

**134<sup>th</sup> Annual Meeting of the**

FLORIDA STATE

HORTICULTURAL SOCIETY

**September 26 - 28, 2021**

**Hilton Daytona Beach Oceanfront**

**Resort Daytona Beach, FL**



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# Program Overview

Registration Desk Hours –Convention Registration Desk South

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Sunday Sep. 26 12:00PM—6:00 PM

Monday Sep. 27 7:30 AM—5:00 PM

Tuesday Sep. 28 8:00 AM—12:00 PM

Sunday Afternoon—September 26

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1:00—3:00	Poster Session Set up, Prissy Fletcher	Atlantic Avenue Pre-function
3:30—3:45	Opening Ceremony, Jeffrey Williamson	Grand Salon 4-5
3:45—4:15	Speaker: Suzanne Stapleton, Agricultural Sciences & Digital Scholarship Librarian UF	Grand Salon 4-5
4:15—4:45	Awards Ceremony, Noris Ledesma	Grand Salon 4-5
4:45—5:00	Opening Remarks: Dr. Chris Gunter. UF/IFAS Hort Science Chair	Grand Salon 4-5
5:00—6:00	Welcome Reception: Must Wear your Badge or Purchase a Guest Ticket to Attend	Oceanview Room & Terrace

Monday Morning—September 27

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8:15—9:00	General Session	Grand Salon 4-5
8:15—8:30	Welcome & Presidential Address: Noris Ledesma, FSHS President	
8:30—9:00	Speaker: Manuel Michelle "The National Mango Board Tools for the Mango Industry"	
9:00—9:45	Poster Session/Coffee Break	Atlantic Avenue Pre-Function

### Concurrent Monday Morning Sessions:

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9:50—12:15	<a href="#">Agroecology &amp; Natural Resources</a>	Grand Salon 7
9:50—12:00	<a href="#">Citrus</a>	Grand Salon 1
9:50—12:00	<a href="#">Handing &amp; Processing</a>	Grand Salon 8
9:50—12:00	<a href="#">Krome Memorial Institute</a>	Grand Salon 2
9:50—12:00	<a href="#">Ornamental, Garden, &amp; Landscaping</a>	Grand Salon 3
9:50—12:00	<a href="#">Vegetable</a>	Grand Salon 4/5

### Monday Lunch

12:00—1:30 Lunch (on your own)

### Monday Afternoon

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#### Concurrent Monday Afternoon Sessions:

1:20—4:00	<a href="#">Agroecology &amp; Natural Resources</a>	Tour
1:20—3:30	<a href="#">Citrus</a>	Grand Salon 1
1:20—3:30	<a href="#">Handing &amp; Processing</a>	Grand Salon 8
1:20—3:45	<a href="#">Krome Memorial Institute</a>	Grand Salon 2
1:20—2:00	<a href="#">Ornamental, Garden, &amp; Landscaping</a>	Grand Salon 3
1:20—4:45	<a href="#">Vegetable Session 1</a>	Grand Salon 4/5
2:15—3:30	<a href="#">Vegetable Session 2*</a>	Grand Salon 3

\* This is a concurrent session for the vegetable session after Ornamental, Garden

### Tuesday Morning

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7:30—8:45	Horticultural Crops Breakfast (Event ticket required)	Flagler Room
	Invited Speaker: Chef Allen Susser Title: "Feasting on Mangos"	Ticket Re- quired

9:00—9:45 FSHS Annual Business Meeting Grand Salon 4/5

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Student Competition and Travel  
Awards

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9:30 Coffee

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### Concurrent Tuesday Morning Sessions:

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9:50—11:30 [Citrus](#) Grand Salon 1

9:50—12:00 [Vegetable—Session 1](#) Grand Salon 6/7

9:50—11:45 [Vegetable—Session 2](#) Grand Salon 8

### Tuesday Lunch

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12:00—1:00 Extension Luncheon Grand Salon 4/5  
(Event ticket required) Ticket Required

Invited Speakers: Dr. Matt Klein-  
henz  
"A horticulturist's perspective on  
soil health in practice "

### Tuesday Afternoon

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1:00—4:40 [In-Service Training](#) Grand Salon 6/7  
Improving plant health and  
productivity through manipulation  
of the root-soil environment

1:30—3:30 [Mango Summit](#) Grand Salon 1/2

# Florida State Horticultural Society

## 2020-2021 Board of Directors and

### Ex-Officio Members

Chairman of the Board: Jeffrey Williamson

President: Noris Ledesma

President-Elect: John Griffis

Sectional Vice Presidents

Agroecology & Natural Resources: Tia Silvasy

Resources:

Citrus: Davie Kadyampakeni

Handling & Processing: Tie Liu

Krome Memorial Institute: Ali Sarkosh

Ornamental, Garden and Landscape: Kaydie McCormick

Landscape:

Vegetable: Lincoln Zotarelli

Secretary: Fernando Alferez

Treasurer: Kevin Athearn

Proceedings Editor: Mary Lamberts

Marketing Coordinator: Michelle Leonard-Mularz

Members At-Large: Craig Campbell, Richard  
Campbell

Program Coordinator: Germán Sandoya

# Florida State Horticultural Society

## 2021 Meeting Facilitators

Local Arrangements Liz Felter

Coordinator:

Sponsorship Coordinator: Gene McAvoy

Student Competitions Xin Zhao, Michelle Danyl-

Coordinator: uk

CEU Coordinator: Cami Esmel McAvoy

Poster Session Coordina- Evelyn "Prissy" Fletcher,

tor: Taylor Clem

FSHS Newsletter Team: Alicia Lamborn

### Platinum Level Sponsor (\$2,000 and above )

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National Mango Board

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

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### Bronze Level Sponsor (under \$500)

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## 2021 FSHS Patron Members

Anne Plotto, Ed Etxeberria, Craig Campbell, Gene  
McAvoy

## 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 the meeting to the FSHS editor, Mary Lamberts (editors@fshs.org) and copy their appropriate sectional VP.
- Authors may also publish their manuscripts in any of the ASHS journals including HortTechnology, HortScience, or the Journal of ASHS.

### 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, figures and videos are included FREE of CHARGE in the online Proceedings.



# Welcome 2021 FSHS Sectional Vice-Presidents!

Agroecology & Natural Resources: Tia Silvasy, UF/IFAS Extension Orange County, [tsilvasy@ufl.edu](mailto:tsilvasy@ufl.edu)

Citrus: Davie Kadyampaken, UF/IFAS Citrus Research and Education Center,  
[dkadyampakeni@ufl.edu](mailto:dkadyampakeni@ufl.edu)

Handling & Processing: Tie Liu, UF/IFAS Horticultural Sciences Department, [tieliu@ufl.edu](mailto:tieliu@ufl.edu)

Krome Memorial Institute: Ali Sarkhosh, UF/IFAS Horticultural Sciences Department, [sarkhosh@ufl.edu](mailto:sarkhosh@ufl.edu)

Ornamental, Garden, & Landscape: Kaydie McCormick, UF/IFAS Extension Seminole County, [k.mccormick@ufl.edu](mailto:k.mccormick@ufl.edu)

Vegetables: Lincoln Zotarelli, UF/IFAS Horticultural Sciences Department, [lzota@ufl.edu](mailto:lzota@ufl.edu)

# Technical Program Schedule

## Poster Session:

Prissy Fletcher

Coordinator

[pfletch@ufl.edu](mailto:pfletch@ufl.edu)

## Monday Session

(Authors present posters from 9:00am –9:45am during Coffee Break but posters will remain the entire conference). Atlantic Avenue Pre-function

- [P-1] **Gardening in the Panhandle: LIVE! A Lesson in Harnessing Teamwork and Technology to Better Reach Clients.** D. Leonard\*, J. McConnell, E. Anderson, R. Bodrey, B. Bolles, S. Dunning, S. Greer, M. Lollar, M., M. Orwat, M. Salinas, D. Sprague, M. Tancig, L. Williams, P. Williams, A. Dale, J. Freeman, T. Hylton, S. Jackson, M. Jameson, H. Kalaman, G. Knox, C. Marble, X. Martini, C. Stevenson. UF/IFAS Extension Calhoun County, Blountstown, FL. ([d.leonard@ufl.edu](mailto:d.leonard@ufl.edu))
  
- [P-2] **Starting a New Job with Extension During the COVID19 Pandemic: Overcoming Challenges.** L. Strange\*. UF/IFAS Extension Taylor County, Perry, FL. ([lstrange@ufl.edu](mailto:lstrange@ufl.edu))
  
- [P-3] **The Birds, the Bees, the Turf, and the Trees: Improving the Sustainability of Golf Courses with Wildlife Conservation.** B. Wells\*. UF/IFAS Extension Brevard County, Cocoa, FL. ([bcwells@ufl.edu](mailto:bcwells@ufl.edu))
  
- [P-4] **Application of Peroxyacetic Acid for Enhancing Safety of Fresh Oranges.** F. Velez, O. Sangokunle and P. Singh\*.

FSU Department of Nutrition, Food and Exercise Science,  
Tallahassee, FL. ([psingh2@fsu.edu](mailto:psingh2@fsu.edu))

- [P-5] **Hurricane Season Disaster Preparedness of Plant Nurseries.** E. Campoverde\*. UF/IFAS Extension Miami-Dade County, Homestead, FL. ([evcampoverde@ufl.edu](mailto:evcampoverde@ufl.edu))
- [P-6] **Wrong plant, Wrong Place Costs Over \$100,000.** H. Wooten\*, T. McIntyre, and K. McCormick. UF/IFAS Extension Orange County, Orlando, FL. ([hwooten@ufl.edu](mailto:hwooten@ufl.edu))
- [P-7] **Anthocyanin accumulation in peppers: Potential roles in impacting ornamental value and nutritional qualities.** J. Nusbaum\*, B. Valdes, B. Rathinasabapath. UF Horticultural Sciences Department, Gainesville, FL. ([jnusbaum@ufl.edu](mailto:jnusbaum@ufl.edu))
- [P-8] **Florida-Friendly Landscaping Facelift–Extension Collaboration with County Parks and Recreation.** L. Munroe\*. UF/IFAS Extension Indian River County, Cocoa, FL. ([lnmunroe@ufl.edu](mailto:lnmunroe@ufl.edu))

# Agroecology & Natural Resources Section

**Tia Silvasy**  
Presiding  
[tsilvasy@ufl.edu](mailto:tsilvasy@ufl.edu)

## Monday Morning Session

(9:50 – 12:15) Grand Salon 7

9:50 am Welcome and Introduction: Tia Silvasy

### A - Sustainable Agriculture

- 10:00 **UF/IFAS Pilot Project for Industrial Hemp: On-farm Trials with Extension** Ethan Carter<sup>1</sup>, De Broughton<sup>2</sup>, Zachary Brym<sup>3</sup>, and Christine Kelly-Begazo<sup>4</sup>. <sup>1</sup>University of Florida/IFAS Jackson County Extension, Marianna, FL, <sup>2</sup>University of Florida/IFAS North Florida Research and Education Center-Suwannee Valley, Live Oak, FL, <sup>3</sup>University of Florida/IFAS Tropical Research and Education Center, Homestead, FL, <sup>4</sup>University of Florida/IFAS Indian River County Extension, Vero Beach, FL. ([ethancarter@ufl.edu](mailto:ethancarter@ufl.edu)) [ANR-1]
- 10:15 **Cover Crop Planting Method Influences Soil Nutrient and Water Concentrations in Citrus Alleys.** David N. Campbell<sup>1</sup> and Danielle Treadwell<sup>1</sup>. <sup>1</sup>Department of Horticultural Sciences, University of Florida/IFAS, Gainesville, FL. ([campbell@ufl.edu](mailto:campbell@ufl.edu)) [ANR-2]
- 10:30 **Engaging Growers and Agricultural Service Providers in a Diverse Advisory Panel on Organic High Tunnel Research.** Megan Donovan<sup>1</sup>, Marilyn Swisher<sup>2</sup>, Kaylene Sattano<sup>2</sup>, and Xin Zhao<sup>3</sup>. <sup>1</sup>School of Natural Resources and Envi-

ronment, University of Florida, Gainesville, FL, <sup>2</sup>Department of Family, Youth and Community Services, University of Florida, Gainesville, FL, <sup>3</sup>Horticultural Sciences Department, University of Florida/IFAS, Gainesville, FL.

([megandonovan@ufl.edu](mailto:megandonovan@ufl.edu)) [ANR-3]

## B. Biodiversity in Landscapes

- 10:45 **The Palmeras: A Natural Reserve, Cubarral, Colombia.** Lyndon Carvajal Rojas<sup>1</sup> and Noris Ledesma<sup>2</sup>. <sup>1</sup>University Districtal Francisco Jose de Caldas, Bogota, Colombia, <sup>2</sup>Tropical Research and Education Center, University of Florida/IFAS, Homestead, FL. ([norisledesma.mango@gmail.com](mailto:norisledesma.mango@gmail.com)) [ANR-4]
- 11:00 **Concepts for Sustainable Landscape Mosaics.** Tina McIntyre<sup>1</sup>, Rachel Gutner<sup>2</sup>, and Sandra Wilson<sup>3</sup>, <sup>1</sup>University of Florida/IFAS Extension Seminole County, Sanford, FL, <sup>2</sup>University of Central Florida, <sup>3</sup>Environmental Horticultural Department, University of Florida, Gainesville, FL. ([k.mcintyre@ufl.edu](mailto:k.mcintyre@ufl.edu)) [ANR-5]
- 11:15 **More Trials to Evaluate “Natural” Herbicides for Aquatic Weed Management.** Lyn Gettys<sup>1</sup>. <sup>1</sup>University of Florida/IFAS Fort Lauderdale Research and Extension Center, Davie, FL. ([lgettys@ufl.edu](mailto:lgettys@ufl.edu)) [ANR-6]
- 11:30 **Encouraging Biodiversity with Wildflower Demonstration Plots.** Tiare Silvasy<sup>1</sup>. <sup>1</sup>University of Florida/IFAS Extension Orange County, Orlando, FL. ([tsilvasy@ufl.edu](mailto:tsilvasy@ufl.edu)) [ANR-7]

## C. Student Presentation

- 11:45 **Florida Producers’ Perceptions of Nutrient Agricultural Best Management Practices Profitability.** Moonwon Soh<sup>1,2</sup> and Tara Wade<sup>1,2</sup>. <sup>1</sup>University of Florida/IFAS, Southwest Florida Research and Education Center, Immokalee, FL <sup>2</sup>University of Florida/IFAS, Food and Resource Economics Department, Gainesville, FL. ([tara.wade@ufl.edu](mailto:tara.wade@ufl.edu)) [ANR-8]
- 12:00 **Agroecology and Natural Resources Business Meeting.** Tia Silvasy, VP and Taylor Clem, VP-Elect

12:15 Lunch

## Monday Afternoon Session

- 1:30 **Field trip to Tiger Bay State Forest** – led by Tia Silvasy  
Please meet in the hotel lobby at 1:30pm and plan to drive your own vehicle to the forest. We will be visiting the Indian Lake Recreation Area within the 27,330-acre Tiger Bay State Forest approximately 7 miles west of Daytona Beach. Tiger Bay State Forest consists of large areas of swamp with embedded pine islands and a large pine ridge area. This forest is among several publicly owned lands that create wildlife corridors for species listed as endangered, threatened, or of special concern including black bear and bald eagle. Once we arrive at the Indian Lake Recreation Area parking lot, meet by the pavilion. We will go on a short 2-mile loop hike to see different plant communities. The address is 4316 W International Speedway Blvd. Daytona, Beach, FL 32124. Bring water, hat, and sunscreen. Learn more about the forest: <https://www.fdacs.gov/Forest-Wildfire/Our-Forests/State-Forests/Tiger-Bay-State-Forest>
- 4:00 **Return to the Hotel**  
End of sections. See you next year in Sarasota for the 135th FSHS annual meeting!

# Citrus Section

**Davie Kadyampakeni**

Presiding

[dkadyampakeni@ufl.edu](mailto:dkadyampakeni@ufl.edu)

## Monday Morning Session

(9:50 am – 12:00 pm) Grand Salon 1

9:50 Welcome and Introductions, Davie Kadyampakeni

### A – Student Presentations

- 10:00 **Efficacy and effects of trunk injection for delivering imidacloprid and oxytetracycline to HLB-affected sweet orange trees.** [Leigh Archer](#)<sup>1</sup>, Jawwad Qureshi<sup>1</sup> and Ute Albrecht<sup>1\*</sup>. <sup>1</sup>Southwest Florida Research and Education Center, University of Florida/IFAS, Immokalee, FL. ([ualbrecht@ufl.edu](mailto:ualbrecht@ufl.edu)) [C-1]
- 10:15 **Evaluation of varied fertilization rates on root growth and distribution of HLB-affected Valencia orange trees.** [Tanyaradzwa Chinyukwi](#)<sup>1</sup>, Evan Johnson<sup>1</sup>, Lorenzo Rossi<sup>2</sup> and Davie Kadyampakeni<sup>1\*</sup>. <sup>1</sup>University of Florida/IFAS, Citrus Research and Education Center, Lake Alfred, FL; <sup>2</sup>UF/IFAS, Indian River Research and Education Center, Fort Pierce, FL. ([dkadyampakeni@ufl.edu](mailto:dkadyampakeni@ufl.edu)) [C-2]
- 10:30 **Diagnosis of Nutrient Deficiencies, Pest, and Disease Disorders on Citrus Leaves Using Deep Learning Machine Vision.** [Perseverança Mungofa](#)<sup>\*1</sup>, Arnold Schumann<sup>1</sup>, Laura Waldo<sup>1</sup> and Timothy Ebert<sup>1</sup>. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. ([pmungofa@ufl.edu](mailto:pmungofa@ufl.edu)) [C-3]

### B - Citrus Horticultural Practices and Rootstock/Variety Improvement

Citrus Section

- 10:45 **Water Use Assessment for Citrus Trees Affected by Huanglongbing (HLB) in Florida.** Samuel Kwakye<sup>1</sup> and Davie Kadyampakeni\*<sup>1</sup>. University of Florida IFAS, Citrus Research and Education Center, Lake Alfred, FL ([dkadyampakeni@ufl.edu](mailto:dkadyampakeni@ufl.edu)) [C-4]
- 11:00 ***Candidatus Liberibacter asiaticus* movement and carbohydrate allocation in different citrus scion–rootstock combinations during the first year after infection.** Caroline Tardivo<sup>1</sup>, Kim D. Bowman<sup>2</sup> and Ute Albrecht<sup>1\*</sup>. <sup>1</sup>Southwest Florida Research & Education Center, University of Florida IFAS, Immokalee, FL. <sup>2</sup>US Horticultural Research Laboratory, USDA, ARS, Fort Pierce, FL. ([ualbrecht@ufl.edu](mailto:ualbrecht@ufl.edu)) [C-5]
- 11:15 **Evaluation of the productivity of HLB-affected Citrus varieties grafted on US-942 and Swingle rootstocks.** Daniel Adu Boakye<sup>1</sup> and Fernando Alferez\*<sup>1</sup>. Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL. ([alferez@ufl.edu](mailto:alferez@ufl.edu)) [C-6]
- 11:30 **Citrus Nutrition Box Program: Year 1 Review.** Jamie D. Burrow<sup>1</sup>, Tripti Vashisth\*<sup>1</sup>, and Davie Kadyampakeni<sup>1</sup>. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL ([tvashisth@ufl.edu](mailto:tvashisth@ufl.edu)) [C-7]
- 11:45 **Fertilizer inputs effect grapefruit root health.** John M. Santiago<sup>1</sup>, Sandra Guzman<sup>2</sup>, Davie M. Kadyampakeni<sup>3</sup>, Jeffrey G. Williamson<sup>4</sup>, Steven A. Sargent<sup>4</sup>, Rhuanito S. Ferrarezi<sup>1</sup>, Lorenzo Rossi\*<sup>1</sup>. <sup>1</sup> Horticultural Sciences Department, University of Florida, Institute of Food and Agricultural Sciences, Indian River Research and Education Center, Fort Pierce, FL; <sup>2</sup>Agricultural and Biological Engineering Department, University of Florida, Institute of Food and Agricultural Sciences, Indian River Research and Education Center, Fort Pierce, FL; <sup>3</sup>Soil and Water Sciences Department, University of Florida, Institute of Food and Agricultural Sciences, Citrus Research and Education Center, Lake Alfred, FL; <sup>4</sup>Horticultural Sciences Department, University of Florida, Institute of Food and Agricultural Sciences, Gainesville, FL ([lrossi@ufl.edu](mailto:lrossi@ufl.edu)) [C-8]



12:00 **Lunch**

## Monday Afternoon Session

(1:20 – 3:30 PM)

Grand Salon 1

1:20 Welcome back and introductions, Davie Kadyampakeni

### B - Citrus Horticultural Practices and Root-stock/Variety Improvement (Continued)

1:30 **Effect of HLB on leaves and its implication on nutrient profile.** Answiya Neupane<sup>1</sup> and Tripti Vashisth<sup>\*1</sup>. Horticultural Sciences Department, University of Florida, CREC, Lake Alfred, FL  
([tvashisth@ufl.edu](mailto:tvashisth@ufl.edu)) [C-9]

1:45 **A Review of the effect of Magnesium on Performance of Huanglongbing (HLB)-affected and Non-HLB-affected Citrus Trees.** Eduardo Esteves<sup>1</sup>, Davie Kadyampakeni<sup>1\*</sup>, and Gabriel Maltais-Landry<sup>2</sup>. <sup>1</sup>University of Florida/IFAS Citrus Research and Education Center, Lake Alfred, FL; <sup>2</sup> University of Florida/IFAS Soil and Water Sciences Department, Gainesville, FL.  
([dkadyampakeni@ufl.edu](mailto:dkadyampakeni@ufl.edu)) [C-10]

2:00 **Root growth and micro-nutrient uptake in HLB-affected grapefruit on Florida Flatwood soils.** Lukas Hallman<sup>1</sup>, Davie Kadyampakeni<sup>2</sup>, Alan Wright<sup>1</sup>, Evan Johnson<sup>2</sup>, Rhuanito Ferrarezi<sup>1</sup> and Lorenzo Rossi<sup>1\*</sup>. <sup>1</sup>University of Florida, IFAS, Indian River Research and Education Center, Fort Pierce, FL; <sup>2</sup>University of Florida, IFAS, Citrus Research and Education Center, Lake Alfred, FL. ([l.rossi@ufl.edu](mailto:l.rossi@ufl.edu)) [C-11]

2:15 **Split Foliar and /or Soil-Applied Essential Nutrients Enhances Tree Growth of HLB-Affected Citrus Trees.** Alisheikh A. Atta<sup>1\*</sup>, Kelly T. Morgan<sup>1</sup>, and Davie M. Kadyampakeni<sup>2</sup>. <sup>1</sup>Southwest Florida Research and Edu-

## Citrus Section

cation Center, University of Florida, 2685 SR 29 N, Im-mokalee, FL; <sup>2</sup>Citrus Research and Education Center, 700 Experiment Station Rd, Lake Alfred, FL. ([aatta@ufl.edu](mailto:aatta@ufl.edu)) [C-12]

- 2:30 **Nutrient management to enhance citrus fruit color break and quality at maturity.** Arnold Schumann<sup>\*1</sup>, Laura Waldo<sup>1</sup>, Napoleon Mariner<sup>1</sup> and Tim Ebert<sup>1</sup>. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. ([schumaw@ufl.edu](mailto:schumaw@ufl.edu)) [C-13]
- 2:45 **Oak mulch applications improved soil characteristics in an HLB-affected citrus grove.** Lukas M. Hallman<sup>\*1</sup>, Robert G.Shatters<sup>2</sup>, Jr., Christina Dorado<sup>2</sup>, and Lorenzo Rossi<sup>1</sup>.<sup>1</sup> Indian River Research and Education Center, University of Florida, IFAS, Fort Pierce, FL; <sup>2</sup> United States Department of Agriculture, Agricultural Research Services, Fort Pierce, FL ([lukas.hallman@ufl.edu](mailto:lukas.hallman@ufl.edu)) [C-14]
- 3:00 **Using colored mesh bags to induce early peel color development in fresh market citrus varieties.** Laura Waldo<sup>\*1</sup>, Arnold Schumann<sup>1</sup>, and Timothy Ebert<sup>1</sup>. Citrus research and Education Center, University of Florida, IFAS, Lake Alfred, FL. ([ljwaldo@ufl.edu](mailto:ljwaldo@ufl.edu)) [C-15]

## C - Entomology

- 3:15 **Developing Neutral Electrolyzed Water for pest management 2020 update.** Timothy Ebert<sup>\*1</sup>, Arnold Schumann<sup>1</sup>, Laura Waldo<sup>1</sup> and Napoleon Mariner<sup>1</sup>. Citrus Research and Education Center, University of Florida/IFAS, Lake Alfred, FL. ([tebert@ufl.edu](mailto:tebert@ufl.edu)) [C-16]
- 3:30 **Pest Population Dynamics in Citrus under Protective Screen Production Enclosures: Experiences in Lake Alfred, Florida.** Napoleon Mariner<sup>\*1</sup>, Laura Waldo<sup>1</sup>, Timothy Ebert<sup>1</sup>, and Arnold Schumann<sup>1</sup>. Soil & Water Sciences Department, University of Florida, CREC, Lake Alfred, FL. ([napoleon.mariner@ufl.edu](mailto:napoleon.mariner@ufl.edu)) [C-17]

- 3:45 **Citrus Section Business Meeting**, Davie Kadyampakeni, VP and Manjul Dutt, VP-Elect
- 4:40 **Adjourn**

## Citrus Section

**Manjul Dutt**

Presiding

[manjul@ufl.edu](mailto:manjul@ufl.edu)

## Tuesday Morning Session

(9:50 am – 12:00 pm) Grand Salon 1 and 2

9:50 Welcome and Introductions, Manjul Dutt

### B - Citrus Horticultural Practices and Rootstock/Variety Improvement (Continued)

- 10:00 **Graft Compatibility of Scions with Two New Rootstocks.** Bo Meyering<sup>1</sup>, Gabriel Pugina<sup>1</sup>, Kim D. Bowman<sup>2</sup>, Ute Albrecht<sup>1\*</sup>. Southwest Florida Research and Education Center, University of Florida, IFAS, Immokalee, FL; <sup>2</sup>US Horticultural Research Laboratory, Agricultural Research Service, USDA, Fort Pierce, FL. ([ualbrecht@ufl.edu](mailto:ualbrecht@ufl.edu)) [C-18]
- 10:15 **HLB Tolerance in 'Valencia' Sweet Orange Grafted on to Pummelo Interstocks and 'Swingle' Rootstocks.** Jude W. Grosser<sup>1</sup>, Ethan R. Nielsen<sup>1</sup>, Lamiaa M. Mahmoud<sup>1,2</sup>, Timothy A. Ebert<sup>1</sup>, and Manjul Dutt<sup>\*1</sup>. <sup>1</sup> Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL; <sup>2</sup> Pomology Department, Faculty of Agriculture, Mansoura University, 35516 Mansoura, Egypt. ([manjul@ufl.edu](mailto:manjul@ufl.edu)) [C-19]

Citrus Section

- 10:30 **Improved irrigation increases water use efficiency and tree growth on growers' citrus groves.** Alisheikh A. Atta<sup>\*1</sup>, Kelly T. Morgan<sup>1</sup>. Southwest Florida Research and Education Center, University of Florida, Immokalee, FL. ([aatta@ufl.edu](mailto:aatta@ufl.edu)) [C-20]
- 10:45 **Shading effects on the physiology, growth, and yield of HLB-infected Hamlin sweet orange trees.** Anirban Guha<sup>\*1</sup>, and Christopher Vincent<sup>1</sup>. Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL. ([anirbanguha@ufl.edu](mailto:anirbanguha@ufl.edu)) [C-21]

## C - Citrus Entomology and Pathology

- 11:00 **Evaluation of the susceptibility of different citrus rootstocks to burrowing nematodes (*Radopholus similis*).** Nabil Killiny<sup>\*1</sup>, Shelley Jones<sup>1</sup>, Pedro Gonzalez<sup>1</sup>, and Larry Duncan<sup>1</sup>. Citrus Research and Education Center, University of Florida IFAS, Lake Alfred, FL. ([nabilkilliny@ufl.edu](mailto:nabilkilliny@ufl.edu)) [C-22]
- 11:15 **Determination of citrate in citrus plants using europium sensitized fluorescence assay.** Faraj Hijaz<sup>1</sup> and Nabil Killiny<sup>\*1</sup>. Department of Plant Pathology, Citrus Research and Education Center, IFAS, University of Florida, Lake Alfred, FL. ([nabilkilliny@ufl.edu](mailto:nabilkilliny@ufl.edu)) [C-23]
- 11:30 **End of sections.** See you next year in Sarasota for the 135th FSHS annual meeting!

# Handling & Processing Section

**Tie Liu**  
Presiding  
[tieliu@ufl.edu](mailto:tieliu@ufl.edu)

## Monday Morning Session

(9:50 – 12:00) Grand Salon 8

9:50 Welcome and Introductions, Tie Liu

### A - Student Presentations 1

- 10:00 **Ethylene Sensitivity of Climacteric Fruits in Relation to the Rate of Ethylene Production.** [Morgan Madison](mailto:Morgan.Madison@ufl.edu)<sup>1\*</sup>, Jeffery Brecht<sup>1</sup> and Steven Sargent<sup>1</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville FL ([morgan.moore@ufl.edu](mailto:morgan.moore@ufl.edu)) [H&P-1]
- 10:15 **Strawberry DNA Tests for Improving Fruit Quality and Disease Resistance.** [Youngjae Oh](mailto:Youngjae.Oh@ufl.edu)<sup>1</sup>, Hyeondae Han<sup>1</sup>, Zhen Fan<sup>1</sup>, Natalia Salinas<sup>1</sup>, Cheryl Dalid<sup>1</sup>, Vance M. Whitaker<sup>1</sup>, Seonghee Lee<sup>1\*</sup>. <sup>1</sup>Gulf Coast Research and Education Center, University of Florida, IFAS, Balm, FL ([seonghee105@ufl.edu](mailto:seonghee105@ufl.edu)) [H&P-2]
- 10:30 **Total Phenolics as an Indicator of Quality in Florida-grown Tea.** [Caitlin Clarke](mailto:Caitlin.Clarke@ufl.edu)<sup>1\*</sup>, Brantlee Spakes Richter<sup>2</sup>, and Bala Rathinasabapathi<sup>1</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL, <sup>2</sup>Plant Pathology Department, University of Florida, IFAS, Gainesville, FL. Horticultural Sciences Department, University of Florida/IFAS, Gainesville, FL. ([caitlin.clarke@ufl.edu](mailto:caitlin.clarke@ufl.edu)) [H&P-3]
- 10:45 **Evaluation of Thyme Oil Vapor for Control of Posthar-**

**Invest Gray Mold on Blueberry.** [Yuru Chang](#)<sup>1\*</sup>, Ali Sarkhosh<sup>1</sup>, and Jeffrey K. Brecht<sup>1</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida, Gainesville, FL 32611. ([changyuru@ufl.edu](mailto:changyuru@ufl.edu)) [H&P-4]

## B - Student Presentation 2

- 11:00 **LB8-9 'Sugar Belle' Kombucha: Alternative Citrus Product in the HLB Era.** [Dongjoo Kim](#)<sup>1</sup> and Yu Wang<sup>1\*</sup>. <sup>1</sup>Citrus Research and Education Center, Department of Food Science and Human Nutrition, University of Florida, Lake Alfred, Florida 33850, United States. ([yu.wang@ufl.edu](mailto:yu.wang@ufl.edu)) [H&P-5]
- 11:15 **Validating Agricultural Water Treatment for Food Safety on Farms.** [Blessing Chukwuaja](#)<sup>1\*</sup> and Michelle D Danyluk<sup>1</sup>. <sup>1</sup>University of Florida, IFAS, Citrus Research and Education Center, Lake Alfred, FL. ([bchukwuaja@ufl.edu](mailto:bchukwuaja@ufl.edu)) [H&P-6]
- 11:30 **Investigating the Potential of Oxygenated and Ozonated Water as a Replacement of Chlorine for Peach Sanitation.** [Orestis Giannopoulos](#)<sup>1</sup>, Ramsey Corn<sup>2</sup>, Francisco E. Loayza<sup>1</sup>, Dario Chavez<sup>1</sup>, Angelos Deltsidis<sup>1\*</sup>. <sup>1</sup>Department of Horticulture, University of Georgia, Tifton, GA. <sup>2</sup>Abraham Baldwin Agricultural College, Tifton, GA. ([adeltsidis@uga.edu](mailto:adeltsidis@uga.edu)) [H&P-7]
- 11:45 **Determining the Relationship Between Distribution Temperatures and Strawberry Quality.** [Jeffrey K. Brecht](#)<sup>1\*</sup>, Moshe Doron<sup>1</sup>, and Ismail Uysal<sup>2</sup>. <sup>1</sup>University of Florida, IFAS, Horticultural Sciences Department, Gainesville, FL. <sup>2</sup>University of South Florida, Electrical Engineering Department, Tampa, FL. ([jkbrecht@ufl.edu](mailto:jkbrecht@ufl.edu)) [H&P-8]

## Monday Afternoon Session

(1:20 – 3:30) Grand Salon 8

1:20 Welcome and Introductions, Tie Liu

## C - Postharvest Handling and Management 1

- 1:30 **Evaluation of Preharvest Fungicide Application for Post-harvest Diplodia Stem-end Rot Control on Grapefruit.** Jiuxu Zhang<sup>1</sup>, Jiaqi Yan<sup>2</sup>, Monty Myers<sup>1</sup>, Cuifeng Hu<sup>1</sup>, Qiaolin Zheng<sup>2</sup>, Rita Noel<sup>2</sup>, Lili M. Cano<sup>2</sup>, Megan M. Dewdney<sup>3</sup>, Yu Wang<sup>3</sup>, Wei Zhao<sup>4</sup>, Jinhe Bai<sup>4</sup>, Anne Plotto<sup>4</sup>, Mark A. Ritenour<sup>1\*</sup>. <sup>1</sup>Indian River Research and Education Center, University of Florida, IFAS, Fort Pierce, FL; <sup>2</sup>College of Horticulture, China Agriculture University, Beijing, China; <sup>3</sup>Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL; <sup>4</sup>USDA, ARS, US Horticultural Research Lab, Fort Pierce, FL. ([ritenour@ufl.edu](mailto:ritenour@ufl.edu)) [H&P-9]
- 1:45 **Determining Optimal Handling Conditions and Quality for Purple-Fleshed Sweetpotatoes.** Merce Santana<sup>1</sup>, Steven Sargent<sup>1\*</sup>, David Dinkins<sup>2</sup>, Wendy Mussoline<sup>3</sup> and Adrian Berry<sup>1</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida/IFAS, Gainesville FL. <sup>2</sup>UF/IFAS Extension, Putnam County, FL. <sup>3</sup>UF/IFAS Extension, Flagler and Putnam County, FL. ([sasa@ufl.edu](mailto:sasa@ufl.edu)) [H&P-10]

## D - Postharvest Handling and Management 2

- 2:00 **Preservation of Postharvest Quality of Fresh Bamboo Shoot via Suppression of Lignification, Browning, and Decay.** Sonya L. Stahl<sup>1\*</sup> and Steven A. Sargent<sup>1</sup>  
<sup>1</sup>Horticultural Sciences Department, University of Florida/IFAS, Gainesville FL. ([cocoplum@ufl.edu](mailto:cocoplum@ufl.edu)) [H&P-11]
- 2:15 **Productivity and postharvest quality of strawberry cultivars grown in southeast Georgia.** Angelos Deltsidis<sup>1\*</sup>, Joshua Dawson<sup>2</sup>, Erick D. Smith<sup>1</sup>. <sup>1</sup>Department of Horticulture, University of Georgia, GA. <sup>2</sup>Fort Valley State University (FVSU) Extension, Valdosta, GA. ([adeltsidis@uga.edu](mailto:adeltsidis@uga.edu)) [H&P-12]

## D - Genetics and Genomics

- 2:30 **Improving Botrytis gray mold resistance using CRISPR gene editing in cultivated strawberry.** Man Bo Lee<sup>1</sup>, Junhui Zhou<sup>2</sup>, Zhongchi Liu<sup>2</sup>, and Seonghee Lee<sup>1\*</sup>. <sup>1</sup> Gulf Coast Research and Education Center, University of Florida, IFAS, Balm, FL. <sup>2</sup> Department of Cell Biology and Molecular Genetics, University of Maryland, College Park, MD. ([seonghee105@ufl.edu](mailto:seonghee105@ufl.edu)) [H&P-13]
- 2:45 **Investigating the dynamic transcript level changes of senescence-associated genes in lettuce during postharvest storage.** Yogesh Ahlawat<sup>1</sup>, Catherine Belisle<sup>1,2</sup>, German Sandoya<sup>1,2</sup>, Steven Sargent<sup>1</sup>, and Tie Liu<sup>1\*</sup>. <sup>1</sup> Department of Horticultural Sciences, University of Florida, IFAS, Gainesville, FL. <sup>2</sup> Everglades Research & Education Center, University of Florida, IFAS, Belle Glade, FL. ([tieliu@ufl.edu](mailto:tieliu@ufl.edu)) [H&P-14]
- 3:00 **Investigate the Regulation of Senescence Associated Signaling Mechanism in Postharvest Broccoli.** Tie Liu<sup>1\*</sup>, Yogesh Ahlawat<sup>1</sup>, Jeffrey Brecht<sup>1</sup>, Eleni Pliakoni<sup>2</sup>. <sup>1</sup> Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. <sup>2</sup> Department of Horticulture and Natural Resources, Kansas State University, Olathe, KS. ([tieliu@ufl.edu](mailto:tieliu@ufl.edu)) [H&P-15]
- 3:15 **Handling and Processing Section Business Meeting,** Tie Liu, VP and Jeffrey Brecht, VP-Elect
- 3:30 **End of sections.** See you next year in Sarasota for the 135th FSHS annual meeting!



# Ornamental Garden and Landscape

**Kadye McCormick**

Presiding

[k.mccormick@ufl.edu](mailto:k.mccormick@ufl.edu)

## Monday Morning Session

(9:50 – 11:45) Grand Salon 3

9:50 am Welcome and Introduction, Kaydie McCormick.

### A - Marketing Analysis and Economics of OGL

- 10:00 **Investigating Green Industry Firms' Market Shares to Wholesalers, Landscapers, Retailers and Direct-to-Consumer Channels.** [Xuan Wei](#)<sup>1</sup> and Hayk Khachatryan<sup>2</sup>.  
<sup>1</sup>Gulf Coast Research and Education Center, University of Florida/IFAS, Wimauma, FL, <sup>2</sup>Mid-Florida Research and Education Center, University of Florida/IFAS, Apopka, FL.  
([wei.xuan@ufl.edu](mailto:wei.xuan@ufl.edu); [hayk@ufl.edu](mailto:hayk@ufl.edu)) [OGL-1]
- 10:15 **Investigating households' preferences for turfgrass attributes in Florida.** [Hayk Khachatryan](#)<sup>1</sup>, Melinda Knuth<sup>1</sup>, Xumin Zhang<sup>1</sup>, Xuan Wei<sup>2</sup>, Chengyan Yue<sup>3</sup>, Alan Hodges<sup>4</sup>.  
<sup>1</sup>Mid-Florida Research and Education Center, University of Florida/IFAS, Apopka, FL, Gulf Coast Research and Education Center, University of Florida/IFAS, Wimauma, FL, <sup>3</sup>Department of Applied Economics, University of Minnesota, St. Paul, MN, <sup>4</sup>Food and Resource Economics Department, University of Florida, Gainesville, FL. ([hayk@ufl.edu](mailto:hayk@ufl.edu)) [OGL-2]

- 10:30 **Six-month and One-year Economic Prediction Models for the Environmental Horticulture Industry in Florida.** Shawn T. Steed<sup>1</sup>, Wael Elwakil<sup>1</sup>, James Colee<sup>2</sup>, Alan W. Hodges<sup>3</sup>, Zachary Ray<sup>4</sup>, and Nathalia Tello<sup>5</sup>.<sup>1</sup>University of Florida, IFAS, Extension Hillsborough County, Seffner, FL, <sup>2</sup>Statistical Consulting, University of Florida, IFAS, Gainesville, FL, <sup>3</sup>Food and Resource Economics Department, University of Florida, IFAS, Gainesville, FL, <sup>4</sup> Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL, <sup>5</sup> Environmental Horticulture Department, University of Florida, IFAS, Gainesville, FL. ([ststeed@ufl.edu](mailto:ststeed@ufl.edu)) [OGL-3]

## B - Pest and Disease Control

- 10:45 **Viburnum Foliar Pathogen Identification and Fungicide Efficacies.** Shawn T. Steed<sup>1</sup>, Wael Elwakil<sup>1</sup>, Lukas A. Vallad<sup>2</sup>, and Gary E. Vallad<sup>2</sup>. <sup>1</sup>University of Florida/IFAS Extension Hillsborough County, Seffner, FL; <sup>2</sup>University of Florida/IFAS, Gulf Coast Research and Education Center, Balm, FL ([ststeed@ufl.edu](mailto:ststeed@ufl.edu)) [OGL-4]
- 11:00 **Preemergence Herbicides for Weed Control in Caladium.** Nathan S. Boyd<sup>1</sup>. <sup>1</sup>Gulf Coast Research and Education Center, University of Florida, IFAS, Balm, FL. ([nsboyd@ufl.edu](mailto:nsboyd@ufl.edu)) [OGL-5]

## C - Nutrients and Fertilizer

- 11:15 **Response of Container-Grown Muhly Grass to Controlled-Release Fertilizer Rate and Longevity.** Tom Yeager<sup>1</sup>, Matt Smith<sup>2</sup>, and Ted Gardner<sup>3</sup>. <sup>1</sup>Environmental Horticulture Department, University of Florida/IFAS, Gainesville, FL; <sup>2</sup> University of Florida/IFAS Extension Sumter County, Bushnell, FL; <sup>3</sup>Hibernia Nursery, Webster, FL ([yeagert@ufl.edu](mailto:yeagert@ufl.edu)) [OGL-6]
- 11:30 **Pilot Study to Evaluate Sargassum Compost for Soil**

**Amendment Potential.**

Michelle Leonard-Mularz<sup>1</sup>, Shelly Krueger<sup>1</sup>, Ashley Smyth<sup>1</sup>.

<sup>1</sup>University of Florida, IFAS Extension, Monroe County, Key West, FL. ([mularz-michelle@monroecounty-fl.gov](mailto:mularz-michelle@monroecounty-fl.gov)) [OGL-7]

## Monday Afternoon Session

(1:20 – 3:30) Grand Salon 3

1:20 Welcome back and introductions – Kaydie McCormick

1:30 **Ornamentals, Garden and Landscape Business Meeting**, Kaydie McCormick, VP and Michelle Leonard-Mularz, VP-Elect.

### D - Community Engagement

1:45 **Going Beyond the Grant for Community, Educational, and Volunteer Engagement.** Michelle Leonard-Mularz. University of Florida, IFAS Extension, Monroe County, Key West, FL. ([mularz-michelle@monroecounty-fl.gov](mailto:mularz-michelle@monroecounty-fl.gov)) [OGL-8]

2:00 **End of sections.** See you next year in Sarasota for the 135th FSHS annual meeting!

***Note that a Concurrent Vegetable Section starts at 2:15 PM in same room***

### F - Vegetable Concurrent Session - Pest management

2:15 **Soil management strategies to reduce fusarium wilt of lettuce in the muck soils of the Everglades Agricultural Area.** Jesse Murray<sup>1\*</sup>, Richard Raid<sup>1</sup>, Germán Sandoya<sup>1</sup>.<sup>1</sup> Everglades Research and Education Center, University of Florida, IFAS Belle Glade, FL. ([gsandoyamiranda@ufl.edu](mailto:gsandoyamiranda@ufl.edu)) [V-20]

2:30 **Collaborative, Rapid-Response Research and Extension Efforts for Management of an Invasive Thrips Species,**

- Megalurothrips usitatus* (Bagnall)**. Craig J. Frey<sup>1\*</sup>, Anna Mészáros<sup>2\*</sup>, Hugh A. Smith<sup>3</sup>, and Julien M. Beuzelin<sup>4</sup>, University of Florida, IFAS, Hendry County Extension LaBelle, FL, <sup>2</sup>University of Florida, IFAS, Palm Beach County Extension, West Palm Beach, FL, <sup>3</sup>Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL, <sup>4</sup> Everglades Research and Education Center, University of Florida, IFAS, Belle Glade, FL. ([craigfrey@UFL.EDU](mailto:craigfrey@UFL.EDU)). [V-21]
- 2:45 **Impact of deep fumigation on root-knot nematodes (*Meloidogyne* spp.), reniform nematode (*Rotylenchulus reniformis*), and nutsedge (*Cyperus* spp.) in plasticulture production in Florida.** Sarah Bevenute<sup>1\*</sup>, Josh Freeman<sup>1</sup>. <sup>1</sup>North Florida Research and Education Center, University of Florida/IFAS, Quincy, Florida. ([joshuafr@ufl.edu](mailto:joshuafr@ufl.edu)) [V-22]
- 3:00 **Efficacy of *Catolaccus hunteri*, in managing the pepper weevil.** Garima Garima\*, Dakshina Seal, and Victoria O. Adeleye. Tropical Research and Education Center, University of Florida/IFAS, Homestead, FL. ([garima.garima@ufl.edu](mailto:garima.garima@ufl.edu)) [V-23]
- 3:15 **Abundance and diversity of corn silk flies (Diptera: Ulidiidae) in sweet corn and surrounding habitats in the Everglades Agricultural Area and Homestead region.** Balwinder Kaur<sup>\*1</sup>, Julien Beuzelin<sup>1</sup>, Dakshina Seal<sup>2</sup>, Sandra Allan<sup>3</sup>, Hardev Sandhu<sup>1</sup> and Lindsay Campbell<sup>4</sup>. <sup>1</sup> Everglades Research and Education Center, University of Florida/IFAS, Belle Glade, FL, <sup>2</sup> Tropical Research and Education Center, University of Florida/IFAS, Homestead, FL, <sup>3</sup>Center for Medical, Veterinary and Agricultural Entomology, USDA, ARS, Gainesville, FL, <sup>4</sup> Florida Medical Entomology Laboratory, University of Florida/IFAS, Vero Beach, FL. ([bkaur@ufl.edu](mailto:bkaur@ufl.edu)) [V-24]
- 3:30 **Adjourn**

# Krome Memorial Institute

**Ali Sarkhosh**

Presiding

[sarkhosha@ufl.edu](mailto:sarkhosha@ufl.edu)

## Monday Morning Session

(9:50 am – 12:00 pm)

Grand Salon 2

9:50 Welcome and Introductions, Ali Sarkhosh

### A – Tropical and Subtropical Fruits

10:00 **Renewed Potential for Caimito (*Chrysophyllum caimito*) and Guanabana (*Annona muricata*) in South Florida.**

Jonathan H. Crane<sup>\*</sup>. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. [jhcr@ufl.edu](mailto:jhcr@ufl.edu) [K-1]

10:15 **Passion fruit: A potential alternative fruit crop for Florida.** Mark Bailey<sup>1\*</sup> and Ali Sarkhosh<sup>2</sup>. <sup>1</sup>Marion County Extension, University of Florida/IFAS, Ocala FL 34470 U.S.A. <sup>2</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville FL 32611 U.S.A. [ironhill@ufl.edu](mailto:ironhill@ufl.edu) [K-2]

10:30 **Edible fruit coating reduces rate of moisture loss in refrigerated purple pitanga (*Eugenia uniflora* L. 'Zill Dark') fruits.** John L. Griffis, Jr.<sup>1\*</sup>, Malcolm M. Manners<sup>2</sup>. <sup>1</sup>Ecology and Environmental Studies Department, Florida Gulf Coast University, Ft. Myers, FL. <sup>2</sup>Horticultural Sciences Department., Florida Southern College, Lakeland, FL. [jgriffis@fgcu.edu](mailto:jgriffis@fgcu.edu) [K-3]

10:45 **The Lychee Erinose Mite: a serious pest of lychee found in Florida.** Jeff Wasielewski<sup>1\*</sup>, Daniel Carrillo<sup>2</sup>, Alexandra M. Revynthi<sup>2</sup>, Jonathan H. Crane<sup>2</sup>. <sup>1</sup>Miami-Dade County Extension

Krome Memorial Institute

sion UF/IFAS, Homestead, FL. <sup>2</sup>Tropical Research and Education Center, University of Florida, Homestead, FL. [sflhort@ufl.edu](mailto:sflhort@ufl.edu) [K-4]

11:00 **Physiological responses of diploid banana accessions to in vitro chilling stress.** [Lamiaa M Mahmoud](mailto:lamiaa.mahmoud@ufl.edu)<sup>1,2\*</sup> and Manjul Dutt<sup>1</sup>. <sup>1</sup> Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL <sup>2</sup> Pomology Department, Faculty of Agriculture, Mansoura University, 35516 Mansoura, Egypt. [lamiaa.mahmoud@ufl.edu](mailto:lamiaa.mahmoud@ufl.edu) [K-5]

11:15 **Genotyping-by-sequencing of Florida passion fruit germplasm reveals accession relationships.** [Josh Anderson](mailto:anderson.joshua@ufl.edu)<sup>1\*</sup>, Ravana Vidal<sup>2</sup>, Eric Stafne<sup>3</sup>, Marcio Resende<sup>4</sup>, Maria Brym<sup>1</sup>, Alan H. Chambers<sup>1</sup>. <sup>1</sup>Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. <sup>2</sup>Universidade Estadual do Norte Fluminense, Campos, Brazil; <sup>3</sup>Mississippi State University, Poplarville, MS. <sup>4</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. [anderson.joshua@ufl.edu](mailto:anderson.joshua@ufl.edu) [K-6]

## B – Agroforestry System

11:30 **Metepantle: traditional agroforestry system of the high valleys of Mexico.** Daniel Hernández Archundia <sup>1</sup>, Julio Baca del Moral<sup>1</sup>, Venancio Cuevas Reyes<sup>2</sup>, Diana Ayala Montejó<sup>1</sup>, Francisco Javier Hernández Archundia <sup>3</sup>, Sergio Márquez Berber<sup>1</sup>, [Noris Ledesma](mailto:norisledesma@gmail.com)<sup>4\*</sup>, Carlos Montes de Oca Sanchez<sup>5</sup>. <sup>1</sup>Universidad Autónoma Chapingo, Texcoco, Mexico. 56230. <sup>2</sup>National Institute of Forestry, Agricultural and Livestock Research, Valle de México, Experimental Field - INIFAP. CP. 56250. Texcoco, Estado de México. <sup>3</sup>Secretaría de Agricultura y Desarrollo Rural. Municipio Libre 377 Col. Santa Cruz Atoyac, alcaldía Benito Juárez, Ciudad de México C.P. 03310. <sup>4</sup>Noris Ledesma, Tropical Research & Education Center, University of Florida/IFAS, Homestead, Florida. <sup>5</sup>Centro de Economía Social Julián Garcés. San Felipe Ixtacuixtla, Tlaxcala, Mexico, CP 90120. [norisledesma.mango@gmail.com](mailto:norisledesma.mango@gmail.com) [K-7]

- 11:45 **Aggregate distribution and CO<sub>2</sub> emission in soil of coffee agroforestry system modified with avocado in Mexico.** Diana Ayala-Montejo<sup>1\*</sup>, Gerardo Sergio Benedicto-Valdés<sup>2</sup>, Juan Fernando Gallardo Lancho<sup>3</sup>, Eduardo Valdés-Velarde<sup>1</sup>, Sergio Márquez Beber<sup>1</sup>, Noris Ledesma<sup>4\*</sup>. <sup>1</sup>Crop Science, Universidad Autónoma Chapingo, Texcoco, Mexico. 56230. <sup>2</sup>Edaphology, Colegio de Posgraduados, Montecillo, Texcoco, Mexico. 56230. <sup>3</sup>Senior Scientist, retired. CSIC-IRNAS, Salamanca, Spain. <sup>4</sup>Noris Ledesma, Tropical Research & Education Center, University of Florida/IFAS, Homestead, Florida. [norisledeema.mango@gmail.com](mailto:norisledeema.mango@gmail.com) [K-8]

12:00 Lunch

## Monday Afternoon Session

(1:20 pm – 3:45 pm)

Grand Salon 2

1:20 Welcome back and Introductions, Ali Sarkhosh

### C – Student Presentations

- 1:30 **Ground Cover Growing Systems for Tea Production in Florida.** Shannon K. McAmis<sup>1\*</sup>, Bala Rathinasabapathi<sup>2</sup> and Brantlee Spakes-Richter<sup>1</sup>. <sup>1</sup>Plant Pathology Department, University of Florida, IFAS, Gainesville, FL. <sup>2</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. [sk.mcamis@ufl.edu](mailto:sk.mcamis@ufl.edu) [K-9]

### D – Temperate Fruits

- 1:45 **Constraints to rootstocks for growing low-chill peaches in Florida's changing climate.** Logan Richmond Cosie<sup>1\*</sup>, Bruce Schaffer<sup>2</sup>, Muhammad Shahid<sup>3</sup>, Jose Chaparro<sup>1</sup>, Ali Sarkhosh<sup>1</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida, Gainesville, FL 32611. <sup>2</sup>Tropical Research and Education Center, University of Florida, Homestead, FL 33031. <sup>3</sup>Department of Agriculture, Nutrition, and Food Systems,

Krome Memorial Institute

University of New Hampshire Durham, NH 03824. [Loganator@ufl.edu](mailto:Loganator@ufl.edu) [K-10]

- 2:00 **Nitrate and electrical conductivity monitoring for blueberry production with five nitrogen rates.** Jonathan Denison, Christianah Oladoye, Jeffrey Williamson, Gerardo H. Nunez, [Guodong Liu](mailto:Guodong.Liu)\*. Horticultural Sciences Department, University of Florida/IFAS, Gainesville, FL 32611. [guodong@ufl.edu](mailto:guodong@ufl.edu) [K-11]
- 2:15 **O47-16-10: 'O17-19-1', An Early Ripening Muscadine Table Grape with Self-fertile Flowers.** [Zhongbo Ren](mailto:Zhongbo.Ren)\*, Violeta Tsoлова and Islam El-Sharkawy. <sup>1</sup>Florida A&M University, Tallahassee, Florida. [zhongbo.ren@famuedu](mailto:zhongbo.ren@famuedu) [K-12]
- 2:30 **A look at vigor management options for growing peaches in Florida's subtropical climate.** [Trequan McGee](mailto:Trequan.McGee)\*, Jose X. Chaparro, Ali Sarkhosh. <sup>1</sup>Horticultural Sciences Department, University of Florida, Gainesville, FL 32611. [trequanmcgee@ufl.edu](mailto:trequanmcgee@ufl.edu) [K-13]

## E –Vanilla

- 2:45 **Establishing a domestic vanilla industry.** [Alan Chambers](mailto:Alan.Chambers)\*. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. [ac@ufl.edu](mailto:ac@ufl.edu) [K-14]

## F – Breadfruit

- 3:00 **An Introduction to a Breadfruit Grove in Big Pine Key, Florida.** [Michelle Leonard-Mularz](mailto:Michelle.Leonard-Mularz)\*, Russell Fielding. University of Florida, IFAS Extension, Monroe County, Key West, FL. [mularz-michelle@monroecounty-fl.gov](mailto:mularz-michelle@monroecounty-fl.gov) [K-15]

## G - Farmworker Safety Training Program

- 3:15 **UF-IFAS Farmworker Safety Training Program During Global Pandemic: Lessons Learned on How to Reduce Risks & Protect Your People.** [Kimberly L. Morgan](mailto:Kimberly.L.Morgan)<sup>1\*</sup>, Tara Wade<sup>1</sup>, Barbara Hyman<sup>1</sup>, Gene McAvoy<sup>1</sup>, Carlene Thissen<sup>1</sup>,



Cesar Asuaje<sup>2</sup>, Julie Carson<sup>1</sup>, Michael Bayer<sup>3</sup>, and Ricardo Davalos<sup>4</sup>. <sup>1</sup>Southwest Florida Research and Education Center, University of Florida/IFAS, Immokalee, FL. <sup>2</sup>University of Florida/IFAS Extension, Palm Beach County, West Palm Beach, FL. <sup>3</sup>Curran, Bayer, & Associates. P.O. Box 1765, West Palm Beach, FL. <sup>4</sup>Div. of Agricultural Environmental Services, Fla Dept. of Agriculture & Consumer Services, Tallahassee, FL. [KIMorgan@ufl.edu](mailto:KIMorgan@ufl.edu) [K-16]

3:30 **Krome Memorial Section Business Meeting**, Ali Sarkhosh, VP and Mark Bailey, VP-Elect

3:45 **End of sections.** See you next year in Sarasota for the 135th FSHS annual meeting!

**Join us Tuesday afternoon for the Mango Summit (See page 44 for more details)**

# Vegetable

**Lincoln Zotarelli**

Presiding  
[lzota@ufl.edu](mailto:lzota@ufl.edu)

## Monday Morning Session

(9:50 – 12:00) Grand Salon 6 and 7

9:50 am Welcome and Introduction, Lincoln Zotarelli.

### A - Irrigation and Nutrient Management

- 10:00 **Nitrogen management and recovery efficiency and response to N sources in drip irrigated tomato.** Laura Jalpa<sup>1\*</sup>, Rao Mylavarapu<sup>1</sup>.<sup>1</sup>Soil and Water Sciences Department, University of Florida/IFAS, Gainesville, FL. ([raom@ufl.edu](mailto:raom@ufl.edu)) [V-1]
- 10:15 **Using SPAD readings to assess potato nitrogen status.** Jonathan Denison<sup>\*</sup>, Guodong Liu. Horticultural Sciences Department, University of Florida/IFAS, Gainesville, FL. ([guodong@ufl.edu](mailto:guodong@ufl.edu)) [V-2]
- 10:30 **Rate and timing of phosphorus fertilizer application for cabbage in northeast Florida.** Luis G. Pesantes<sup>1\*</sup>, Edzard van Santen<sup>2</sup>, Xin Zhao<sup>1</sup>, Gabriel Maltais-Landry<sup>3</sup>, and Lincoln Zotarelli<sup>1</sup>.<sup>1</sup>Horticultural Sciences Department, University of Florida/IFAS, Gainesville, FL. <sup>2</sup>Statistical Consulting Unit and Agronomy Department, University of Florida/IFAS, Gainesville, FL. <sup>3</sup>Soil and Water Sciences Department, University of Florida/IFAS, Gainesville, FL. ([lzota@ufl.edu](mailto:lzota@ufl.edu)) [V-3]
- 10:45 **Assessing in-season soil and potato plant nitrogen status using integrated approaches.** Fernando Rodrigo Bortolozo<sup>1\*</sup>, André Luiz B.R. da Silva<sup>2</sup>, Judyson de Mattos Oliveira<sup>1,3</sup>, Lincoln Zotarelli<sup>1</sup>.<sup>1</sup> Horticultural Science Depart-

ment, University of Florida/IFAS, Gainesville, FL, <sup>2</sup>Department of Horticulture, Auburn University, AL, <sup>3</sup>Agronomy Department, State University of Maringa, Brazil. ([fernandorb@ufl.edu](mailto:fernandorb@ufl.edu)). [V-4]

- 11:00 **Pre-planting and supplementary in-season liquid phosphorus fertilization for potato in Florida.** Luis G. Pesantes<sup>1\*</sup>, Edzard van Santen<sup>2</sup>, Xin Zhao<sup>1</sup>, Gabriel Maltais-Landry<sup>3</sup>, and Lincoln Zotarelli<sup>1</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida/IFAS, Gainesville, FL. <sup>2</sup>Statistical Consulting Unit and Agronomy Department, University of Florida/IFAS, Gainesville, FL. <sup>3</sup>Soil and Water Sciences Department, University of Florida/IFAS, Gainesville, FL. ([lzota@ufl.edu](mailto:lzota@ufl.edu)) [V-5]
- 11:15 **Nitrogen management for greenhouse production of luffa, a high value Asian vegetable.** Brianna Kessler<sup>\*1</sup>, Bala Rathinasabapathi<sup>1</sup>, and Guodong Liu<sup>1</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida/IFAS, Gainesville, FL ([brianna.kessler@ufl.edu](mailto:brianna.kessler@ufl.edu), [guodong@ufl.edu](mailto:guodong@ufl.edu)) [V-6]
- 11:30 **Evapotranspiration rates of three sweet corn cultivars under different irrigation levels.** Fitsum T. Teshome<sup>1</sup>, Haimanote K. Bayabil<sup>1\*</sup>, Sandra M. Guzman<sup>2</sup> and Bruce Schaffer<sup>1</sup>. <sup>1</sup>Tropical Research and Education Center, University of Florida/IFAS, Homestead, FL, <sup>2</sup>Indian River Research Center, University of Florida/IFAS, Fort Pierce, FL. ([hbayabil@ufl.edu](mailto:hbayabil@ufl.edu)) [V-7]
- 11:45 **Pedotransfer function to estimate soil penetration resistance of the vegetable production areas in northeast Florida.** Judyson de Matos Oliveira<sup>1\*</sup>, Cássio Antônio Tormena<sup>2</sup>, Lincoln Zotarelli<sup>1</sup>, Allan Bacon<sup>1</sup>, Fernando R. Bortolozo<sup>1</sup>, Julio C. Pachon<sup>1</sup>. <sup>1</sup>University of Florida/IFAS, Gainesville, FL, <sup>2</sup>State University of Maringá, Brazil. ([judyson.dematoso@ufl.edu](mailto:judyson.dematoso@ufl.edu)) [V-8]

## Monday Afternoon Session

Vegetable Section

(1:20 – 4:45) Grand Salon 4 and 5

1:20 Welcome back and introductions – Lincoln Zotarelli

## A- Irrigation and Nutrient Management (cont'd)

- 1:30 **Planting hole application of controlled release fertilizer can reduce nitrogen use without yield loss in strawberry grown in sandy soil in a subtropical climate.** Lillian Pride<sup>1\*</sup> and Shinsuke Agehara<sup>1</sup>.<sup>1</sup>Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL. ([sagehara@ufl.edu](mailto:sagehara@ufl.edu)) [V-9]
- 1:45 **Vegetable Section Business Meeting**, Lincoln Zotarelli, VP and Phillip Williams VP-elect

## B - Student Presentations

- 2:00 **Discovery and characterization of genes conferring resistance to charcoal rot caused by *Macrophomina phaseolina* in cultivated strawberry *Fragaria × ananassa*.** William Willborn<sup>1</sup>, Youngjae Oh<sup>1</sup>, Elissar Alam<sup>1</sup>, Vance M. Whitaker<sup>1</sup>, Seonghee Lee<sup>1</sup>.<sup>1</sup>Department of Horticultural Science, University of Florida, IFAS Gulf Coast Research and Education Center, Wimauma, FL. ([Seonghee105@ufl.edu](mailto:Seonghee105@ufl.edu)) [V-10]
- 2:15 **Population dynamics and abundance of pepper weevil, *Anthonomus eugenii* Cano (Coleoptera: Curculionidae) in jalapeño pepper under field condition in south Florida.** Victoria Adeleye<sup>\*</sup>, Dakshina Seal, Garima Garima. Tropical Research and Education Center, University of Florida/IFAS, Homestead, FL. ([vadeleye@ufl.edu](mailto:vadeleye@ufl.edu)) [V-11]
- 2:30 **Lettuce downy mildew differential cultivars are resistant to other important diseases.** Lis Natali R. Porto<sup>1\*</sup>, Richard N. Raid<sup>1</sup>, Germán V. Sandoya- Miranda<sup>1</sup>.<sup>1</sup>Everglades Research and Education Center, University of Florida/IFAS,

Belle Glade, FL. ([gsandoyamiranda@ufl.edu](mailto:gsandoyamiranda@ufl.edu)) [V-12]

- 2:45 **Influence of nutrient management practices on crop productivity and quality in high tunnel organic production of leafy greens.** [Shufang Tian](#)<sup>1\*</sup>, Jeffrey Brecht<sup>1</sup>, Xin Zhao<sup>1</sup>.<sup>1</sup>Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ([zxin@ufl.edu](mailto:zxin@ufl.edu)) [V-13]
- 3:00 **Soil pedotransfer function to estimate available water of northeast Florida sandy soils.** [Judyson de Matos Oliveira](#)<sup>1\*</sup>, Cássio Antônio Tormena<sup>2</sup>, Lincoln Zotarelli<sup>1</sup>, Allan Bacon<sup>1</sup>, Fernando R. Bortolozo<sup>1</sup>, and Julio C. Pachon<sup>1</sup>.<sup>1</sup>University of Florida, Gainesville, FL; <sup>2</sup> State University of Maringá, Brazil. ([judyson.dematoso@ufl.edu](mailto:judyson.dematoso@ufl.edu)) [V-14]
- 3:15 **Break**
- 3:30 **Evaluating sunn hemp biomass as a carbon source for anaerobic soil disinfestation in organic strawberry production.** [Isaac Vincent](#)<sup>1</sup>, Bodh Paudel<sup>1</sup>, Jianyu Li<sup>1</sup>, Erin Roskopf<sup>2</sup>, and Xin Zhao<sup>1\*</sup>.<sup>1</sup>Horticultural Sciences Department, University of Florida/IFAS, Gainesville, FL, <sup>2</sup>USDA-ARS, US Horticultural Research Laboratory, Fort Pierce, FL. ([zxin@ufl.edu](mailto:zxin@ufl.edu)) [V-15]
- 3:45 **Interactions between root-knot nematode (*Meloidogyne incognita*) and resistant and susceptible pepper (*Capsicum annuum*) cultivars.** [Dominick Padilla](#)<sup>1\*</sup>, Diego Arruda Huggins de Sá Leitão<sup>2</sup>, Donald Dickson<sup>2</sup>, Bala Rathinasabapathi<sup>1</sup>. <sup>1</sup>Horticultural Sciences Department, University of Florida/IFAS, Gainesville, FL. <sup>2</sup>Entomology and Nematology Department, University of Florida/IFAS, Gainesville, FL. ([brath@ufl.edu](mailto:brath@ufl.edu)) [V-16]
- 4:00 **Fine mapping and candidate gene discovery for the resistance to angular leaf spot in cultivated octoploid strawberry (*Fragaria x ananassa* Duch.).** [Jin-Hee Kim](#), Vance M. Whitaker, Seonghee Lee\*. Gulf Coast Research

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and Education Center, University of Florida/IFAS, Wimauma, FL. ([Seonghee105@ufl.edu](mailto:Seonghee105@ufl.edu)) [V-17]

4:15 **Insecticide lethal and sublethal effects on corn silk flies (Diptera: Ulidiidae) following topical exposure.** Eric Schwan Resende<sup>1\*</sup>, Julien Beuzelin<sup>1</sup>, Victoria Dunkley<sup>1</sup>, Silvana Paula-Moraes<sup>2</sup>, Dakshina Seal<sup>3</sup>, Gregg Nuessly<sup>1,1</sup>.<sup>1</sup> Everglades Research and Education Center, University of Florida/IFAS, Belle Glade, FL; <sup>2</sup> West Florida Research and Education Center, University of Florida/IFAS, Jay, FL; <sup>3</sup> Tropical Research and Education Center, University of Florida/IFAS, Homestead, FL. ([eschwanresende@ufl.edu](mailto:eschwanresende@ufl.edu)) [V-18]

4:30 **Screening broad-spectrum herbicides to identify lettuce lines with tolerance.** Shailaja Vemula<sup>\*</sup>, Calvin Odero, Germán Sandoya, Gregg MacDonald, Hardev Sandhu, Ramdas Kanissery. Everglades Research and Education Center, University of Florida/IFAS, Belle Glade, FL. ([svemula@ufl.edu](mailto:svemula@ufl.edu)) [V-19]

4:45 **Adjourn**

## Tuesday Morning Session 1

**Lincoln Zotarelli**

Presiding

[lzota@ufl.edu](mailto:lzota@ufl.edu)

(9:50 – 12:00) Grand Salon 6 and 7

9:50 Welcome and introductions – Lincoln Zotarelli

## C - Concurrent Session 1 - Alternative Vegetable Crops and Extension

- 10:00 **Expansion of ethnic vegetable production in Florida.** Emma L. Turner<sup>\*</sup>, Guodong Liu. Horticultural Sciences Department, University of Florida/IFAS, Gainesville, FL. ([emmaturner@ufl.edu](mailto:emmaturner@ufl.edu), [guodong@ufl.edu](mailto:guodong@ufl.edu)) [V-25]
- 10:15 **Harvest yields for brussels sprouts variety trials in northeast Florida.** Wendy Mussoline<sup>1\*</sup>, Steve Sargeant<sup>2</sup>, Gary England<sup>3</sup>, and Christian Christensen<sup>4</sup>.<sup>1</sup>Putnam County Extension, University of Florida IFAS, East Palatka, FL, <sup>2</sup>Department of Horticultural Sciences, University of Florida, Gainesville, FL, <sup>3</sup>Extension Agent IV Emeritus, University of Florida IFAS, Hastings, FL, <sup>4</sup>Hastings Agriculture Extension Center, University of Florida IFAS, Hastings, FL. ([wmussoli@ufl.edu](mailto:wmussoli@ufl.edu)) [V-26]
- 10:30 **Exploring pumpkin varieties for northeast Florida production.** Evelyn "Prissy" Fletcher<sup>1\*</sup>, Christian Christensen<sup>2</sup>. <sup>1</sup>St. Johns County Extension, University of Florida/IFAS, St. Augustine, FL, <sup>2</sup>Hastings Agriculture and Extension Center, University of Florida/IFAS, Hastings, FL. ([pfletch@ufl.edu](mailto:pfletch@ufl.edu)) [V-27]
- 10:45 **Pandemic tilts local agriculture and community's to behavior changes.** Lisa Hickey, University of Florida/IFAS Extension Manatee County, Palmetto, FL. ([lisa.hickey@ufl.edu](mailto:lisa.hickey@ufl.edu)) [V-28]
- 11:00 **Watermelon planting decisions with multiple risks: A simulation analysis.** Kevin Athearn<sup>1\*</sup>, Marina Burani-Arouca<sup>1</sup>, Nicholas Dufault<sup>2</sup>, Clyde Fraisse<sup>3</sup>, Joshua Freeman<sup>4</sup>, Robert Hochmuth<sup>1</sup>, Tatiana Sanchez<sup>5</sup>, Tatiana Borisova<sup>6</sup>, Tyler Pitman<sup>7</sup>, and Luke Harlow<sup>8</sup>. <sup>1</sup>North Florida Research and Education Center – Suwannee Valley, University of Florida/IFAS, Live Oak, FL; <sup>2</sup>Plant Pathology Department, University of Florida/IFAS, Gainesville, FL; <sup>3</sup>Agricultural and Biological Engineering Department, University of Florida/IFAS, Gainesville, FL; <sup>4</sup>North Florida Research and Education Center, University of Florida/IFAS, Quincy, FL; <sup>5</sup>Alachua County Extension, University of Florida/IFAS, Gainesville, FL; <sup>6</sup>Food and Resource Economics Department, University of Florida/IFAS, Gainesville, FL; <sup>7</sup>Gilchrist County Extension, University

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- of Florida/IFAS, Gainesville, FL; <sup>8</sup>Union County Extension, University of Florida/IFAS, Gainesville, FL. ([athearn@ufl.edu](mailto:athearn@ufl.edu)) [V-29]
- 11:15 **Severity of tomato chlorotic spot virus with field geolocations.** Qingren Wang, UF/IFAS Extension Miami-Dade County, Homestead, FL. ([qrwang@ufl.edu](mailto:qrwang@ufl.edu)) [V-30]
- 11:30 **Lettuce cultivated in hydroponics responds to less P inputs.** Gustavo F. Kreutz<sup>1\*</sup>, Jehangir Bhadha<sup>1</sup>, Germán V. Sandoya<sup>1</sup>.<sup>1</sup>Everglades Research and Education Center, University of Florida IFAS, Belle Glade, FL. ([gsandoyamiranda@ufl.edu](mailto:gsandoyamiranda@ufl.edu)) [V-31]
- 11:45 **Towards improvement of lettuce for vitamin C in protected agriculture.** Germán Sandoya<sup>1\*</sup>, Amarat (Amy) Simonne<sup>2</sup>, Abdul Bais Kadli<sup>2</sup>, Robert (Bob) Hochmuth<sup>3</sup>, Wanda Laughlin<sup>3</sup>, Alexandor McMillan<sup>3</sup>, Morgan Morrow<sup>3</sup>.<sup>1</sup> Everglades Research and Education Center University of Florida/IFAS, Belle Glade, FL, <sup>2</sup> Family, Youth and Community Sciences Department University of Florida/IFAS, Gainesville, FL, <sup>3</sup> North Florida Research and Education Center – Suwanee Valley University of Florida/IFAS, Live Oak, FL. ([gsandoyamiranda@ufl.edu](mailto:gsandoyamiranda@ufl.edu)) [V-32]
- 12:00 **End of sections.** See you next year for the 135rd FSHS annual meeting

## Tuesday Morning Session 2

Phillip Williams  
Presiding  
[phillipwilliams@ufl.edu](mailto:phillipwilliams@ufl.edu)

(9:50 – 11:45) Grand Salon 8

9:50 Welcome and introductions – Phillip Williams



- 10:00 **Comparative transcriptomes analysis reveals candidate genes associated with powdery mildew resistance in cultivated strawberry.** Ronald Tapia<sup>1\*</sup> and Seonghee Lee<sup>1</sup>.<sup>1</sup>Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL. ([seonghee105@ufl.edu](mailto:seonghee105@ufl.edu)) [V-33]
- 10:15 **QTL identification and marker development for Papaya Ringspot Virus (PRSV) resistance in squash.** Swati Shrestha<sup>1\*</sup>, Yuqing Fu<sup>1</sup>, Vincent Michael<sup>1</sup>, Geoffrey Meru<sup>1</sup>.<sup>1</sup>Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. ([s.shrestha@ufl.edu](mailto:s.shrestha@ufl.edu)) [V-34]
- 10:30 **Field evaluation of CRISPR-driven jointless pedicel fresh-market tomatoes.** Tong Geon Lee<sup>\*</sup>. Gulf Coast Research and Education Center, University of Florida/IFAS, Wimauma, FL. ([tonggeonlee@ufl.edu](mailto:tonggeonlee@ufl.edu)) [V-35]
- 10:45 **Performance of selective lettuce varieties and evaluation of bolting in a top vent high tunnel and open field conditions in north Florida.** Alex Bolques<sup>1\*</sup>, Gilbert Queeley<sup>2</sup>, Fanny Ospina<sup>1</sup>, Xin Zhao<sup>3</sup>, Megan, Donovan<sup>3</sup>, and Jesusa Legaspi<sup>4</sup>.<sup>1</sup> Research and Extension Center, Florida A&M University, Quincy, FL, <sup>2</sup> Cooperative Extension Program, Florida A&M University, Tallahassee, FL, <sup>3</sup> Horticultural Sciences Department, University of Florida/IFAS, Gainesville, FL, <sup>4</sup> USDA, ARS, CMAVE, Florida A&M University, Tallahassee, FL. ([alejandrobolques@famu.edu](mailto:alejandrobolques@famu.edu)) [V-36]
- 11:00 **Screening for biotic and abiotic stress resistant somatic clones from cultivated strawberry.** Cheol-Min Yoo<sup>\*</sup>, Catalina Moyer, Cheryl Dalid, Vance M. Whitaker and Seonghee Lee. Gulf Coast Research and Education Center, University of Florida/IFAS, Balm, FL. ([seonghee105@ufl.edu](mailto:seonghee105@ufl.edu)) [V-37]
- 11:15 **A simple marker-assay for selecting hull-less seed trait in pumpkin.** Geoffrey Meru<sup>1\*</sup>, Yuqing Fu<sup>1</sup>, Vincent N. Michael<sup>1</sup>, and Swati Shrestha<sup>1</sup>.<sup>1</sup>Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL.

Vegetable Section

[gmeru@ufl.edu](mailto:gmeru@ufl.edu) [V-38]

- 11:30 **Incidence and distribution of tomato yellow leaf curl (TYLC) disease and the potential of TYLC-resistant cultivars in management of TYLC in south Florida.** [Qingchun Liu\\*](#) and Shouan Zhang. Tropical Research and Extension Center, University of Florida/IFAS, Homestead, FL.  
[q.liu1@ufl.edu](mailto:q.liu1@ufl.edu) ; [szhang0007@ufl.edu](mailto:szhang0007@ufl.edu) [V-39]
- 11:45 **End of sections.** See you next year for the 135rd FSHS annual meeting

# In-Service Training– Agriculture

## Tuesday Afternoon Session

Hilton Daytona Beach Oceanfront Resort, Daytona Beach, FL

1:00 P.M.—4:40      Grand Salon 6 and 7

“Improving health and productivity through manipulation of the root-soil environment”

Organizers: Ute Albrecht<sup>1</sup>, <sup>1</sup>UF/FAS, Horticultural Sciences Department, Gainesville, FL, <sup>2</sup>UF/IFAS Extension, Water Resources RSA, ([ualbrecht@ufl.edu](mailto:ualbrecht@ufl.edu))

### Agenda

- 1:00    **Welcome and Introduction, pre-testing, background** Dr. Ute Albrecht, UF/IFAS SWFREC
- 1:20    **Plant biostimulants for use in agriculture**, Dr. Ute Albrecht, UF/IFAS SWFREC
- 2:00    **The importance and role of microbes in soil health**, Dr. Sarah Strauss, UF/IFAS SWFREC
  
- 2:40    **Break**
  
- 3:00    **Weed management using cover crops** , Dr. Peter Dittmar UF/IFAS HortScience Dept.
- 3:40    **Soil texture and its assessment in the context of soil health**, Dr. Allan Bacon, UF/IFAS SWS Dept.
- 4:00    **Discussions, post-test**
  
- 4:40    **Adjourn**

# Mango Summit

## Tuesday Afternoon Session

Hilton Daytona Beach Oceanfront Resort, Daytona Beach, FL

1:30 P.M.—3:30 Grand Salon 1 and 2

Organizer: Noris Ledesma, UF/IFAS,  
([norisledesma.mango@gmail.com](mailto:norisledesma.mango@gmail.com))

### Agenda

- 1:30 **National Mango Board Tools for the Mango Industry.** R. Ward<sup>1</sup>, M. Michel<sup>2</sup> L. Ortega<sup>2</sup> and R. Mitton<sup>2</sup>.  
<sup>1</sup>Food & Resources Economics, University of Florida;  
<sup>2</sup>National Mango Board. [K-17]
- 1:45 **Mango internal discoloration (“cutting black” or “corte negro”).** Jeffrey K. Brecht<sup>\*</sup>, Horticultural Sciences Department University of Florida, Gainesville, FL, USA. [jkbrecht@ufl.edu](mailto:jkbrecht@ufl.edu) [K-18]
- 2:00 **‘Rapoza’ a potential mango cultivar for the Americas.** Noris Ledesma<sup>\*</sup>. Hervert Yair Ordoñez  
[norisledesma.mango@gmail.com](mailto:norisledesma.mango@gmail.com) [K-19]
- 2:15 **Genomics-enabled plant breeding of mango.** Alan Chambers<sup>\*</sup>. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. [ac@ufl.edu](mailto:ac@ufl.edu) [K-20]
- 2:30 **A Review of Asam Kumbang (*Mangifera quadrifida* Jack.).** Noris Ledesma<sup>\*</sup>. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. [norisledesma.mango@gmail.com](mailto:norisledesma.mango@gmail.com) [K-21]

- 2:45 **Mango collection at fruit and spice park.** Louise King. Fruit and Spice Park. [K-22]
- 3:00 **Expanding mango consumption phase 1: mango (*Mangifera indica*) cultivar evaluation for the National Mango Board.** Jonathan H. Crane\*. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. [jhcr@ufl.edu](mailto:jhcr@ufl.edu) [K-23]
- 3:15 **Mango Forum**
- 3:30 **End of sections.** See you next year in Sarasota for the 135th FSHS annual meeting!

# Hilton Daytona Beach Oceanfront Resort



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