

*131<sup>st</sup> Annual Meeting of the*  
**FLORIDA STATE**  
**HORTICULTURAL SOCIETY**

**2018**



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## *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
<b>Total Meeting Presentations</b>	<b>126</b>

# Program Overview

## Registration Desk Hours– *Atlantic Foyer*

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Sunday June 10 2:00 PM – 6:00 PM

Monday June 11 7:30 AM – 5:30 PM

Tuesday June 12 8:00 AM – 11:00 AM

## Sunday Afternoon

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

## Monday Morning

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8:30- 9:45	General Session	Atlantic Salon A/B
8:30	Welcome & Presidential Address: <b>Eric Simonne</b> FSHS President	
9:00	Speaker: <b>Dr. Jonathan Crane</b> , Tropical Fruit Crop Specialist, UF/IFAS Tropical Research and Education Center <b>“Tropical Fruit Production in Florida: Trials, Tribulations and Opportunities</b>	Atlantic Salon A/B
9:15-9:45	Coffee Break	Atlantic Foyer
9:45	End of General Session	

### **Concurrent Morning Sessions:**

9:50-12:00	Citrus (p.34)	Pampero A/B
9:50-12:00	Krome Memorial Institute (p.25)	Bayamo
9:50-12:00	Natural Resources (p.18)	Papagayo A
9:50-12:15	Ornamental, Garden & Landscape (p.14)	Mistral A/B
9:50-11:45	Handling & Processing (p.29)	Papagayo B
9:50-12:00	Vegetable (p.20)	Atlantic Salon A/B

### **Monday Lunch**

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12:00-1:20	Lunch (On your own)	
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### **Monday Afternoon**

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#### **Concurrent Afternoon Sessions:**

1:20-3:30	Citrus	Pampero A/B
1:20-4:00	Krome Memorial Institute	Bayamo
1:20-4:00	Natural Resources	Papagayo A
1:20-4:30	Ornamental, Garden & Landscape	Mistral A/B
1:20-4:30	Handling & Processing	Papagayo B
1:20-4:15	Vegetable	Atlantic Salon A/B

### **Monday Evening**

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5:15-6:15	Industry Reception <i>(Included in paid conference registration)</i>	Atlantic Salon C
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### **Tuesday Morning**

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7:00-8:15	Horticultural Crops Breakfast <i>(Event ticket required)</i>	Atlantic Salon C
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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: <b>Eric Simonne</b> , FSHS President Student Competition Awards, <b>Kelly Morgan</b>	Atlantnic Salon A/B
9:45	<b>Coffee Break</b>	Atlantnic Foyer

### **Concurrent Morning Sessions:**

9:50-12:00	Citrus	Pampero A/B
	Krome Memorial Institute	Bayamo
9:50-11:45	Natural Resources	Papagayo A
9:50-12:00	Ornamental, Garden & Landscape	Mistral A/B
	Handling & Processing	Papagayo B
9:50-12:00	Vegetable	Atlantic Salon A/B
12:00	All posters are taken down	Atlantnic Foyer

### **Tuesday Lunch**

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12:00-1:00	Extension Luncheon <i>(Event ticket required)</i> Invited speaker: <b>Dr. Edzard van Santen</b> , Director of Statistical Consulting Unit, UF/IFAS Agronomy Department. <b>”How to Succeed in Experimental Research”</b>	Atlantic Salon C
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### **Tuesday Afternoon**

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

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Citrus Research and Development Foundation  
Valent BioScience

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

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Yara International ASA

## Silver Level Sponsor (\$500-\$999)

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Plant Food Systems  
Chemical Dynamics

## Bronze Level Sponsor (under \$500)

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*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](http://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](mailto:ualbrecht@ufl.edu)

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

**Krome Memorial Institute:** **Jonathan Crane**, UF/IFAS Tropical  
Research and Education Center,  
Homstead, FL  
[jhcr@ufl.edu](mailto:jhcr@ufl.edu)

**Ornamental, Garden, & Landscape:** **Terra Freeman**, UF/IFAS Extension, St.  
John's County, St. Augustine, FL  
[terraf@ufl.edu](mailto:terraf@ufl.edu)

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

**Vegetables:** **Qingren Wang**, UF/IFAS Extension Miami-  
Dade County, Homstead, FL  
[qrwang@ufl.edu](mailto: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](mailto: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*.
- For all submissions, see complete Manuscript Preparation Guide (<http://fshs.org/author-instructions/>) for the *Proceedings of the Florida State Horticultural Society*.

## 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](mailto:ualbrecht@ufl.edu)

**Handling and Processing:** Christina Dorado,  
[Christina.Dorado@ars.usda.gov](mailto:Christina.Dorado@ars.usda.gov)

**Krome Memorial Institute:** Jonathan Crane,  
[jhcr@ufl.edu](mailto:jhcr@ufl.edu)

**Ornamental, Garden, and Landscape:** Terra Freeman,  
[terraf@ufl.edu](mailto:terraf@ufl.edu)

**Natural Resources:** Lloyd Singleton,  
[lsingleton@ufl.edu](mailto:lsingleton@ufl.edu)

**Vegetable:** Qingren Wang,  
[qrwang@ufl.edu](mailto: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.

Access the membership page at:  
<http://fshs.org/join-now/>.

## *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](mailto: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](mailto: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@ashs.org](mailto:fshs@ashs.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](mailto:conserv@ufl.edu).

# Technical Program Schedule

**Poster Session:** Daniel Leonard,  
Coordinator  
[d.leonard@ufl.edu](mailto:d.leonard@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 Moreno<sup>1</sup> and Daniel Carillo<sup>2</sup>. <sup>1</sup>USDA-APHIS. <sup>2</sup>UF/IFAS Tropical Research and Education Center, Homestead, FL. [Jessica.moreno@aphis.usda.gov](mailto: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](mailto: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](mailto:Amanda.Marek@marioncountyfl.org)
- [P-4] **IOxidative stress in HLB-affected root orders in citrus.**  
Naveen Kumar<sup>1</sup> and Robert C. Ebel<sup>2</sup>. <sup>1</sup>University of Maryland Eastern Shore, Princess Anne, MD <sup>2</sup>Integrated Plant Health Services, LLC. Fort Myers, FL. [fnaveenkumar@umes.edu](mailto:fnaveenkumar@umes.edu)
- [P-5] **Intra-plant movement of Candidatus Liberibacter species in citrus.** Robert C. Ebel. Integrated Plant Health Services LLC, Fort Myers, FL. [rcebel@ufl.edu](mailto:rcebel@ufl.edu)
- [P-6] **Florida's Response to Tar Spot, a New Disease of Corn in the U.S**  
Eugene McAvoy<sup>1</sup>, Christian F. Mille<sup>2</sup>, Matthew Bardin<sup>3</sup>, Robert Beiriger<sup>3</sup>, Nicholas Dufault<sup>4</sup>, Megan Romberg<sup>5</sup>, Shouan Zhang<sup>6</sup>, Amanda Hodges<sup>7</sup>, and Richard Raid<sup>3</sup>. <sup>1</sup>UF/IFAS Hendry County Extension, <sup>2</sup>UF/IFAS Palm Beach County Extension, <sup>3</sup>UF/IFAS Everglades Research and Education Center <sup>4</sup>UF/IFAS Department of Plant Pathology, <sup>5</sup>USDA APHIS, <sup>6</sup>UF/IFAS Tropical Research and Education Center, <sup>7</sup>UF/IFAS Department of Entomology and Nematology. [gmcavoy@ufl.edu](mailto:gmcavoy@ufl.edu)

**Ornamental, Garden & Landscape Section:** Terra Freeman  
Presiding  
[terraf@ufl.edu](mailto: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

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10:00 **Macadamia as a Possible Alternative Crop for Florida.**

K. Stauderman, UF/IFAS Volusia County Extension, DeLand, FL.  
([kstauderman@ufl.edu](mailto: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](mailto:hwooten@ufl.edu)) [OGL-2]

## B – Arboriculture

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10:30 **Post hurricane Irma, tree canopy loss, how this happens.** H. Mayer<sup>1</sup>, and M. Orfanedes<sup>2</sup>, <sup>1</sup>UF/IFAS Extension Miami-Dade and <sup>2</sup>UF/IFAS Extension Broward County, ([MORFANEDES@broward.org](mailto: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](mailto:phdlaboratory@hotmail.com)) [OGL-4]

## C – Community Gardens

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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](mailto:welmore@pascocountyfl.net)) [OGL-5]

11:15 **OGL Section Business Meeting:** Terra Freeman

## D – Student Presentations

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

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- 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. ([whhobbs@ufl.edu](mailto:whhobbs@ufl.edu)) [OGL-11]
- 2:45 Considerations for Conducting Educational Events at Nurseries.** Tom Yeager<sup>1</sup>, Liz Felter<sup>2</sup>, Juanita Popenoe<sup>3</sup>, Lloyd Singleton<sup>3</sup>, Matt Smith<sup>4</sup>, Karen Stauderman<sup>5</sup>, and Shawn Steed<sup>6</sup>. <sup>1</sup>UF/IFAS Environmental Horticulture Department, Gainesville, FL; <sup>2</sup>UF/IFAS Extension Orange County, Orlando, FL; <sup>3</sup>UF/IFAS Extension Lake County Extension, Tavares, FL; <sup>4</sup>UF/IFAS Extension Sumter County Extension, Bushnell, FL; <sup>5</sup>UF/IFAS Extension Volusia County, Deland, FL; <sup>6</sup>UF/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

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- 3:15 Multi Year Pesticide Applicator Training Shows Broad Impact.** M. Orwat<sup>1</sup> and E. Carter<sup>2</sup>. <sup>1</sup>UF/IFAS Extension Washington County, Chipley, FL; <sup>2</sup>UF/IFAS Extension Jackson County, Marianna, FL. ([mjorwat@ufl.edu](mailto:mjorwat@ufl.edu)) [OGL-14]

- 3:30 Navigating Pesticide Licensing in Florida.**  
**S. Dunning<sup>1</sup>, J. McConnell<sup>2</sup>, and E. Harlow<sup>3</sup>.** <sup>1</sup>UF/IFAS Extension Okaloosa County, Crestview, FL; <sup>2</sup>UF/IFAS Extension Bay County, Panama City, FL; <sup>3</sup>UF/IFAS Extension Duval County, Jacksonville, FL. ([sdunning@ufl.edu](mailto: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

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- 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](mailto: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](mailto: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](mailto: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](mailto:brymz@ufl.edu) [NR-4]
- 11:00** **Establishing a Hop Yard for Small Farms and Homebrewers.** K. Greer<sup>1</sup>, R. Tyson<sup>1</sup>, and B. Pearson<sup>2</sup>. <sup>1</sup>UF/IFAS Extension Orange County, Orlando, FL, <sup>2</sup>UF/IFAS Mid-Florida Research and Education Center, Apopka, FL. [kg@ufl.edu](mailto:kg@ufl.edu) [NR-5]
- 11:15** **Harmful Algal Bloom Extension Program for the Indian River Lagoon.** K. Gioeli<sup>1</sup>, H. Laughinghouse<sup>IV</sup><sup>2</sup>, L. Krimsky<sup>3</sup>, and E. Skvarch<sup>1</sup>. <sup>1</sup>UF/IFAS Extension St Lucie County, Ft. Pierce, FL, <sup>2</sup>UF/IFAS Ft. Lauderdale Research and Education Center, Davie, FL, <sup>3</sup>UF/IFAS South Florida Extension District, Ft. Pierce, FL [ktgioeli@ufl.edu](mailto: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](mailto: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

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- 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](mailto: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](mailto: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](mailto: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

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- 10:00 Evaluation of Production Methods for Hops in Florida.** Shinsuke Agehara<sup>1</sup>, **Tiare Silvasy**<sup>1</sup>, Zhanao Deng<sup>1</sup>, and Simon Bollin<sup>2</sup>. <sup>1</sup>UF/IFAS Gulf Coast Research and Education Center, and <sup>2</sup>Hillsborough County, Agriculture Industry Development., FL. [sagehara@ufl.edu](mailto: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](mailto: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](mailto: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**<sup>1</sup>, Liguang Li<sup>1</sup>, Muhammad Shahid<sup>1</sup>, Kelly Morgan<sup>2</sup>, David Dinkins<sup>3</sup>, Gary England<sup>4</sup>, Wendy Mussoline<sup>5</sup>, Mark Clark<sup>6</sup> and James Fletcher<sup>7</sup>. <sup>1</sup>UF/IFAS Horticultural Sciences Department, Gainesville, FL, <sup>2</sup>UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL, <sup>3</sup>UF/IFAS Extension Putnam County Extension, E. Platak, FL, <sup>4</sup>UF/IFAS Hastings Agricultural Extension Center, Hastings, FL, <sup>5</sup>UF/IFAS Extension Flagler County, Bunnell, FL, <sup>6</sup>UF/IFAS Soil and Water Science, Gainesville, FL, and <sup>7</sup>UF/IFAS Mid-Florida Research and Education Center, Apopka, FL. [guodong@ufl.edu](mailto:guodong@ufl.edu) [V-4]
- 11:15 Optimization of Early-season Nitrogen Fertilization Program for New Strawberry Cultivar ‘Florida Beauty’.** **Sana Shahzad**<sup>1</sup>, Tiare Silvasy<sup>2</sup>, and Shinsuke Agehara<sup>2</sup>. <sup>1</sup>University of Agriculture, Faisalabad, Pakistan, and <sup>2</sup>UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL. [sagehara@ufl.edu](mailto:sagehara@ufl.edu) [V-5]
- 11:30 Low Cost High Tunnel versus Open Field Production of Organically Grown Strawberries in North Florida.** **A. Bolques**<sup>1</sup>, G. Queeley<sup>1</sup> and F. Ospina<sup>1</sup> and V. Richardson<sup>2</sup>. <sup>1</sup>Quincy Research and Extension Center, FAMU; <sup>2</sup>Cooperative Extension Program, FAMU. [bolques@famu.edu](mailto:bolques@famu.edu) [V-6]

## B – UAV Application and Space Cultures

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11:45 **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](mailto:i.ampatzidis@ufl.edu) [V-7]

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)

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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, Sebastian 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 Herrick<sup>1</sup>, Joshua Sagarrabay<sup>1</sup> Teralyn Ubico<sup>2</sup>, Andrea Rivera<sup>3</sup>, Katherine Miller<sup>4</sup>, Noel Frias<sup>5</sup>, and Benyah Andressohn<sup>6</sup>, <sup>1</sup>BioTECH@Richmond Heights, Maimi, FL, <sup>2</sup>Our Lady of Lourdes Academy, <sup>3</sup>Everglades Preparatory Academy, <sup>4</sup>Terra Environmental Research Institute, <sup>5</sup>Hialeah Senior High School, <sup>6</sup>Miami Killian Senior High, Miami FL. [V-11]

## C – Research Design

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2:30 **Social Science in Service to Biological Research.** Alia DeLong<sup>1</sup>, Mickie Swisher<sup>1</sup>, Kaylene Sattanno<sup>1</sup>, Carlene Chase<sup>2</sup>, Xin Zhao<sup>2</sup>, Oscar Liburd<sup>3</sup>, and Zhifeng Gao<sup>4</sup>. <sup>1</sup>Department of Family, Youth & Community Sciences, University of Florida, Gainesville, FL, <sup>2</sup>Horticultural Sciences Department, University of Florida, Gainesville, FL, <sup>3</sup>Entomology

## Vegetable Section

and Nematology Department, University of Florida, Gainesville, FL, and <sup>4</sup>Food and Resource Economics Department, University of Florida, Gainesville, FL. [dlonga@ufl.edu](mailto:dlonga@ufl.edu). [V-12]

### 2:45 Vegetable Section Business Meeting – Qingren Wang

## D –Student Presentations

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- 3:00 Vegetable crops as hosts of thrips (Thysanoptera: Thripidae) vectoring Tomato chlorotic spot virus in tomatoes.** Rafia 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](mailto:dseal@ufl.edu) [V-13]
- 3:15 Stem and canopy architecture differences and their relationship to productivity in Capsicum annum lines.** Yanlin Wang, Yue, Y., MaKenzie De New, and Bala Rathinasabapathi. UF/IFAS Horticultural Sciences Department, Gainesville, FL 32611-0690. [brath@ufl.edu](mailto: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. Razzak<sup>1</sup>, Dakshina R. Seal<sup>1</sup>, Philip A. Stansly<sup>2</sup>, Oscar E. Liburd<sup>3</sup> and Bruce Schaffer<sup>1</sup>. <sup>1</sup>UF/IFAS Tropical Research and Education Center, Homestead, FL <sup>2</sup>SUF/IFAS Southwest Florida Research and Education Center, Immokalee, FL and <sup>3</sup>UF/IFAS Department of Entomology and Nematology, Gainesville, FL [dseal@ufl.edu](mailto: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](mailto:sdeschamps@ufl.edu) [V-16]
- 4:00 An update of fertigation as an economic beneficial practice for potato production in Florida.** Xiangju Fu<sup>1</sup>, Guodong Liu<sup>1</sup>, Lincoln Zotarelli<sup>1</sup>, Steve Sargent<sup>1</sup>, Crystal Snodgrass<sup>2</sup> and Alan Jones<sup>3</sup>. <sup>1</sup>UF/IFAS Horticultural Sciences, Gainesville, FL, <sup>2</sup>UF/IFAS Extension Manatee County Extension, Palmetto, FL, and <sup>3</sup>Jones Potato Farm. [guodong@ufl.edu](mailto:guodong@ufl.edu) [V-17]
- 4:15 Potential Cover Crop Options for Nematode and Weed Suppression in Haiti.** Robyn Adair<sup>1</sup>, Carlene A. Chase<sup>1</sup>, Wesly Jeune<sup>2</sup>, M.E. Swisher<sup>3</sup>, Tesfamariam Mengistu<sup>4</sup>. <sup>1</sup>UF/IFAS Horticultural Sciences Department, Gainesville, FL, <sup>2</sup>AREA Project, University of Florida, Pétion-Ville, Haiti, <sup>3</sup>UF/IFAS Family, Youth and Community Sciences Department, Gainesville, FL, and <sup>4</sup>UF/IFAS Entomology and Nematology Department, Gainesville, FL. [radair@ufl.edu](mailto:radair@ufl.edu) [V-18]
- 4:30 Living Mulches and Low-volume Irrigation for Runoff Reduction during Bare-root Strawberry Transplant Establishment.** Lillian Pride<sup>1</sup>, Carlene A. Chase<sup>2</sup>, Kati W. Migliaccio<sup>3</sup>, and Zachary T. Brym<sup>4</sup>. <sup>1</sup>UF/

IFAS School of Natural Resources and Environment, Gainesville, FL, <sup>2</sup>UF/IFAS Horticultural Sciences Department, Gainesville, FL, <sup>3</sup>UF/IFAS Department of Agricultural and Biological Engineering, Gainesville, FL, and <sup>4</sup>UF/IFAS Tropical Research and Education Center, Homestead, FL. [lpride3@ufl.edu](mailto:lpride3@ufl.edu) [V-19]

## E – Breeding and Genetics

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- 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. [seonghee105@ufl.edu](mailto:seonghee105@ufl.edu) [V-20]
- 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. [seonghee205@ufl.edu](mailto:seonghee205@ufl.edu) [V-21]
- 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

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- 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. [gmeru@ufl.edu](mailto:gmeru@ufl.edu) [V-22]
- 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. [sagehara@ufl.edu](mailto:sagehara@ufl.edu) [V-23]

## G – Pest Control and Management

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- 10:30 **Effect of cover crops and soil amendments on tomato yield and incident of pests.** Qingren Wang<sup>1</sup>, Li Ma<sup>2</sup>, and Yuncong Li<sup>3</sup>. <sup>1</sup>UF/IFAS Extension Miami-Dade, <sup>2</sup>Visiting Scientist from Institute of Soil Sci., Chinese Academy of Science, and <sup>3</sup>UF/IFAS Tropical Research and Education Center. [qrwang@ufl.edu](mailto:qrwang@ufl.edu) [V-24]
- 10:45 **Addressing the Threat Posed by Fusarium Wilt of Lettuce to Florida in an Attempt to Limit Its Spread.** Christian F. Miller<sup>1</sup>,

## Vegetable Section

**German Sandoya<sup>2</sup>, William Wadlington<sup>2</sup>, Matthew Bardin<sup>3</sup>, Eugene McAvoy<sup>4</sup>, and Richard Raid<sup>2</sup>.** <sup>1</sup>UF/IFAS Extension Palm Beach County Extension, West Palm Beach, FL, <sup>2</sup>UF/IFAS Everglades Research and Education Center, University of Florida IFAS, Belle Glade, FL, <sup>3</sup>Glades Crop Care, Jupiter, FL, and <sup>4</sup>UF/IFAS Extension Hendry County, LaBelle, FL. [cfmiller@ufl.edu](mailto:cfmiller@ufl.edu) [V-25]

- 11:00 Stemphylium Leaf Spot in Spinach: Chemical and Breeding Solutions for This Threatening Disease.** Will Wadlington<sup>1</sup>, German V. Sandoya-Miranda<sup>1</sup>, Richard N. Raid<sup>1</sup>, Christian F. Miller<sup>2</sup>, and Judith Villegas<sup>3</sup>. <sup>1</sup>UF/IFAS Everglades Research and Education Center, Belle Glade, FL, <sup>2</sup>UF/IFAS Extension Palm Beach County, West Palm Beach, FL, and <sup>3</sup>VegPro International, Belle Glade, FL. [wwadlington@ufl.edu](mailto:wwadlington@ufl.edu) [V-26]
- 11:15 Effective way of managing fall armyworm (FAW), Spodoptera frugiperda (J.E. Smith) (Lepidoptera: Noctuidae) in sweet corn in southern Florida.** D. R. Seal. UF/IFAS, Tropical Research and Education Center, Homestead, FL. [dseal@ufl.edu](mailto:dseal@ufl.edu) [V-27]
- 11:30 Evaluation of micronutrients for their effectiveness in rescuing herbicide injured tomatoes.** Ramdas Kanissery and Biwek Gairhe UF/IFAS Southwest Florida REC, University of Florida IFAS, Immokalee, FL. [rkannissery@ufl.edu](mailto:rkannissery@ufl.edu) [V-28]
- 11:45** End of the Program
- 12:00** Extension Luncheon (ticket required)

# Monday Morning Session

(9:50 AM – Noon) Bayamo

9:50 Welcome and Introductions, Jonathan Crane

## A – Subtropical Crops

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- 10:00 **Determine water requirements for young peach trees in humid climates.** [Carlos Zambrano-Vaca](#)<sup>1</sup>, [Lincoln Zotarelli](#)<sup>1</sup>, [Richard C. Beeson Jr.](#)<sup>2</sup>, [Kelly T. Morgan](#)<sup>3</sup>, [Kati W. Migliaccio](#)<sup>4</sup>, [José X. Chaparro](#)<sup>1</sup>, and [M. Olmstead](#)<sup>1</sup>. <sup>1</sup>UF/IFAS, Horticultural Sciences Department, Gainesville, FL, <sup>2</sup>UF/IFAS, Mid-Florida Research and Education Center, Apopka, FL, <sup>3</sup>UF/IFAS, Southwest Florida Research and Education Center, Immokalee, FL, <sup>4</sup>UF/IFAS, Agricultural and Biological Engineering Department, Gainesville, FL. [czambrano@ufl.edu](mailto:czambrano@ufl.edu) [K-1]
- 10:15 **Irrigation strategies for subtropical peach production in humid climates.** [Carlos Zambrano-Vaca](#)<sup>1</sup>, [Lincoln Zotarelli](#)<sup>1</sup>, [Kati W. Migliaccio](#)<sup>2</sup>, [Kelly T. Morgan](#)<sup>3</sup>, [Richard C. Beeson Jr.](#)<sup>4</sup>, [José X. Chaparro](#)<sup>1</sup>, and [M. Olmstead](#)<sup>1</sup>. <sup>1</sup>UF/IFAS Horticultural Sciences Department, Gainesville, FL, <sup>2</sup>UF/IFAS Agricultural and Biological Engineering Department, <sup>3</sup>UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL, <sup>4</sup>UF/IFAS Mid-Florida Research and Education Center, Apopka, FL. [czambrano@ufl.edu](mailto: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](mailto:xijieyu@ufl.edu) [K-3]
- 10:45 **Effect of GA3 on Fruit Set and Yield of Young Southern Highbush Blueberry Plants.** [Juanita Popenoe](#)<sup>1</sup>, and [Craig Campbell](#)<sup>2</sup>. <sup>1</sup>UF/IFAS Extension Lake County Tavares, FL, <sup>2</sup>Valent U.S.A. LLC, Ocoee, FL. [jpopenoe@ufl.edu](mailto:jpopenoe@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. [zhongbo.ren@famu.edu](mailto:zhongbo.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. [zhongbo.ren@famu.edu](mailto:zhongbo.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 Lin](#)<sup>1</sup>, and Shinsuke Agehara<sup>2</sup>.  
<sup>1</sup>UF/IFAS Horticultural Sciences Department, Gainesville, FL, <sup>2</sup>UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL. [syuanyou.lin@ufl.edu](mailto:syuanyou.lin@ufl.edu) [K-7]

**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**

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**1:30 Vegetative Propagation of Six Tea Accessions Grown In Florida.** [Kristen Sandsted](#)<sup>1</sup>, [James Orrock](#)<sup>2</sup>, [Brantlee Spakes Richter](#)<sup>2</sup>, and [Bala Rathinasabapathi](#)<sup>1</sup>, <sup>1</sup>UF/IFAS Horticultural Sciences Department, Gainesville, FL, <sup>2</sup>UF/IFAS Department of Plant Pathology, Gainesville, FL, [k.sandsted@ufl.edu](mailto:k.sandsted@ufl.edu) [K-8]

**1:45 Comparison of High Temperature Stress Tolerance on Common Tea Accessions Grown In Florida.** [James Orrock](#)<sup>1</sup>, [Brantlee Spakes Richter](#)<sup>1</sup>, and [Bala Rathinasabapathi](#)<sup>2</sup>. <sup>1</sup>UF/IFAS Department of Plant Pathology, Gainesville, FL, <sup>2</sup>UF/IFAS Horticultural Sciences Department, Gainesville, FL. [jorrock90@ufl.edu](mailto:jorrock90@ufl.edu) [K-9]

**2:00 Vanilla Conservation, Genetics, and Opportunities for Southern Florida.** [Alan H. Chambers](#)<sup>1</sup>, [Elias Bassil](#)<sup>1</sup>, [Marcio Resende](#)<sup>2</sup>, and [Aureliano Bombarely](#)<sup>3</sup>. <sup>1</sup>UF/IFAS Tropical Research and Education Center, Homestead, FL. <sup>2</sup>UF/IFAS Horticultural Sciences Department, Gainesville, FL, <sup>3</sup>Virginia PolyTech, Blacksburg, VA. [ac@ufl.edu](mailto: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](mailto:nmarks1@ufl.edu) [K-11]

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

**2:45 Differentiation of Aroma Active Components in Lychee (Litchi chinensis Sonn.).** [Kathryn Moorhead](#)<sup>1</sup>, [Shi Feng](#)<sup>1</sup>, [Mingyang Huang](#)<sup>1</sup>, [Jonathan Henry Crane](#)<sup>2</sup>, and [Yu Wang](#)<sup>1</sup>. <sup>1</sup>UF/IFAS Citrus Research and Education Center, Lake Alfred, FL, <sup>2</sup>UF/IFAS Tropical Research and Education Center, Homestead, FL. [yu.wang@ufl.edu](mailto:yu.wang@ufl.edu) [K-13].



- 3:00 Break
- 2:00 **Helping tropical fruit growers to comply with the new food safety regulations.** Jeff Wasielewski<sup>1</sup> and Jonathan H. Crane<sup>2</sup>. <sup>1</sup>UF/IFAS Extension Miami-Dade County, Homestead FL, <sup>2</sup>UF/IFAS Tropical Research and Education Center, Homestead, FL. ([jwasielewski@ufl.edu](mailto:jwasielewski@ufl.edu)) [K-11]
- 2:15 **Mediterranean Horticulture Applications for Florida.** J. Popenoe. UF/IFAS Extension Lake County, Tavares, FL. ([jpopenoe@ufl.edu](mailto:jpopenoe@ufl.edu)) [K-12]
- 2:30 Break

## C– Tropical Fruit Crops

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- 3:15 **Economic Effects of Hurricane Irma on the Avocado Industry of Miami-Dade County.** Jeff Wasielewski<sup>1</sup>, and Jonathan H. Crane<sup>2</sup> and Edward A. Evans<sup>2</sup>. <sup>1</sup>UF/IFAS Extension Miami-Dade County, Homestead, FL. <sup>2</sup>UF/IFAS Tropical Research and Education Center, Homestead, FL. [jwasielewski@ufl.edu](mailto:jwasielewski@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 Larsen<sup>1</sup>, and Kimberly Moore<sup>2</sup>. <sup>1</sup>NK Lago Farms, Canal Point, FL <sup>2</sup>UF/IFAS Ft. Lauderdale Research and Education Center, Davie, FL. [nklagofarms@aol.com](mailto: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. Crane<sup>1</sup>, Daniel Carrillo<sup>1</sup>, Romina Gazis<sup>1</sup>, Edward Evans<sup>1</sup>, Jude Grosser<sup>2</sup>, Kim D. Bowman<sup>3</sup>, James Colee<sup>4</sup>, and David Herbella<sup>1</sup>. <sup>1</sup>UF/IFAS Tropical Research and Education Center, Homestead, FL, <sup>2</sup>Citrus Research and Education Center, Lake Alfred, FL, <sup>3</sup>USDA-ARS, Ft. Pierce, FL, <sup>4</sup>UF Department of Statistics, Gainesville, FL. [jhcr@ufl.edu](mailto:jhcr@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 Rovira<sup>1</sup>, Felipe Segundo Varela<sup>1</sup>, Maria Emma Morales<sup>1</sup>, and Noris Ledesma<sup>2</sup>. <sup>1</sup>University of Magdalena, Santa Marta, Colombia, <sup>2</sup>Fairchild Tropical Botanic Garden, Miami, FL. [nledesma@fairchildgarden.org](mailto:nledesma@fairchildgarden.org) [K-17]
- 4:15 **Morphological Characterization of Inflorescences and Flowers of 220 Mango Varieties (*Mangifera indica* L.).** Felipe Segundo Varela<sup>1</sup>, Francisco David Algarin<sup>1</sup>, and Noris Ledesma<sup>2</sup>. <sup>1</sup>University of Magdalena, Santa Marta, Colombia, <sup>2</sup>Fairchild Tropical Botanic Garden, Miami, FL. [nledesma@fairchildgarden.org](mailto: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)

# Handling & Processing Section:

Christine Dorado

Presiding

[Christine.Dorado@ARS.USDA.GOV](mailto:Christine.Dorado@ARS.USDA.GOV)

# Monday Morning Session

(9:50 AM – 12:00PM) Papagayo B

9:50 Welcome and Introductions, Christine Dorado

## A - Postharvest Quality

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10:00 **Orange flavor vs. mandarin flavor.**

**Shi Feng**<sup>1,2</sup>, **Joon Hyuk Suh**<sup>2</sup>, **Frederick G. Gmitter**<sup>2</sup> and **Yu Wang**<sup>2</sup>, <sup>1</sup>UF/IFAS Department of Food Science and Human Nutrition, Gainesville, FL, <sup>2</sup>UF/IFAS Citrus Research and Education Center, Lake Alfred, FL, [fsophias@ufl.edu](mailto:fsophias@ufl.edu) [HP-1]

10:15 **Aroma deterioration associated changes in volatile profile in orange fruit affected by citrus Huanglongbing.** **Jinhe Bai**, Anne Plotto and Elizabeth Baldwin, USDA-ARS, US Horticultural Research Laboratory, Ft. Pierce, FL [jinhe.bai@ars.usda.gov](mailto:jinhe.bai@ars.usda.gov) [HP-2]

10:30 **New Insights on postharvest peel pitting of citrus fruit: Connecting physics with biochemistry.** **Fernando Alferez**<sup>1</sup>, **Paul Cronje**<sup>2</sup> and **Lorenzo Zacarias**<sup>3</sup>. <sup>1</sup>UF/IFAS South West Florida Research and Education Center, Immokalee, FL, <sup>2</sup>Citrus Research International, Department of Horticultural Science, Stellenbosch University, Stellenbosch, South Africa, <sup>3</sup>Instituto de Agroquímica y Tecnología de Alimentos (IATA-CSIC), Catedrático Agustín Escardino, Valencia, Spain [alferez@ufl.edu](mailto: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 Smith**<sup>1</sup>, **Katrina Kelly**<sup>1</sup>, **Kanika Saxena**<sup>1</sup>, **Vance Whitaker**<sup>2</sup> and **Cecilia do Nascimento Nunes**<sup>1</sup>, <sup>1</sup>Food Quality Laboratory, Department of Cell Biology, Microbiology and Molecular Biology University of South Florida, Tampa, FL, <sup>2</sup>Gulf Coast Research and Education Center, UF/IFAS, Wimauma, FL [alyssasmith3@mail.usf.edu](mailto: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 ([ttamashiro@ufl.edu](mailto:ttamashiro@ufl.edu)) [HP-5]

11:15 **Preharvest abscisic acid (ABA) application to alleviate chilling injury of sweet basil (*Oscium basilicum*) during cold storage.** Aditi D. Satpute, Bryce Meyering and Ute Albrecht, UF/IFAS, Horticultural Sciences Department, Immokalee, FL ([aditisatpute@ufl.edu](mailto: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 ([rtmadden@mail.usf.edu](mailto:rtmadden@mail.usf.edu)) [HP-7]

11:45 Handling and Processing Business Meeting - Christine Dorado

12:00 Lunch (on your own)]

# Monday Afternoon Session

(1:00 – 3:30 PM)

## B – Field Trip

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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

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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](mailto: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](mailto: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 Shahzad<sup>1</sup>, Jeff Brecht<sup>1</sup>, Mark Ritenour<sup>2</sup>, and Tripti Vashisth<sup>3</sup>, <sup>1</sup>UF/IFAS, Horticultural Sciences Department, Gainesville, FL, <sup>2</sup>UF/IFAS, Indian River Research and Education Center, Ft. Pierce, FL, <sup>3</sup>Citrus Research and Education Center, Lake Alfred, FL [amiabu@ufl.edu](mailto: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 Marín<sup>1</sup>, Lorena Atarés<sup>1</sup>, Neus Teixidó<sup>2</sup>, Amparo Chiralt<sup>1</sup> and Anne Plotto<sup>3</sup>. <sup>1</sup>Instituto de Ingeniería de Alimentos para el Desarrollo, Departamento de Tecnología de Alimentos, Universitat Politècnica de

## Handling & Processing Section

València, Valencia, Spain, <sup>2</sup>IRTA, XaRTA-Postharvest, Edifici Fruitcentre, Parc Científic i Tecnològic Agroalimentari de Lleida, Parc de Gardeny, Catalonia, Spain, <sup>3</sup>USDA-ARS, US Horticulture Research Lab, Ft. Pierce, FL. [anna.maringozalbo@ars.usda.gov](mailto:anna.maringozalbo@ars.usda.gov) [HP-11]

- 11:00 Edible coatings as carriers of *Lactobacillus plantarum* for fungal biopreservation of grapes.** [Anna Marín](#)<sup>1</sup>, [Lorena Atarés](#)<sup>1</sup>, [Amparo Chiralt](#)<sup>1</sup> and [Anne Plotto](#)<sup>2</sup>,<sup>1</sup>Instituto de Ingeniería de Alimentos para el Desarrollo, Departamento de Tecnología de Alimentos, Universitat Politècnica de València, València, Spain, <sup>2</sup>USDA-ARS, US Horticulture Research Lab, Ft. Pierce, FL, [anna.maringozalbo@ars.usda.gov](mailto:anna.maringozalbo@ars.usda.gov) [HP-12]
- 11:15 Effect of fruit coating and modified atmosphere packaging on Florida-grown peaches.** [Anne Plotto](#)<sup>1</sup>, [Anna Marin Gozalbo](#)<sup>2</sup>, [Elizabeth Baldwin](#)<sup>1</sup>, [Jinhe Bai](#)<sup>1</sup> and [Mark Ritenour](#)<sup>3</sup>. <sup>1</sup>USDA-ARS, US Horticulture Research Lab, Ft. Pierce, FL, <sup>2</sup>Instituto de Ingeniería de Alimentos para el Desarrollo, Departamento de Tecnología de Alimentos, Universitat Politècnica de València, Valencia, Spain, <sup>3</sup>UF/IFAS Indian River Research and Education Center, Fort Pierce, FL [anne.plotto@ars.usda.gov](mailto:anne.plotto@ars.usda.gov) [HP-13]
- 11:30 Carnauba wax nanoemulsion coating containing ginger (*Zingiber officinale*) essential oil on postharvest quality of tangerines.** [Marcela Miranda](#)<sup>1</sup>, [Marcos David Ferreira](#)<sup>2</sup>, [Odílio Benedito de Assis](#)<sup>2</sup>, [Xiuxiu Sun](#)<sup>3</sup>, [Anne Plotto](#)<sup>3</sup>, [Jinhe Bai](#)<sup>3</sup> and [Elizabeth Baldwin](#)<sup>3</sup>. <sup>1</sup>São Paulo State University (UNESP), School of Pharmaceutical Sciences, Araraquara, Brazil, <sup>2</sup>Embrapa Instrumentação- Brazilian Agricultural Research Corporation, São Carlos-SP, Brazil, <sup>3</sup>USDA, ARS, U.S. Horticultural Research Laboratory, Ft. Pierce, FL [liz.baldwin@ars.usda.gov](mailto:liz.baldwin@ars.usda.gov) [HP-14]
- 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](mailto:cbelisle1@ufl.edu) [HP-15]
- 12:00 Session Adjourned**  
See you next year!
- 12:00 Extension Luncheon** (Ticket Required)

**Citrus Section:** Ute Albrecht  
 Presiding  
[ualbrecht@ufl.edu](mailto:ualbrecht@ufl.edu)

# Monday Morning Session

(9:50 AM – Noon) Pampero A/B

9:50 Welcome and Introductions, Ute Albrecht

## A – Student Presentations

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- 10:00 **Soil and/or Foliar Applied nutrients on Water Dynamics, Vegetative Growth, and Nutrient Accumulation on HLB Affected Valencia Citrus Trees.** [Alisheik Atta](#), and Kelly Morgan. UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. [conserv@ufl.edu](mailto: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](mailto:manjul@ufl.edu) [C-2]
- 10:30 **Seasonal variation in yield and root response to steam-generated supplementary heat thermotherapy.** [Naweena Thapa](#)<sup>1</sup>, Evan G. Johnson<sup>1</sup>, Reza Ehsani<sup>2</sup>, Megan M. Dewdney<sup>1</sup>. <sup>1</sup>UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; <sup>2</sup>Department of Mechanical Engineering, University of California, Merced, CA. [mmdewdney@ufl.edu](mailto:mmdewdney@ufl.edu) [C-3]
- 10:45 **Factors Affecting Citrus Tree Absorption and RNAi Delivery to Psyllids.** [Sasha-Kay V. Clarke](#)<sup>1</sup>, Thomson M. Paris<sup>2</sup>, Wayne B. Hunter<sup>3</sup>, Sherline E. Brown<sup>1</sup>, Jawwad A. Qureshi<sup>2</sup>. <sup>1</sup>University of the West Indies, Department of Basic Medical Sciences, Jamaica; <sup>2</sup>UF/IFAS Indian River Research and Education Center, Fort Pierce, FL; <sup>3</sup>USDA-ARS, Fort Pierce, FL. [jawwadq@ufl.edu](mailto:jawwadq@ufl.edu) [C-4]

## B – HLB Effects and Management

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- 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. Kadyampakeni](#)<sup>1</sup>, Sarah Strauss<sup>2</sup>, Arnold Schumann<sup>1</sup>. <sup>1</sup>UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; <sup>2</sup>UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. [dkadyampakeni@ufl.edu](mailto: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](mailto:tvashisth@ufl.edu) [C-6]
- 11:30 **Initial observations on the effect of Homobrassinolide on HLB-infected trees in Florida.** Fernando Alferez<sup>1</sup>, Tripti Vashisth<sup>2</sup>, Christopher Vincent<sup>2</sup>. <sup>1</sup>UF/IFAS South West Florida Research and Education Center, Immokalee, FL; <sup>2</sup>UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. [alferez@ufl.edu](mailto: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](mailto: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

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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](mailto:civince@ufl.edu). [C-9]

## C – Thermotherapy Workshop

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1:45 **Automated mobile heat thermotherapy system for HLB-affected citrus plants.** Jaafar Abdulridha<sup>1</sup>, Yiannis Ampatzidis<sup>1</sup>, Reza Ehsani<sup>2</sup>, Andong Dai<sup>3</sup>, Kenneth Thompson<sup>3</sup>, Yunjun Xu<sup>3</sup>. <sup>1</sup>UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL; <sup>2</sup>School of Engineering, University of California, Merced, CA; <sup>3</sup>Mechanical and Aerospace Engineering, University of Central Florida, Orlando, FL. [i.ampatzidis@ufl.edu](mailto: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](mailto:jireyes@uga.edu) [C-11]

2:15 **Plant surface modification: a utility for thermotherapy.** Edmund W. Schuster<sup>1</sup>, Yiannis Ampatzidis<sup>2</sup>, K. Khot<sup>3</sup>, R. Ehsani<sup>4</sup>. <sup>1</sup>Edm. Wm 8, LLC; <sup>2</sup>UF/IFAS Southwest Florida Research & Education Center, Immokalee, FL; <sup>3</sup>Biological Systems Engineering, Washington State University; <sup>4</sup>Mechanical Engineering, University of California, Merced, CA. [edmund\\_w@mit.edu](mailto:edmund_w@mit.edu) [C-12]

- 2:30 Efficacy Evaluation of Horticultural Oil Based Thermotherapy for Pear Psylla Management.** Haitham Y. Bahlol<sup>1,2</sup>, Rajeev Sinha<sup>1</sup>, Gwen–Alyn Hoheisel<sup>1</sup>, Reza Ehsani<sup>3</sup>, Lav R. Khot<sup>1</sup>. <sup>1</sup>Center for Precision and Automated Agricultural Systems, Washington State University, Prosser, WA; <sup>2</sup>Middle Technical University, Baghdad, Iraq; <sup>3</sup>Department of Mechanical Engineering, University of California, Merced, CA. [haitham.bahlol@wsu.edu](mailto: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](mailto:wgurley@ufl.edu) [C-14]
- 3:00 Discussion and Break**

## C – Thermotherapy Workshop II

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- 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. [lduncan@ufl.edu](mailto:lduncan@ufl.edu) [C-15]
- 3:30 The effect of root heat treatment on PMS, LAI, and stomata conductance in HLB infected trees.** Saman Souri<sup>1</sup>, Jaafar Jabbar<sup>2</sup>, Reza Ehsani<sup>3</sup>, John Schueller<sup>4</sup>, Yiannis Ampatzidis<sup>2</sup>. <sup>1</sup>UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; <sup>2</sup>UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL; <sup>3</sup>University of California, Merced, CA; <sup>4</sup>University of Florida, Gainesville, FL. [i.ampatzidis@ufl.edu](mailto: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](mailto:tvashisth@ufl.edu) [C-17]
- 4:00 Economic Feasibility of Thermotherapy as a Strategy to Manage HLB Infected Trees.** Fritz Roka, Megan Dewdney<sup>2</sup>, Evan Johnson<sup>2</sup>, Naweena Thapa<sup>2</sup>, Reza Ehsani<sup>3</sup>. <sup>1</sup>UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL; <sup>2</sup>UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; <sup>3</sup>University of California, Merced, CA. [fmroka@ufl.edu](mailto:fmroka@ufl.edu) [C-18]
- 4:15 Citrus Section Business Meeting:** Ute Albrecht
- 4:30 Afternoon Session Ajournd**
- 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

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

## E – Insect Management

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**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](mailto:albrigo@ufl.edu) [C-20]

**10:30 Chemical control of citrus rust mite, *Phyllocoptruta oleivora*.** Jawwad A. Qureshi<sup>1</sup>, Barry C. Kostyk<sup>2</sup>, Philip A. Stansly<sup>2</sup>. <sup>1</sup>UF/IFAS Indian River Research and Education Center, Fort Pierce, FL; <sup>2</sup>UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. [jawwadq@ufl.edu](mailto:jawwadq@ufl.edu) [C-21]

## F – ACP/HLB Tolerance

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**10:45 Distribution and Overwintering of Asian Citrus Psyllid in the Florida Panhandle.** Xavier Martini<sup>1</sup>, Mathews Paret<sup>1</sup>, Ray Bodrey<sup>2</sup>, Erik Lovestrand<sup>3</sup>, Julie McConnell<sup>4</sup>. <sup>1</sup>UF/IFAS North Florida Research & Education Center; <sup>2</sup>UF/IFAS Gulf County Extension; <sup>3</sup>UF/IFAS Franklin County Extension; <sup>4</sup>UF/IFAS Bay County Extension. [rbodrey@ufl.edu](mailto:rbodrey@ufl.edu) [C-22]

**11:00 HLB-Related Responses of Valencia on Eight Diverse Rootstocks in Greenhouse.** Ed Stover<sup>1</sup>, Robert G. Shatters, Jr<sup>1</sup>, David G. Hall<sup>1</sup>, Jude Grosser<sup>2</sup>, Barrett Gruber<sup>3</sup>, and Gloria A. Moore<sup>4</sup>. <sup>1</sup>U.S. Horticultural Research Laboratory, USDA, ARS, Fort Pierce, FL; <sup>2</sup>UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; <sup>3</sup>UF/IFAS Indian River Research and Education Center, Fort Pierce, FL; <sup>4</sup>Horticultural Sciences Department, University of Florida, Gainesville, FL. [ed.stover@ars.usda.gov](mailto:ed.stover@ars.usda.gov) [C-23]

## G– Detection and Movement of CLAs and Phloem Effects

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- 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. [lponcecabrera@ufl.edu](mailto:lponcecabrera@ufl.edu) [C-24]
- 11:30 Systemic phloem degeneration in HLB-affected fruiting branch.** Naveen Kumar<sup>1</sup>, F. N. U. Kiran<sup>1</sup>, Ed Etxeberria<sup>2</sup>. <sup>1</sup>University of Maryland Eastern Shore, Princess Anne, MD; <sup>2</sup>UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. [fnaveenkumar@umes.edu](mailto: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. [etxeber@ufl.edu](mailto:etxeber@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 Agehara**<sup>1</sup> and **Kelly Morgan**<sup>2</sup>, <sup>1</sup>UF/IFAS Gulf Coast and Research Center, <sup>2</sup>UF/IFAS Southwest Florida Research and Education Center. ([sagehara@ufl.edu](mailto:sagehara@ufl.edu) and [conserv@ufl.edu](mailto:conserv@ufl.edu))

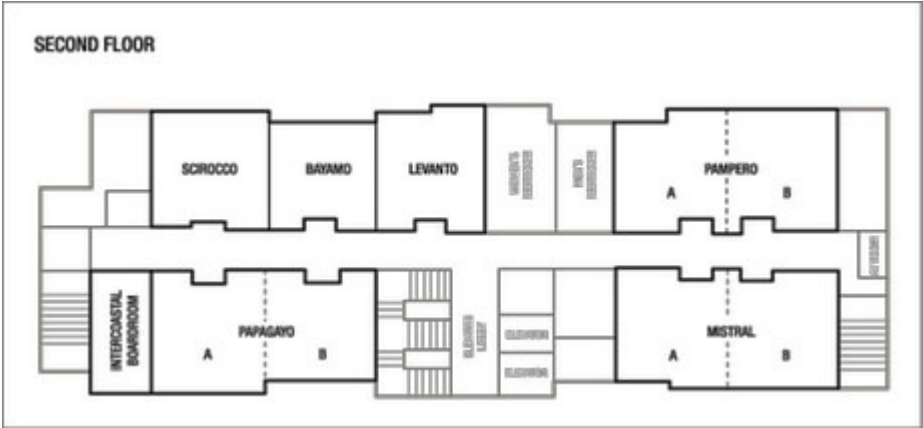
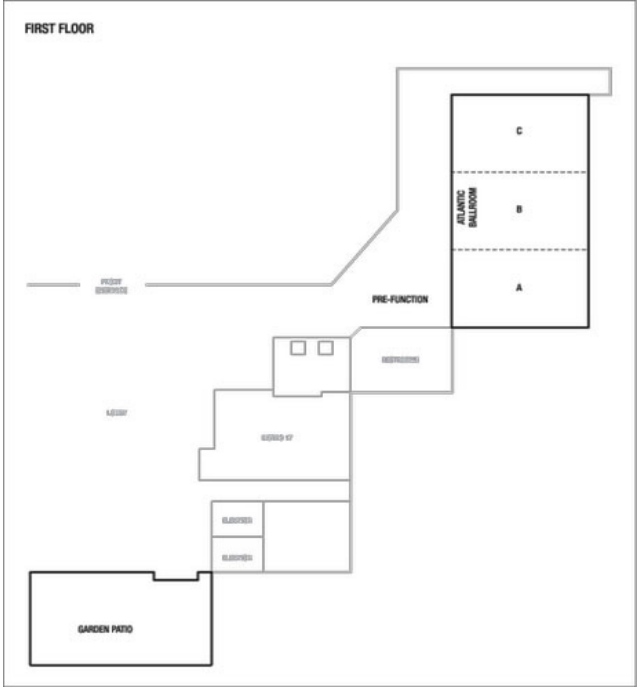
### **Agenda**

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- 1:00 Drive to Fort Lauderdale Research and Educaiton 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 Palnt 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

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