feeding Programs at Elementary Schools in Uganda (Thursday/Georgia Ballroom)

NORRIE, Jeffrey: Poster Board #301 – Rooting of Young Interior Douglas-fir Seedlings in Response to a Commercial Liquid Extract of the Marine Macroalga Ascyphillum nodosum (Wednesday/Georgia Ballroom)

NWOSSi, Sochinwechi: Poster Board #085 – Yield Potential of Fourteen Organic Sweetpotato Cultivars Grown in Various Mulches (Wednesday/Georgia Ballroom)

OGUTU, Rose: Poster Board #068 – Prospects of Starting Potato Slips in High Tunnels By Small Farms (Thursday/Georgia Ballroom)

PAPAROZZI, Ellen: Poster Board #307 – Winter Production of Basil (Ocimum basilicum) for Fresh Market and Essential Oil Production (Thursday/Georgia Ballroom)

PARK, Dosu: Poster Board #185 – Changes in Quality of Astringent Persimmon during Ripening By Using an Ethylene-producing Tablet at Different Concentration and Temperature (Thursday/Georgia Ballroom)

PARK, Eui Kwang: Poster Board #337 – Growth Condition of Allium hookeri root By Heat Conservation Materials during Overwintering (Tuesday/Georgia Ballroom)

PARK, Saejin: Poster Board #391 – The Effect of Exogenous Calcium and Osmotic Stress on Temporary Water Stress Tolerance in Bedding Plant Seedlings (Wednesday/Georgia Ballroom)

PATZ, Bryce: Poster Board #054 – The Purdue Arboretum’s Native Nursery Supports and Extends Experiential Student Learning (Tuesday/Georgia Ballroom)

PERKINS-VEAZIE, Penelope: Poster Board #173 – Development of a Firmness Tester Designed for Large Watermelon (Tuesday/Georgia Ballroom); Poster Board #174 – Essential Oil Disinfectant on Appearance and Composition of Organically Grown Tomatoes (Tuesday/Georgia Ballroom); Poster Board #196 – Carotenoid Content of Butternut Squash Cultivars Following Harvest and Storage (Thursday/Georgia Ballroom)

PETERSON, Bryan J.: Poster Board #222 – Sub-mist Is an Effective Alternative to Overhead Mist for the Propagation of Coleus By Stem Cuttings (Tuesday/Georgia Ballroom)

PHILLIPS, Doug: Poster Board #261 – Screening and Marker Selection for Anthracnose Susceptibility in Florida Blueberry Cultivars (Wednesday/Georgia Ballroom)

PICA, David: Poster Board #195 – Compositional Equivalency of Conventional and Organically-grown Sweetpotatoes (Wednesday/Georgia Ballroom)

PISANI, Cristina: Poster Board #193 – Postharvest Evaluations of Avocado Fruit from Reciprocal Crosses of ‘Hass’ and ‘Bacon’ (Thursday/Georgia Ballroom)

PLIAKONI, Eleni: Poster Board #053 – Developing an Urban Food System Study Tour to Enhance Student’s Experiential Learning (Tuesday/Georgia Ballroom)

POLOZOLA, Michael: Poster Board #083 – Evaluation of Organic Weed Control Methods in Pecan Production (Tuesday/Georgia Ballroom)

POMPER, Kirk: Poster Board #135 – Hi7-1: A Promising New Pawpaw Selection in the Kentucky State University Repository Collection (Thursday/Georgia Ballroom); Poster Board #251 – The Kentucky Eastern Filbert Blight Resistant Hazelnut Trial (Tuesday/Georgia Ballroom)

POOLER, Margaret: Poster Board #137 – SSR Markers Reveal the Genetic Diversity of Asian Cercis Taxa at the U.S. National Arboretum (Tuesday/Georgia Ballroom)
RAJASHEKAR, C.B.: Poster Board #202 – Effect of High CO₂ Level on Growth and Nutritional Quality of Lettuce and Spinach (Thursday/Georgia Ballroom)

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✓ Germination Count

✓ Leaf area - leaf/hypocotyl distinction
✓ Root morphology
✓ Topology and developmental analysis

✓ Leaf area, length and width of plants in soil

**WinRHIZO™ Tron**

**Tron & Tron MF**
Software Programs for Interactive Analysis of Images of Roots in Soil and Rhizotron

Trace roots manually with a mouse or by touching the screen of all-in-one or tablet computers.

Monitor root growth by analysing Multiple Frames (images) of a root system taken at different times.

✓ Root morphology in function of root diameter and color: length, area, volume and number of tips
✓ Topology and developmental analysis
✓ Data retrievable from file names using the ICAP naming scheme
✓ Previous analysis can be retrieved to resume analysis of the same location at a later time simply by adding new or dead roots since the last analysis

Need other Image Measurements?
We Also Offer the Following Products:

**WinSEEDLE™**
Seed/Needle Morphology & Count

**WinFOLIA™**
Leaf Area & Morphology

**WinSCANOPY™**
Canopy & Solar Radiation

**WinCAM NDVI™**
Color Area, Basic Morphology & NDVI

**WinDENDRO™**
Tree Rings & Wood Density

**WinCELL™**
Wood Cell Anatomy