131st Annual Meeting of the
FLORIDA STATE HORTICULTURAL SOCIETY
2018
2018 Program Contents

3 Program Overview
6 2017–2018 FSHS Board of Directors
6 2018 Meeting Facilitators
7 Meeting Sponsors
7 Patron Members
8 Sectional Vice-Presidents
9 Presentation, Publication and Submission Guidelines
9 Paper Submissions
11 Student Scholarships
11 Student Competitions and Awards
12 Technical Program Schedule
12 Poster Session
13 Ornamental, Garden & Landscape Section
16 Natural Resources Section
18 Vegetable Section
23 Krome Memorial Institute
27 Handling & Processing Section
30 Citrus Section
35 In-Service Training Agenda
36 Notes
37 Renaissance Fort Lauderdale Cruise Port Hotel Map

2018 FSHS Annual Meeting Facts

Oral Invited Presentations 4
Poster Presentations 6
Oral Contributed Presentations 111
  Citrus 26
  Handling and Processing 15
  Krome Memorial institute 18
  Natural Resources 9
  Ornamental, Garden & Landscape 15
  Vegetables 28
In-service Training Presentations 5
Total Meeting Presentations 126
# Program Overview

## Registration Desk Hours – *Atlantic Foyer*

<table>
<thead>
<tr>
<th>Day</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sunday June 10</td>
<td>2:00 PM – 6:00 PM</td>
</tr>
<tr>
<td>Monday June 11</td>
<td>7:30 AM – 5:30 PM</td>
</tr>
<tr>
<td>Tuesday June 12</td>
<td>8:00 AM – 11:00 AM</td>
</tr>
</tbody>
</table>

## Sunday Afternoon

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00-2:00</td>
<td>ASHS Certified Horticulture Exam</td>
<td>Levanto</td>
</tr>
<tr>
<td>10:00-4:00</td>
<td>FSHS Board of Directors Meeting</td>
<td>Pampero A/B</td>
</tr>
<tr>
<td>1:00-3:00</td>
<td>Posters Setup, Daniel Leonard</td>
<td>Atlantic Foyer</td>
</tr>
<tr>
<td>4:00-5:00</td>
<td>Opening Ceremony, Mark Ritenour</td>
<td>Atlantic Salon A/B</td>
</tr>
</tbody>
</table>
| 4:15-4:45        | Speaker: Dr. Matt Sowcik, Assistant Professor, UF/IFAS Department of Agricultural Education and Communications  
  “The Critical Importance of Personal and Professional Development”  
| 4:45-5:00        | Awards Ceremony                            | Atlantic Salon A/B |
| 5:00-6:00        | Welcome Reception (Included in paid conference registration) | Atlantic Salon C |

## Monday Morning

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:30-9:45</td>
<td>General Session</td>
<td>Atlantic Salon A/B</td>
</tr>
<tr>
<td>8:30</td>
<td>Welcome &amp; Presidential Address:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Eric Simonne FSHS President</td>
<td></td>
</tr>
</tbody>
</table>
| 9:00             | Speaker: Dr. Jonathan Crane, Tropical Fruit Crop Specialist, UF/IFAS Tropical Research and Education Center  
  “Tropical Fruit Production in Florida: Trials, Tribulations and Opportunities”  | Atlantic Salon A/B |
| 9:15-9:45        | Coffee Break                               | Atlantic Foyer |
| 9:45             | End of General Session                    |             |
## Concurrent Morning Sessions:

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:50-12:00</td>
<td>Citrus <em>(p.34)</em></td>
<td>Pampero A/B</td>
</tr>
<tr>
<td>9:50-12:00</td>
<td>Krome Memorial Institute <em>(p.25)</em></td>
<td>Bayamo</td>
</tr>
<tr>
<td>9:50-12:00</td>
<td>Natural Resources <em>(p.18)</em></td>
<td>Papagayo A</td>
</tr>
<tr>
<td>9:50-12:15</td>
<td>Ornamental, Garden &amp; Landscape <em>(p.14)</em></td>
<td>Mistral A/B</td>
</tr>
<tr>
<td>9:50-11:45</td>
<td>Handling &amp; Processing <em>(p.29)</em></td>
<td>Papagayo B</td>
</tr>
<tr>
<td>9:50-12:00</td>
<td>Vegetable <em>(p.20)</em></td>
<td>Atlantic Salon A/B</td>
</tr>
</tbody>
</table>

## Monday Lunch

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00-1:20</td>
<td>Lunch <em>(On your own)</em></td>
</tr>
</tbody>
</table>

## Monday Afternoon

## Concurrent Afternoon Sessions:

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:20-3:30</td>
<td>Citrus</td>
<td>Pampero A/B</td>
</tr>
<tr>
<td>1:20-4:00</td>
<td>Krome Memorial Institute</td>
<td>Bayamo</td>
</tr>
<tr>
<td>1:20-4:00</td>
<td>Natural Resources</td>
<td>Papagayo A</td>
</tr>
<tr>
<td>1:20-4:30</td>
<td>Ornamental, Garden &amp; Landscape</td>
<td>Mistral A/B</td>
</tr>
<tr>
<td>1:20-4:30</td>
<td>Handling &amp; Processing</td>
<td>Papagayo B</td>
</tr>
<tr>
<td>1:20-4:15</td>
<td>Vegetable</td>
<td>Atlantic Salon A/B</td>
</tr>
</tbody>
</table>

## Monday Evening

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>5:15-6:15</td>
<td>Industry Reception <em>(Included in paid conference registration)</em></td>
<td>Atlantic Salon C</td>
</tr>
</tbody>
</table>

## Tuesday Morning

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:00-8:15</td>
<td>Horticultural Crops Breakfast <em>(Event ticket required)</em></td>
<td>Atlantic Salon C</td>
</tr>
</tbody>
</table>
Invited Speaker:
Dr. Dean Kopsell, Professor and Department Chair, UF/IFAS Environmental Horticulture Department
“Leading Environmental Horticulture to support Florida’s $20B green industry”

8:30-9:45  FSHS Annual Business Meeting: Eric Simonne, FSHS President
Student Competition Awards, Kelly Morgan

9:45  Coffee Break

Concurrent Morning Sessions:

9:50-12:00  Citrus
Krome Memorial Institute

9:50-11:45  Natural Resources

9:50-12:00  Ornamental, Garden & Landscape
Handling & Processing

9:50-12:00  Vegetable

12:00  All posters are taken down

Tuesday Lunch

12:00-1:00  Extension Luncheon
(Event ticket required)
Invited speaker:
Dr. Edzard van Santen, Director of Statistical Consulting Unit, UF/IFAS Agronomy Department.
”How to Succeed in Experimental Research”

Tuesday Afternoon

1:00-5:30  In-Service Training and Producer Workshop: “How to Conduct Successful On-Farm Research/Demonstration Trials”
Co-sponsored by:
FSHS and UF/IFAS Cooperative Extension Service

Thank you for attending the 2019 annual meeting. Have a safe trip home, and see you next year!!!!!
Florida State Horticultural Society
2017-2018 Board of Directors

Chairman of the Board: Mark Ritenour
President: Eric Simonne
President-Elect: Gene McAvoy

Sectional Vice-Presidents:
- Citrus: Ute Albrecht
- Krome Memorial Institute: Jonathan Crane
- Natural Resources: Lloyd Singleton
- Ornamental, Garden and Landscape: Terra Freeman
- Handling & Processing: Christina Dorado
- Vegetable: Qingren Wang

Secretary and Treasurer: Jamie Burrow
Proceedings Editors: Mary Lamberts
Marketing Coordinator/Webmaster: Steve Rogers

Members At-Large:
- Eric Waldo
- Cecilia Nunes

Program Coordinator: Cami Esmel McAvoy

2018 Meeting Facilitators

Local Arrangements Coordinators: Michael Orfanedes
Henry Mayer
Josh Brott

Sponsorship Coordinator: Gene McAvoy

Student Competitions Coordinator: Kelly Morgan

CEU Coordinator: Cami Esmel McAvoy

Poster Session Coordinator: Daniel Leonard

FSHS Newsletter Team:
- Tatiana Sanchez
- Mark Ritenour
2018 Meeting Sponsors

Platinum Level Sponsor (above $2,000)

- Citrus Research and Development Foundation
- Valent BioScience

Gold Level Sponsor ($1,000 - $1,999)

- Yara International ASA

Silver Level Sponsor ($500-$999)

- Plant Food Systems
- Chemical Dynamics

Bronze Level Sponsor (under $500)

Please see the full list of sponsors on the FSHS Website, poster section, and meeting rooms.

2018 FSHS Patron Members

Anne Plotto
Craig Campbell

Volunteers Needed!

FSHS is a volunteer-run organization. Make a difference, and volunteer your time, leadership, service and talents!

Visit fshs.org and help today!
Welcome 2018 FSHS Sectional Vice-Presidents!

**Citrus:** Ute Albrecht, UF/IFAS Southwest Florida Research & Education Center, Immokalee, FL  
ualbrecht@ufl.edu

**Handling & Processing:** Christina Dorado, USDA-ARS Horticultural Laboratory, Fort Pierce, FL  
Christina.Dorado@ars.usda.gov

**Krome Memorial Institute:** Jonathan Crane, UF/IFAS Tropical Research and Education Center, Homestead, FL  
jhcr@ufl.edu

**Ornamental, Garden, & Landscape:** Terra Freeman, UF/IFAS Extension, St. John’s County, St. Augustine, FL  
terraf@ufl.edu

**Natural Resources:** Lloyd Singleton, UF/IFAS Extension Lake County, Taveres, FL  
lsingleton@ufl.edu

**Vegetables:** Qingren Wang, UF/IFAS Extension Miami-Dade County, Homestead, FL  
qrwang@ufl.edu

---

**Attention FSHS Authors!**

- FSHS welcomes and encourages color pictures and color figures in Proceedings articles.
- Did you know that videos can also be linked to Proceedings articles?
- Color pictures and figures, and videos are included FREE of CHARGE in the online Proceedings.
- Take advantage of this possibility and pass the word around!
Presentation, Publication and Submission Guidelines

- Full payment of page charges from past years is required before presentations and submissions can be accepted in current year.
- The SENIOR AUTHOR must be a member of the Society, and the PRESENTING AUTHOR of the paper must be registered at the annual meeting (except for invited papers) for papers to be accepted for the Proceedings. Papers not presented at the meeting will not be published.
- Electronic submissions prior to the meeting are highly encouraged and preferred. Manuscripts should be delivered in FINAL electronic form at the time of meeting to the FSHS editors (editors@fshs.org) and copy their appropriate section VP.
- Manuscripts may also publish their manuscript in any of the ASHS journals including HortTechnology, HortScience, or the Journal of ASHS.

Paper Submissions:

Please remember to e-mail full-length manuscripts to editors@fshs.org and copy (CC) the appropriate sectional VP:

**Citrus:** Ute Albrecht, ualbrecht@ufl.edu

**Handling and Processing:** Christina Dorado, Christina.Dorado@ars.usda.gov

**Krome Memorial Institute:** Jonathan Crane, jhcr@ufl.edu

**Ornamental, Garden, and Landscape:** Terra Freeman, terraf@ufl.edu

**Natural Resources:** Lloyd Singleton, lsingleton@ufl.edu

**Vegetable:** Qingren Wang, qrwang@ufl.edu
Become a Member of FSHS!

Are you a member of the Florida State Horticultural Society? **If not, join today!**

FSHS is one of the nation’s oldest horticultural society, established in 1888, and continues to provide multiple benefits for its members.

*Discover our history while shaping our future.*

**Benefits of Membership:**

- Access to most recent three years of the FSHS Proceedings
- Copy of current year’s proceedings on CD
- Newsletter
- Reduced meeting registration and publication fees
- Special student rates
- Networking opportunities for students, scientists, and industry personnel from diverse horticultural backgrounds and crops.

Yearly membership runs from January 1st - December 31st each calendar year, with international and student rates available.


---

**Extension Luncheon Speakers**

- Dr. Edzard van Santen, 2018
- Dr. Nick Place, 2017
- Dr. David Clark, 2016
- Dr. Norm Leppla, 2015
- Dr. Kelly Morgan, 2014
- Dr. Eva Worden, 2013
- Dr. Daniel Cantliffe, 2012
- Mr. Ted Campbell, 2011
- Mr. Kevin Morgan, 2010
- Dr. Jim Horne, 2009
- Mr. Armando Campos, 2008
- Mr. Ted Winsberg, 2007
- Mr. Chuck Obern, 2006
- Dr. Larry Arrington, 2005
FSHS Student Scholarships

Attention, Students:
Did you know that FSHS awards fifteen (15), $200 scholarships to students attending the Annual Meeting? To apply, please submit a statement (100 words or less) describing the importance of attending the FSHS Annual Meeting to the achievement of your personal and professional goals and aspirations at fshs@fshs.org.

The FSHS Board of Directors judges submissions and verifies that the awardees are eligible registered students who have registered for the Annual Meeting. Scholarship checks will be awarded during the annual business meeting; awardees must be registered and present to receive their scholarship check.

FSHS Student Competitions

FSHS offers two competitions for students: Student Best Oral Presentation (SBOPC) and Student Best Paper (SBPC). Awards for the SBOPC will be presented during the Annual Business Meeting at the 2017 FSHS annual meeting in Fort Lauderdale, FL. The SBPC awards will be announced at the 2018 FSHS annual meeting. Awardees will receive cash prizes and will be recognized in the Proceedings of FSHS. Students may participate in either or both competitions.

Student Best Oral Presentation Competition (SBOPC):
The number of entries in the SBOPC is limited to 15 and must be submitted to the sectional VP. Acceptance in the competition is on a first-come, first-serve basis. Participants are judged on importance of the subject to Florida horticulture, scientific merit, organization, awareness of current literature, fluency, clarity of presentation, effective use of figures and tables, report of conclusions, completeness, timing, and response to questions. For more information on the SBOPC competition, contact Kelly Morgan at conserv@ufl.edu.

Student Best Paper Competition (SBPC):
To participate in the SBPC, students must submit a manuscript (use author guidelines for the Proceedings of the FSHS) by email with the subject “Student Best Paper Competition” to fshs@ashes.org by May 31, 2018 for the current year’s competition. Student papers will be published in the Proceedings of FSHS. Entries will be judged on relevance to Florida horticulture, scientific merit, experimental design rigor, literature review, completeness, and clarity. For more information on the SBPC competition, Kelly Morgan at: conserv@ufl.edu.
Monday Evening Session

(Authors present posters from 5:00 PM - 6:00 PM during Industry Reception in the Altantic Foyer)

[P-1] Natural Enemies of Brevipalpus Mites in South Florida
Jessica Moreno1 and Daniel Carillo2. 1USDA-APHIS. 2UF/IFAS Tropical Research and Education Center, Homestead, FL. Jessica.moreno@aphis.usda.gov

[P-2] Florida-Friendly: Re-introduction to Indian River County
Leslie N. Munroe. UF/IFAS Indian River County Extension Service, Fort Pierce, FL. lnmunroe@ufl.edu

[P-3] A SWOT Analysis of the Marion County Florida-Friendly Landscaping Program.
Amanda Marek. UF/IFAS Marion County Extension Service, Ocala, FL. Amanda.Marek@marioncountyfl.org

Naveen Kumar1 and Robert C. Ebel2. 1University of Maryland Eastern Shore, Princess Anne, MD 2Integrated Plant Health Services, LLC. Fort Myers, FL. fnaveenkumar@umes.edu

Robert C. Ebel. Integrated Plant Health Services LLC, Fort Myers, FL. rcebel@ufl.edu

[P-6] Florida’s Response to Tar Spot, a New Disease of Corn in the U.S
Eugene McAvoy1, Christian F. Mille2, Matthew Bardin3, Robert Beiriger1, Nicholas Dufault4, Megan Romberg5, Shouan Zhang6, Amanda Hodges7, and Richard Raid1. 1UF/IFAS Hendry County Extension, 2UF/IFAS Palm Beach County Extension, 3UF/IFAS Everglades Research and Education Center 4UF/IFAS Department of Plant Pathology, 5USDA APHIS, 6UF/IFAS Tropical Research and Education Center, 7UF/IFAS Department of Entomology and Nematology. gmcaovoy@ufl.edu
Ornamental, Garden & Landscape Section:
Terra Freeman
Presiding
terraf@ufl.edu

Monday Morning Session
(9:50 AM – 12:15P M) Mistral A/B
9:50 Welcome and Introductions, Terra Freeman

A – Alternative Enterprises

10:00 Macadamia as a Possible Alternative Crop for Florida. K. Stauderman, UF/IFAS Volusia County Extension, DeLand, FL. (kstauderman@ufl.edu) [OGL-1]

10:15 Growing Communities, Growing Food: Hydroponic Gardening For Urban Audiences. H. Wooten, UF/IFAS Extension Seminole County, (hwooten@ufl.edu) [OGL-2]

B – Arboriculture

10:30 Post hurricane Irma, tree canopy loss, how this happens. H. Mayer1, and M. Orfanedes2, 1UF/IFAS Extension Miami-Dade and 2UF/IFAS Extension Broward County, (MORFANEDES@broward.org) [OGL-3]

10:45 Alleviating Chlorosis in Urban Slash Pines. G. Snyder, UF/IFAS Everglades Research and Education Center, Belle Glade, FL. (phdlaboratory@hotmail.com) [OGL-4]

C – Community Gardens

11:00 Community Gardens and Land Use Agreements – A Tutorial for Extension Agents Partnering with Municipalities. W. Elmore and E. Santiago-Gomez. UF/IFAS Extension Pasco County, Dade City, FL. (welmore@pascocountyfl.net) [OGL-5]

11:15 OGL Section Business Meeting: Terra Freeman

D – Student Presentations

11:30 Progress in genetic sterilization of Lantana camara through ploidy manipulation. J. Xu, UF/IFAS Environmental Horticulture Department, Gainesville, FL (jxu2s@ufl.edu) [OGL-6]

11:45 Gardening and Art Study: Assessing Biometric Changes for Healthy Women in a Randomized, Controlled Intervention. R. Odeh, UF/IFAS Environmental Horticulture Department, Gainesville, FL (rodeh@ufl.edu) [OGL-7]
12:00  In Vitro Propagation of Dwarf Poinciana (Caesalpinia pulcherrima L.) Using Temporary Immersion Bioreactors.  
**D. Hernandez**, and  **W. Vendrame.** UF/IFAS Tropical Research and Education Center, Homestead, FL. ([daher009@ufl.edu](mailto:daher009@ufl.edu)) ([vendrame@ufl.edu](mailto:vendrame@ufl.edu)) [OGL-8]

12:15  Lunch (on your own)

---

**Monday Afternoon Session**

*(1:30 – 4:20 PM) Mistral A/B*

1:30  Welcome, Terra Freeman

### E – Extension Programs

1:45  **Florida-Friendly Fridays: An Integrated Approach to Teaching the 9 Principles of Florida-Friendly Landscaping™.**  **T. Freeman.** UF/IFAS Extension St. Johns County, St. Augustine, FL. ([terraf@ufl.edu](mailto:terraf@ufl.edu)). [OGL-9]

2:00  **Serving Our Stakeholders: An Advanced Master Gardener Training/Tour Series.**  **D. Leonard.** UF/IFAS Walton County Extension, Defuniak Springs, FL. ([d.leonard@ufl.edu](mailto:d.leonard@ufl.edu)). [OGL-10]

2:15  **Welcome to Florida: Lessons Learned From Extension Horticulture Distance Education Courses.**  **W. Hobbs.** UF/IFAS Clay County Extension, Green Cove Springs, FL. ([whobbs@ufl.edu](mailto:whobbs@ufl.edu)). [OGL-11]

2:45  **Considerations for Conducting Educational Events at Nurseries.**  **Tom Yeager¹**,  **Liz Felter²**,  **Juanita Popenoe³**,  **Lloyd Singleton³**,  **Matt Smith⁴**,  **Karen Stauderman⁵**, and  **Shawn Steed⁶.** ¹UF/IFAS Environmental Horticulture Department, Gainesville, FL; ²UF/IFAS Extension Orange County, Orlando, FL; ³UF/IFAS Extension Lake County Extension, Tavares, FL; ⁴UF/IFAS Extension Sumter County Extension, Bushnell, FL; ⁵UF/IFAS Extension Volusia County, Deland, FL; ⁶UF/IFAS Extension Hillsborough County, Seffner, FL. ([yeagert@ufl.edu](mailto:yeagert@ufl.edu)). [OGL-12]

3:00  **The Petunia Project.**  **K. Stauderman**, UF/IFAS Extension Volusia County, Deland, FL. ([kstauderman@ufl.edu](mailto:kstauderman@ufl.edu)). [OGL-13]

### F- Pesticide Training

3:15  **Multi Year Pesticide Applicator Training Shows Broad Impact.**  **M. Orwat and E. Carter².** ¹UF/IFAS Extension Washington County, Chipley, FL; ²UF/IFAS Extension Jackson County, Marianna, FL. ([mjorwat@ufl.edu](mailto:mjorwat@ufl.edu)). [OGL-14]
3:30  Navigating Pesticide Licensing in Florida.  
S. Dunning¹, J. McConnell², and E. Harlow³. ¹UF/IFAS Extension Okaloosa County, Crestview, FL; ²UF/IFAS Extension Bay County, Panama City, FL; ³UF/IFAS Extension Duval County, Jacksonville, FL. (sdunning@ufl.edu). [OGL-15]

3:45  Section Adjourned

5:00  Industry Reception (Ticket included in paid conference registration)

Tuesday Morning Session
(9:50 AM – 12:00 PM)

9:50  END OF SECTION
See you next year!

12:00  Extension Lunch (Ticket Required)
Monday Morning Session

(9:50 AM – Noon) Papagayo A

9:50 Welcome and Introductions, Lloyd Singleton

A- Natural Resources Impacts

10:00 Best Management Practices Adoption by Florida Specialty Crop Growers: A Snapshot of the Services Growers Provide. T. Wade, and F. Roka. UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. tara.wade@ufl.edu [NR-1]

10:15 Industry-wide Field Day Utilizing Soil and Tissue Testing for a 2nd Year to Determine Crop Nutrient Needs as part of a Comprehensive Fertilizer Management Plan for Cut Foliage. K. Stauderman. UF/IFAS Extension Volusia County, DeLand, FL. kstauderman@ufl.edu [NR-2]

10:30 Greenhouse culture of native wetland macrophytes for restoration, mitigation and aquascaping. L Gettys, and K. Moore. UF/IFAS Fort Lauderdale Research and Education Center, Davie, FL. lgettys@ufl.edu [NR-3]

10:45 A comprehensive plant diversity inventory for the UF-IFAS Tropical Research and Education Center, University of Florida, Homestead. C Martin, and Z Brym. UF/IFAS Tropical Research and Education Center, Homestead, FL. brymz@ufl.edu [NR-4]

11:00 Establishing a Hop Yard for Small Farms and Homebrewers. K. Greer¹, R Tyson¹, and B Pearson². UF/IFAS Extension Orange County, Orlando, FL, ²UF/IFAS Mid-Florida Research and Education Center, Apopka, FL. kg@ufl.edu [NR-5]

11:15 Harmful Algal Bloom Extension Program for the Indian River Lagoon. K Gioeli¹, H. Laughinghouse IV², L Krimsky¹, and E Skvarch¹. ¹UF/IFAS Extension St Lucie County, Ft. Pierce, FL, ²UF/IFAS Ft. Lauderdale Research and Education Center, Davie, FL, ³UF/IFAS South Florida Extension District, Ft. Pierce, FL ktgioeli@ufl.edu [NR-6]
11:30 WILD Horticulture Series: Water and Wildlife conservation, IPM, and Landscaping Done right! M. Hunter, and A. Marek. UF/IFAS Extension Marion County, Ocala, FL. maxine32666@ufl.edu [NR-7]

12:00 Lunch (on your own)

Monday Afternoon Session
(1:30 – 5:30 PM) Papagayo A

1:30 Welcome and Introductions, Lloyd Singleton

B- Natural Resource Awareness

1:30 Guest Speaker-Mitigating Compaction in New Residential Developments: Kick-starting the Soil Reformation Process. E. Bean, UF/IFAS Center for Landscape Conservation and Ecology, Gainesville, FL. ezbean@ufl.edu [NR-8]

2:15 Guest Speaker-The Problem with Plastics. M. Mcguire, UF/IFAS Extension St. Johns and Flagler Counties, Bunnell, FL. mpmcg@ufl.edu [NR-9]

3:00 Natural Resources Section Business Meeting: Lloyd Singleton

3:30 Afternoon Tour – depart for Anne Kolb Nature Center, complimentary van transportation and boat tour for first 14 registered: https://fshsnr2018fieldtrip.eventbrite.com

5:00 Industry Reception (ticket included in paid conference registration)

5:30 Arrive back at hotel

Tuesday Morning Session
(9:50 AM – 12:00 PM)

9:50 END OF SECTION
See you next year!

12:00 Extension Lunch (Ticket Required)
Vegetable Section: Qingren Wang
Presiding
qrwang@ufl.edu

Monday Morning Session
(9:50 AM – Noon) Atlantic Salon A/B

9:50 Welcome and Introductions, Qingren Wang

A – Production and Cultural Practices

10:00 Evaluation of Production Methods for Hops in Florida. Shinsuke Agehara, Tiare Silvasy, Zhanao Deng, and Simon Bollin. ¹UF/IFAS Gulf Coast Research and Education Center, and ²Hillsborough County, Agriculture Industry Development., FL. sagehara@ufl.edu [V-1]

10:15 Effects of plastic mulch and acibenzolar-S-methyl (Actigard) on tomato yield in south Florida. Qingchun Liu, Bindu Poudel, and Shouan Zhang, Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. szhang0007@ufl.edu [V-2]

10:30 Economic Analysis of Small-Scale Greenhouse Tomato Production in Florida. Kevin R. Athearn, Robert C. Hochmuth, and Wanda L. Laughlin. University of Florida IFAS, North Florida Research and Education Center – Suwannee Valley, Live Oak, FL. athearn@ufl.edu [V-3]

10:45 The first report of large scale on-farm phosphorus trials for potato production in NE Florida. Guodong Liu, Liguang Li, Muhammad Shahid, Kelly Morgan, David Dinkins, Gary England, Wendy Mussoline, Mark Clark and James Fletcher. ¹UF/IFAS Horticultural Sciences Department, Gainesville, FL, ²UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL, ³UF/IFAS Extension Putnam County Extension, E. Plataka, FL, ⁴UF/IFAS Hastings Agricultural Extension Center, Hastings, FL, ⁵UF/IFAS Extension Flagler County, Bunnell, FL, ⁶UF/IAS Soil and Water Science, Gainesville, FL, and ⁷UF/IFAS Mid-Florida Research and Education Center, Apopka, FL. guodong@ufl.edu [V-4]

11:15 Optimization of Early-season Nitrogen Fertilization Program for New Strawberry Cultivar ‘Florida Beauty’. Sana Shahzad, Tiare Silvasy, and Shinsuke Agehara. ¹University of Agriculture, Faisalabad, Pakistan, and ²UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL. sagehara@ufl.edu [V-5]

11:30 Low Cost High Tunnel versus Open Field Production of Organically Grown Strawberries in North Florida. A. Bolques, G. Queeley and F. Ospina and V. Richardson. ¹Quincy Research and Extension Center, FAMU; ²Cooperative Extension Program, FAMU. Alejandro, bolques@famu.edu [V-6]
Use of UAV LiDAR Data for Plant Inventory Management System. 

Sri Charan Kakarla and Yiannis Ampatzidis, UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. i.ampatzidis@ufl.edu

12:00 Lunch (on your own)

Monday Afternoon Session

(1:20PM – 5:00PM) Atlantic Salon A/B

1:20 Welcome and Introductions, Qingren Wang

B – UAV Application and Space Cultures (continued)

1:30 Space Horticulture Meets Citizen Science: First Results from Three Years of Data Pooling to Find the Perfect Space Crop. 

Marion Litzinger, Jamie Anderson, Yang Wen, Amy Padolf, Carl Lewis, Fairchild Tropical Botanic Garden, Miami FL. [V-8]

1:45 Cosmic Growth: Optimizing the Media Selection for Edible Plant Production in Long Term Space Flights. 

Alejandro Perez, Aleessa Celestin, Jack Andersen, Miguel Colina, Maria Campa, Andre Marroquin, Carlos Morales, Dylan Suarez, Emily Diaz-Andradi, Angelica Yglesias, Brian Coleman, Sebastion Gallion, Diego Aloy, Carolina Barril, BioTECH@ Richmond Heights, Miami FL. [V-9]

2:00 Failure Testing: Analyzing Water Stress in Potential Space Crops using a Smart Phone Connectable Thermal Camera Technology. 

Giselle Gomez, and Brianna Esplugas. BioTECH@Richmond Heights, Miami FL. [V-10]

2:15 Saving Resources and Reducing Payload: Impact of Fertilizer and Light Spectrum on Selected Brassica Varieties. 

Matthew Herrick¹, Joshua Sagarribay¹ Teralyn Ubico¹, Andrea Rivera³, Katherine Miller¹, Noel Frias⁵, and Benyah Andressohn⁶, ¹BioTECH@Richmond Heights, Miami, FL, ²Our Lady of Lourdes Academy, ³Everglades Preparatory Academy, ⁴Terra Environmental Research Institute, ⁵Hialeah Senior High School, ⁶Miami Killian Senior High, Miami FL. [V-11]

C –Research Design

2:30 Social Science in Service to Biological Research.

Alia DeLong¹, Mickie Swisher¹, Kaylene Sattanno¹, Carlene Chase², Xin Zhao², Oscar Liburd³, and Zhifeng Gao⁴, ¹Department of Family, Youth & Community Sciences, University of Florida, Gainesville, FL, ²Horticultural Sciences Department, University of Florida, Gainesville, FL, ³Entomology
and Nematology Department, University of Florida, Gainesville, FL, and 4Food and Resource Economics Department, University of Florida, Gainesville, FL. dlonga@ufl.edu. [V-12]

2:45 Vegetable Section Business Meeting – Qingren Wang

D –Student Presentations

3:00 Vegetable crops as hosts of thrips (Thysanoptera: Thripidae) vectoring Tomato chlorotic spot virus in tomatoes. Rafa A. Khan, D. R. Seal, S. Zhang, and E. G. Evans. Tropical Research and Education Center, University of Florida IFAS, Homestead, FL. dseal@ufl.edu [V-13]

3:15 Stem and canopy architecture differences and their relationship to productivity in Capsicum annuum lines. Yanlin Wang, Yue, Y., MacKenzie De New, and Bala Rathinasabapathi. UF/IFAS Horticultural Sciences Department, Gainesville, FL 32611-0690. brath@ufl.edu [V-14]

3:30 Reflective plastic mulch as a component of an integrated management approach for melon thrips, Thrips palmi (Thysanoptera: Thripidae), in field-grown cucumber. Mohammad A. Razzak1, Dakshina R. Seal1, Philip A. Stansly2, Oscar E. Liburd3 and Bruce Schaffer1. 1UF/IFAS Tropical Research and Education Center, Homestead, FL 2SUF/IFAS Southwest Florida Research and Education Center, Immokalee, FL and 3UF/IFAS Department of Entomology and Nematology, Gainesville, FL dseal@ufl.edu [V-15]

3:45 Optimization of Microenvironments by Metalized-Striped Plastic Mulch Improves Earliness and Total Yield of Strawberry. Stephen Deschamps, and S. Agehara. UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL. sdeschamps@ufl.edu [V-16]

4:00 An update of fertigation as an economic beneficial practice for potato production in Florida. Xiangju Fu1, Guodong Liu1, Lincoln Zotarelli1, Steve Sargent1, Crystal Snodgrass2 and Alan Jones3. 1UF/IFAS Horticultural Sciences, Gainesville, FL, 2UF/IFAS Extension Manatee County Extension, Palmetto, FL, and 3Jones Potato Farm. guodong@ufl.edu [V-17]

4:15 Potential Cover Crop Options for Nematode and Weed Suppression in Haiti. Robyn Adair1, Carlene A. Chase1, Wesly Jeune2, M.E. Swisher3, Tesfamariam Mengistu4. 1UF/IFAS Horticultural Sciences Department, Gainesville, FL, 2AREA Project, University of Florida, Pétion-Ville, Haiti, 3UF/IFAS Family, Youth and Community Sciences Department, Gainesville, FL, and 4UF/IFAS Entomology and Nematology Department, Gainesville, FL. radair@ufl.edu [V-18]

4:30 Living Mulches and Low-volume Irrigation for Runoff Reduction during Bare-root Strawberry Transplant Establishment. Lillian Pride1, Carlene A. Chase2, Kati W. Migliaccio3, and Zachary T. Brym4. 1UF/
IFAS School of Natural Resources and Environment, Gainesville, FL, 2UF/IFAS Horticultural Sciences Department, Gainesville, FL, 3UF/IFAS Department of Agricultural and Biological Engineering, Gainesville, FL, and 4UF/IFAS Tropical Research and Education Center, Homestead, FL.  

**E – Breeding and Genetics**

4:45 Optimization of octoploid strawberry regeneration for genome editing application. Cheol-Min Yoo*, Jin Hee Kim, Vance M. Whitaker and Seonghee Lee. UF/IFAS Gulf Coast Research and Education Center, Balm, FL.  

5:00 DNA marker technology for the precision breeding of strawberry. Seonghee Lee, Ashlee Anciro, Youngjae Oh, Yi-Tien Lu, Natalia Salinas, Fan Zhen, and Vance M. Whitaker. UF/IFAS Gulf Coast Research and Education Center, Balm, FL.  

5:15 End of the Monday Session

5:00 Industry Reception (Ticket included in paid conference registration)

**Tuesday Morning Session**

*(9:50 AM – 12:00 PM) Atlantic Salon A/B*

9:50 Welcome and Introductions, Shinsuke Agehara

**F – Speciality Crops**

10:00 Seed and oil pumpkin: a potential specialty crop for the southeast. Geoffrey Meru, Dayana Leyva, Vincent Michael, Riphine Mainviel and Marie Dorval. UF/IFAS Tropical Research and Education Center, Homestead, FL.  

10:15 Phenology, Growth, Yield, and Quality of Artichoke under Florida’s Subtropical Climate. Shinsuke Agehara and Tiare Silvasy. UF/IFAS Gulf Coast Research and Education Center.  

**G – Pest Control and Management**

10:30 Effect of cover crops and soil amendments on tomato yield and incident of pests. Qingren Wang¹, Li Ma², and Yuncong Li³. ¹UF/IFAS Extension Miami-Dade, ²Visiting Scientist from Institute of Soil Sci., Chinese Academy of Science, and ³UF/IFAS Tropical Research and Education Center.  

10:45 Addressing the Threat Posed by Fusarium Wilt of Lettuce to Florida in an Attempt to Limit Its Spread. Christian F. Miller¹.
German Sandoya, William Wadlington, Matthew Bardin, Eugene McAvoy, and Richard Raid. 1:00 Stemphylium Leaf Spot in Spinach: Chemical and Breeding Solutions for This Threatening Disease. Will Wadlington, German V. Sandoya-Miranda, Richard N. Raid, Christian F. Miller, and Judith Villegas. 1:15 Effective way of managing fall armyworm (FAW), Spodoptera frugiperda (J.E. Smith) (Lepidoptera: Noctuidae) in sweet corn in southern Florida. D. R. Seal. 1:30 Evaluation of micronutrients for their effectiveness in rescuing herbicide injured tomatoes. Ramdas Kanissery and Biwek Gairhe. 1:45 End of the Program. 2:00 Extension Luncheon (ticket required)
Monday Morning Session
(9:50 AM – Noon) Bayamo

9:50 Welcome and Introductions, Jonathan Crane

A – Subtropical Crops

10:00 Determine water requirements for young peach trees in humid climates. Carlos Zambrano-Vaca¹, Lincoln Zotarelli¹, Richard C. Beeson Jr.², Kelly T. Morgan³, Kati W. Migliaccio⁴, José X. Chaparro¹, and M. Olmstead¹. ¹UF/IFAS, Horticultural Sciences Department, Gainesville, FL, ²UF/IFAS, Mid-Florida Research and Education Center, Apopka, FL, ³UF/IFAS, Southwest Florida Research and Education Center, Immokalee, FL, ⁴UF/IFAS, Agricultural and Biological Engineering Department, Gainesville, FL.

czambrano@ufl.edu [K-1]

10:15 Irrigation strategies for subtropical peach production in humid climates. Carlos Zambrano-Vaca¹, Lincoln Zotarelli¹, Kati W. Migliaccio², Kelly T. Morgan³, Richard C. Beeson Jr.⁴, José X. Chaparro¹, and M. Olmstead¹. ¹UF/IFAS, Horticultural Sciences Department, Gainesville, FL, ²UF/IFAS Agricultural and Biological Engineering Department, ³UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL, ⁴UF/IFAS Mid-Florida Research and Education Center, Apopka, FL.
czambrano@ufl.edu [K-2]

10:30 Diseases Resistance in Pomegranates: Importance, Sources, Breeding Approaches, and Progress. Xinjie Yu, Katia Viana Xavier, Gary Vallad, and Zhanao Deng. UF/IFAS, Gulf Coast Research and Education Center, Wimauma, FL.
xijieyu@ufl.edu [K-3]

10:45 Effect of GA3 on Fruit Set and Yield of Young Southern Highbush Blueberry Plants. Juanita Popenoe¹, and Craig Campbell². ¹UF/IFAS Extension Lake County Tavares, FL, ²Valent U.S.A. LLC, Ocoee, FL.
pjopenoe@ufl.edu [K-4]

11:00 O19-3-8 and O18-11-1, the two seedless muscadine hybrids with commercial production potentials. Zhongbo Ren, I. El-Sharkawy, and V. Colova. Viticulture Center, Florida A&M University, Tallahassee, FL.
zrongbo.ren@famu.edu [K-5]

11:15 O24-2-6, a promising self-fertile muscadine breeding line. Zhongbo Ren, I. El-Sharkawy, and V. Colova. Viticulture Center, Florida A&M University, Tallahassee, FL.
zrongbo.ren@famu.edu [K-6]
11:30 Phenology, Yield, and Fruit Quality of Floricane-fruiting Blackberry Cultivars under High Tunnel and Net House Production Systems in Florida. Syuan-You Lin¹, and Shinsuke Agehara².
¹UF/IFAS Horticultural Sciences Department, Gainesville, FL, ²UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL. syuanyou.lin@ufl.edu

12:00 Break for Lunch

Monday Afternoon Session

(1:20 – 4:00 PM) Bayamo

1:20 Welcome and Introductions, Jonathan Crane
Consider Being a Candidate for VP Elect!

B – Student Presentations

1:30 Vegetative Propagation of Six Tea Accessions Grown In Florida. Kristen Sandsted¹, James Orrock², Brantlee Spakes Richter³, and Bala Rathinasabapathi³. ¹UF/IFAS Horticultural Sciences Department, Gainesville, FL, ²UF/IFAS Department of Plant Pathology, Gainesville, FL, k.sandsted@ufl.edu [K-8]

1:45 Comparison of High Temperature Stress Tolerance on Common Tea Accessions Grown In Florida. James Orrock¹, Brantlee Spakes Richter¹, and Bala Rathinasabapathi². ¹UF/IFAS Department of Plant Pathology, Gainesville, FL, ²UF/IFAS Horticultural Sciences Department, Gainesville, FL. jorrock90@ufl.edu [K-9]

2:00 Vanilla Conservation, Genetics, and Opportunities for Southern Florida. Alan H. Chambers¹, Elias Bassil¹, Marcio Resende², and Aureliano Bombarely³. ¹UF/IFAS Tropical Research and Education Center, Homestead, FL. ²UF/IFAS Horticultural Sciences Department, Gainesville, FL, ³Virginia PolyTech, Blacksburg, VA. ac@ufl.edu [K-10]

2:15 Potential of Using Abscisic Acid To Induce Dormancy In Peaches Under Mild Winter Conditions. Niesha Marks and Tripti Vashisth, UF/IFAS, Citrus Research and Education Center, Lake Alfred, FL. nmarks1@ufl.edu [K-11]

2:30 Evaluating the Effectiveness of Tangle-Foot Insect Barriers in Bio-Rational Mango Production. Thiago B. Campbell¹, and R.J. Campbell². ¹UF/IFAS, Horticultural Sciences Department, Gainesville, FL, ²Ciruli Brothers, LLC, Tubac, AZ. thiagowns@ufl.edu [K-12]

2:45 Differentiation of Aroma Active Components in Lychee (Litchi chinensis Sonn.). Kathryn Moorhead¹, Shi Feng¹, Mingyang Huang¹, Jonathan Henry Crane¹, and Yu Wang¹. ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL, ²UF/IFAS Tropical Research and Education Center, Homestead, FL. yu.wang@ufl.edu [K-13].
3:00 Break

2:00 Helping tropical fruit growers to comply with the new food safety regulations. Jeff Wasielewski1 and Jonathan H. Crane2. 1UF/IFAS Extension Miami-Dade County, Homestead FL, 2UF/IFAS Tropical Research and Education Center, Homestead, FL. (jwasielewskij@ufl.edu) [K-11]

2:15 Mediterranean Horticulture Applications for Florida. J. Popenoe. UF/IFAS Extension Lake County, Tavares, FL. (jpopenoe@ufl.edu) [K-12]

2:30 Break

C– Tropical Fruit Crops

3:15 Economic Effects of Hurricane Irma on the Avocado Industry of Miami-Dade County. Jeff Wasielewski1, and Jonathan H. Crane2 and Edward A. Evans2. 1UF/IFAS Extension Miami-Dade County, Homestead, FL. 2UF/IFAS Tropical Research and Education Center, Homestead, FL. jwasielewskij@ufl.edu [K-14]

3:30 Irrigation Frequency Requirements of Banana Plantlets cv ‘Williams’ Grown in Sphagnum Peat and Sugarcane Filter Press Mud Based Substrates. Nicholas Larsen1, and Kimberly Moore2. 1NK Lago Farms, Canal Point, FL 2UF/IFAS Ft. Lauderdale Research and Education Center, Davie, FL. nklagofarms@aol.com [K-15]

3:45 Preliminary results of a trial of ‘Tahiti’ lime and three lime-hybrid scions grafted to five citrus rootstocks established at TREC. Jonathan H. Crane1, Daniel Carrillo1, Romina Gazis1, Edward Evans1, Jude Grosser2, Kim D. Bowman3, James Colee4, and David Herbella1. 1UF/IFAS Tropical Research and Education Center, Homestead, FL, 2Citrus Research and Education Center, Lake Alfred, FL, 3USDA-ARS, Ft. Pierce, FL, 4UF Department of Statistics, Gainesville, FL. jhcrj@ufl.edu [K-16]

4:00 Morphologic Characterization of Ten Commercial Mango Cultivars (Mangifera indica L.) with Potential for the Pulp Industry in Colombia. Francisco David Algarin Rovira1, Felipe Segundo Varela1, Maria Emma Morales1, and Noris Ledesma2. 1University of Magdalena, Santa Marta, Colombia, 2Fairchild Tropical Botanic Garden, Miami, FL. nledesma@fairchildgarden.org [K-17]

4:15 Morphological Characterization of Inflorescences and Flowers of 220 Mango Varieties (Mangifera indica L.). Felipe Segundo Varela1, Francisco David Algarin1, and Noris Ledesma2. 1University of Magdalena, Santa Marta, Colombia, 2Fairchild Tropical Botanic Garden, Miami, FL. nledesma@fairchildgarden.org [K-18]
Krome Memorial Institute

4:30  Krome Memorial Section Business Meeting: Jonathan Crane
5:00  End of Session
5:00  Industry Reception (Ticket included in paid conference registration)

Tuesday Morning Session
(9:50 – 11:30) Bayamo

9:50  END OF SECTION
See you next year!

12:00  Extension Lunch (Ticket Required)
Monday Morning Session

(9:50 AM – 12:00PM) Papagayo B

9:50 Welcome and Introductions, Christine Dorado

A - Postharvest Quality

10:00 Orange flavor vs. mandarin flavor. Shi Feng¹,², Joon Hyuk Suh¹, Frederick G. Gmitter² and Yu Wang², ¹UF/IFAS Department of Food Science and Human Nutrition, Gainesville, FL, ²UF/IFAS Citrus Research and Education Center, Lake Alfred, FL, fsophias@ufl.edu [HP-1]


10:30 New Insights on postharvest peel pitting of citrus fruit: Connecting physics with biochemistry. Fernando Alferez¹, Paul Cronje² and Lorenzo Zacarias³, ¹UF/IFAS South West Florida Research and Education Center, Immokalee, FL, ²Citrus Research International, Department of Horticultural Science, Stellenbosch University, Stellenbosch, South Africa, ³Instituto de Agroquímica y Tecnología de Alimentos (IATA-CSIC), Catedratico Agustín Escardino, Valencia, Spain alferez@ufl.edu [HP-3]

10:45 Physical and biochemical quality of Florida strawberries: ‘Florida Radiance’, Sweet Sensation® ‘Florida172’, and the new ‘Florida Beauty’. Alyssa Smith¹, Katrina Kelly¹, Kanika Saxena¹, Vance Whitaker² and Cecilia do Nascimento Nunes¹, ¹Food Quality Laboratory, Department of Cell Biology, Microbiology and Molecular Biology University of South Florida, Tampa, FL, ²Gulf Coast Research and Education Center, UF/IFAS, Wimauma, FL alyssasmith3@mail.usf.edu [HP-4]

11:00 Quality evaluation of strawberry bruising from simulated drop heights. Thais Tamashiro, Steven A. Sargent and Adrian D. Berry, UF/IFAS, Horticultural Sciences Department, Gainesville, FL (tttamashiro@ufl.edu) [HP-5]

11:15 Preharvest abscisic acid (ABA) application to alleviate chilling injury of sweet basil (Ocimum basilicum) during cold storage. Aditi D. Satpute, Bryce Meyering and Ute Albrecht, UF/IFAS, Horticultural Sciences Department, Immokalee, FL (aditisatpute@ufl.edu) [HP-6]

11:30 Biochemical approaches to determine the impact level of each step along the supply chain on tomato fruit quality. Robert Madden, Alyssa Smith and Cecilia do Nascimento Nunes, Food Quality Laboratory, Department of Cell Biology, Microbiology and Molecular Biology University of South Florida, Tampa, FL (rutmadden@mail.usf.edu) [HP-7]
Monday Afternoon Session
(1:00 – 3:30 PM)

B – Field Trip

1:00  Depart from Renaissance Fort Lauderdale Cruise Port Hotel for Port Everglades Tour
3:30  Return to Renaissance Fort Lauderdale Cruise Port Hotel
3:30  Afternoon Session Adjourned
5:15  Industry Reception (Ticket included in paid conference registration)

Tuesday Morning Session
(9:50 am – 12:00 pm) Papagayo B

9:50  Welcome and Introductions, Christina Dorado

C – Postharvest Handling

10:00  Hydrocooling extends quality and shelf life of Asian vegetables. Steven A. Sargent, Adrian D. Berry, Catherine E. Belisle and Sidrah Rafique, UF/IFAS, Horticultural Sciences Department, Gainesville, FL sasa@ufl.edu [HP-8]

10:15  Applications of gaseous chlorine dioxide on postharvest handling and storage of fruits and vegetables. Xiuxiu Sun, Elizabeth Baldwin, and Jinhe Bai, USDA-ARS, US Horticultural Research Laboratory, Ft. Pierce, FL xiuxiu.sun@ars.usda.gov [HP-9]

10:30  Effect of ethylene degreening treatment on fruit quality and postharvest storage life of HLB-affected mandarin cultivars. Faisal Shahzad¹, Jeff Brecht², Mark Ritenour², and Tripti Vashisth³,¹ UF/IFAS, Horticultural Sciences Department, Gainesville, FL, ²UF/IFAS, Indian River Research and Education Center, Ft. Pierce, FL, ³UF/IFAS, Citrus Research and Education Center, Lake Alfred, FL amiabu@ufl.edu [HP-10]

10:45  Starch derivatives in coating formulations as carrier of a biocontrol yeast, Candida sake, to control fungal decay on grapes. Anna Marin¹, Lorena Atarés¹, Neus Teixidó², Amparo Chiralt¹ and Anne Plotto³. ¹Instituto de Ingeniería de Alimentos para el Desarrollo, Departamento de Tecnología de Alimentos, Universitat Politècnica de
11:00 Edible coatings as carriers of Lactobacillus plantarum for fungal biopreservation of grapes. Anna Marín¹, Lorena Atarés¹, Amparo Chiralt¹ and Anne Plotto². ¹Instituto de Ingeniería de Alimentos para el Desarrollo, Departamento de Tecnología de Alimentos, Universitat Politècnica de València, Valencia, Spain, ²USDA-ARS, US Horticulture Research Lab, Ft. Pierce, FL. anna.maringozalbo@ars.usda.gov [HP-11]

11:15 Effect of fruit coating and modified atmosphere packaging on Florida-grown peaches. Anne Plotto¹, Anna Marin Gozalbo², Elizabeth Baldwin¹, Jinhe Bai¹ and Mark Ritenour³. ¹USDA-ARS, US Horticulture Research Lab, Ft. Pierce, FL, ²Instituto de Ingeniería de Alimentos para el Desarrollo, Departamento de Tecnología de Alimentos, Universitat Politècnica de València, Valencia, Spain, ³UF/IFAS Indian River Research and Education Center, Fort Pierce, FL. anne.plotto@ars.usda.gov [HP-12]

11:30 Carnauba wax nanoemulsion coating containing ginger (Zingiber officinale) essential oil on postharvest quality of tangerines. Marcela Miranda¹, Marcos David Ferreira², Odilio Benedito de Assis², Xiuxiu Sun³, Anne Plotto¹, Jinhe Bai¹ and Elizabeth Baldwin³. ¹São Paulo State University (UNESP), School of Pharmaceutical Sciences, Araraquara, Brazil, ²Embrapa Instrumentação- Brazilian Agricultural Research Corporation, São Carlos-SP, Brazil, ³USDA, ARS, U.S. Horticultural Research Laboratory, Ft. Pierce, FL liz.baldwin@ars.usda.gov [HP-13]

11:45 Trimming sweetcorn shanks maintains total sugars and water content in storage study. Catherine E. Belisle, Steven A. Sargent, Jeffery K. Brecht, and Adrian D. Berry. UF/IFAS, Horticultural Sciences Department, Gainesville, FL cbelisle1@ufl.edu [HP-14]

12:00 Session Adjourned
See you next year!

12:00 Extension Luncheon (Ticket Required)
Monday Morning Session
(9:50 AM – Noon) Pampero A/B

9:50 Welcome and Introductions, Ute Albrecht

A – Student Presentations

10:00 Soil and/or Foliar Applied nutrients on Water Dynamics, Vegetative Growth, and Nutrient Accumulation on HLB Affected Valencia Citrus Trees. Alisha Atta, and Kelly Morgan. UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. conserv@ufl.edu [C-1]

10:15 Genetic modification of citrus utilizing protoplasts derived from either cell suspension cultures or embryogenic callus. Prabhiot Kaur, Daniel Stanton, Jude Grosser, and Manjul Dutt. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. manjul@ufl.edu [C-2]

10:30 Seasonal variation in yield and root response to steam-generated supplementary heat thermotherapy. Naveena Thapa1, Evan G. Johnson2, Reza Ehsani2, Megan M. Dewdney1. 1UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; 2Department of Mechanical Engineering, University of California, Merced, CA. mmdewdney@ufl.edu [C-3]

10:45 Factors Affecting Citrus Tree Absorption and RNAi Delivery to Psyllids. Sasha-Kay V. Clarke1, Thomson M. Paris2, Wayne B. Hunter3, Sherline E. Brown1, Jawwad A. Qureshi2. 1University of the West Indies, Department of Basic Medical Sciences, Jamaica; 2UF/IFAS Indian River Research and Education Center, Fort Pierce, FL; 3USDA-ARS, Fort Pierce, FL. jawwadq@ufl.edu [C-4]

B – HLB Effects and Management

11:00 Citrus water use, nutrient uptake and root density patterns as influenced by citrus greening and regulated deficit irrigation under greenhouse conditions. Davie M. Kadyampakeni1, Sarah Strauss2, Arnold Schumann1. 1UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; 2UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. dkadyampakeni@ufl.edu [C-5]
Citrus Section

11:15 Responses of citrus rootstocks to altered pH of irrigation water. **Lushan Ghimire** and **Tripti Vashisth**. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. tvashisth@ufl.edu [C-6]

11:30 Initial observations on the effect of Homobrassinolide on HLB-infected trees in Florida. **Fernando Alferez**, **Tripti Vashisth**, **Christopher Vincent**. ¹UF/IFAS South West Florida Research and Education Center, Immokalee, FL; ²UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. alferez@ufl.edu [C-7]

11:45 Effects of Huanglongbin Disease on Mature Fruit Detachment Force and Expression of Genes Related to Fruit Abscission in ‘Valencia’ Sweet Orange. **Lisa Tang** and **Tripti Vashisth**. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. tvashisth@ufl.edu [C-8]

12:00 Break for Lunch

Monday Afternoon Session

(1:20 – 3:30 PM) Pampero A/B

1:20 Welcome and Introductions, Ute Albrecht

B - HLB Effects and Management - continued

1:30 Foliar delivery of bactericides through heat treatment. **Christopher Vincent**, **Myrtho Pierre**, **Jinyun Li**, **Nian Wang**. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. civince@ufl.edu. [C-9]

C – Thermotherapy Workshop

1:45 Automated mobile heat thermotherapy system for HLB-affected citrus plants. **Jaafar Abdulridha**, **Yiannis Ampatzidis**, **Reza Ehsani**, **Andong Dai**, **Kenneth Thompson**, **Yunjun Xu**. ¹UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL; ²School of Engineering, University of California, Merced, CA; ³Mechanical and Aerospace Engineering, University of Central Florida, Orlando, FL. i.ampatzidis@ufl.edu [C-10]

2:00 Thermotherapy: Time-Temperature Thresholds to Prevent Orange Tree Defoliation. **Samuel Cimowsky**, **Daoyuan Yang**, **José I. Reyes-De-Corcuera**. Department of Food Science and Technology, University of Georgia, Athens, GA. jireyes@uga.edu [C-11]

2:15 Plant surface modification: a utility for thermotherapy. **Edmund W. Schuster**, **Yiannis Ampatzidis**, **K. Khot**, **R. Ehsani**. ¹Edm. Wm 8, LLC; ²UF/IFAS Southwest Florida Research & Education Center, Immokalee, FL; ³Biological Systems Engineering, Washington State University; ⁴Mechanical Engineering, University of California, Merced, CA. edmund_w@mit.edu [C-12]
2:30  **Efficacy Evaluation of Horticultural Oil Based Thermotherapy for Pear Psylla Management.** Haitham Y. Bahlol\(^1,2\), Rajeev Sinha\(^1\), Gwen–Alyn Hoheisel\(^1\), Reza Ehsani\(^3\), Lav R. Khot\(^1\). \(^1\)Center for Precision and Automated Agricultural Systems, Washington State University, Prosser, WA; \(^2\)Middle Technical University, Baghdad, Iraq; \(^3\)Department of Mechanical Engineering, University of California, Merced, CA. haitham.bahlol@wsu.edu [C-13]

2:45 **Liberibacter crescens as a surrogate to model survival of the bacterial pathogen L. asiaticus in heat treatments for citrus greening.** Eva Czarnecka, Lance Verner, William B. Gurley. UF/IFAS Department of Microbiology and Cell Science, Gainesville, FL. wgurley@ufl.edu [C-14]

3:00 **Discussion and Break**

C – Thermotherapy Workshop II

3:15 **Does management of plant parasitic nematodes modulate citrus tree response to thermotherapy?** Larry Duncan, Joshua Fluty, Fahiem El-Borai. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. lwduncan@ufl.edu [C-15]

3:30 **The effect of root heat treatment on PMS, LAI, and stomata conductance in HLB infected trees.** Saman Souri\(^1\), Jaafar Jabbar\(^2\), Reza Ehsani\(^3\), John Schueller\(^4\), Yiannis Ampatzidis\(^2\). \(^1\)UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; \(^2\)UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL; \(^3\)University of California, Merced, CA; \(^4\)University of Florida, Gainesville, FL. i.ampatzidis@ufl.edu [C-16]

3:45 **A Physiological Assessment of Field Sweet Orange Trees Post-thermotherapy.** Eileen F. Rifkin, Tripti Vashisth. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. tvashisth@ufl.edu [C-17]

4:00 **Economic Feasibility of Thermotherapy as a Strategy to Manage HLB Infected Trees.** Fritz Roka, Megan Dewdney\(^2\), Evan Johnson\(^2\), Naweena Thapa\(^2\), Reza Ehsani\(^3\). \(^1\)UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL; \(^2\)UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; \(^3\)University of California, Merced, CA. fmroka@ufl.edu [C-18]

4:15 **Citrus Section Business Meeting: Ute Albrecht**

4:30 **Afternoon Session Adjourned**

5:00 **Industry Reception** (Ticket included in paid conference registration)
Tuesday Morning Session

(9:50 AM – Noon) Pampero A/B

9:50 Welcome and Introductions, Ute Albrecht

D – Varieties and Improvement

10:00 Characterization of young citrus rootstock seedlings using metabolomics. Indu Tripathi¹, Ho-Youn Kim ¹,², Kim D. Bowman³, Ute Albrecht¹. ¹UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL; ²Korea Institute of Science and Technology, Gangreung, Gangwon-do, Korea; ³US Horticultural Research Laboratory, USDA-ARS, Fort Pierce, FL. ualbrecht@ufl.edu [C-19]

E – Insect Management

10:15 Best Timing of Asian Citrus Psyllid Sprays with Spring and First Summer Flush Development. Gene L. Albrigo, and Lucas L. Stelinski. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. albrigo@ufl.edu [C-20]

10:30 Chemical control of citrus rust mite, Phyllocoptruta oleivora. Jawwad A. Qureshi¹, Barry C. Kostyk², Philip A. Stansly². ¹UF/IFAS Indian River Research and Education Center, Fort Pierce, FL; ²UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. jawwadq@ufl.edu [C-21]

F – ACP/HLB Tolerance

10:45 Distribution and Overwintering of Asian Citrus Psyllid in the Florida Panhandle. Xavier Martini¹, Mathews Paret¹, Ray Bodrey¹, Erik Lovestrand¹, Julie McConnell¹. ¹UF/IFAS North Florida Research & Education Center; ²UF/IFAS Gulf County Extension; ³UF/IFAS Franklin County Extension; ⁴UF/IFAS Bay County Extension. rbodrey@ufl.edu [C-22]

11:00 HLB-Related Responses of Valencia on Eight Diverse Rootstocks in Greenhouse. Ed Stover¹, Robert G. Shatters, Jr¹, David G. Hall¹, Jude Grosser², Barrett Gruber³, and Gloria A. Moore⁴. ¹U.S. Horticultural Research Laboratory, USDA, ARS, Fort Pierce, FL; ²UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; ³UF/IFAS Indian River Research and Education Center, Fort Pierce, FL; ⁴Horticultural Sciences Department, University of Florida, Gainesville, FL. ed.stover@ars.usda.gov [C-23]
G– Detection and Movement of CLas and Phloem Effects

11:15  **Ultra-fast Detection of HLB Using Laser-induced Breakdown Spectroscopy (LIBS).** Luis Ponce, Teresa Flores, Pedro Gonzalez, Alejandro Ponce, Ed Etxeberria. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. lponce@ufl.edu  [C-24]

11:30  **Systemic phloem degeneration in HLB-affected fruiting branch.** Naveen Kumar¹, F. N. U. Kiran², Ed Etxeberria². ¹University of Maryland Eastern Shore, Princess Anne, MD; ²UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. fnaveenkumar@umes.edu  [C-25]

11:45  **Identification of citrus phloem protoplasts by a combination of brightfield and fluorescent microscopy.** Prabhjot Kaur, Pedro Gonzalez, Manjul Dutt, Ed Etxeberria. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. eetxeber@ufl.edu  [C-26]

12:00  **Session Adjourned**
See you next year!

12:00  **Extension Luncheon** (Ticket Required)
In-Service Training
Tuesday Afternoon Session

UF/IFAS Fort Lauderdale Research and Education Center

3205 College Ave. Davie, FL 33314

“How to Conduct Successful On-Farm Research/Demonstration Trials”

Organizers: Shinsuke Agehara¹ and Kelly Morgan², ¹UF/IFAS Gulf Coast and Research Center, ²UF/IFAS Southwest Florida Research and Education Center. (sagehara@ufl.edu and conserv@ufl.edu)

Agenda

1:00 Drive to Fort Lauderdale Research and Education Center
2:00 Welcome and Introduction
   (classroom near Lobby)
2:10 Use of Data Loggers/Soil Sensors and Data Interpretation
   Dr. Kelly Morgan, Soil Fertility and Water Management, UF/IFAS SWFREC)
2:50 Plant Nutrient Diagnosis Techniques
   Dr. Davie Kadyampakeni, Citrus Water and Nutrient Management, UF/IFAS CREC
   Dr. Tyler Jacoby, Director of Lab Services and Lead Agronomist, Highlands Precision
3:30 Break
3:40 Sprayer Calibration
   Dr. Lyn Gettys, Aquatic and Wetland Plants, UF/IFAS FLREC
4:10 Quick Plant Growth Assessment Tool Demonstration
   Dr. Kelly Morgan, Soil Fertility and Water Management, UF/IFAS SWREC
   Dr. Davie Kadyampakeni, Citrus Water and Nutrient Management, UF/IFAS CREC
   Dr. Shinsuke Agehara, Plant Stress Physiology UF/IFAS GCREC
4:45 Simple Imaging Techniques for Plant Growth Assessment
   Dr. Shinsuke Agehara, Plant Stress Physiology UF/IFAS GCREC
5:30 Survey and Adjourn
Notes
Reniannanse Fort Lauderdale Cruise
Port Hotel
Hotel Map
Thank You to Our Sponsors!

Knowledge grows
Thank You to Our Sponsors!

Citrus Research and Development Foundation, Inc.

VALENT Biosciences Corporation