



136th Annual Meeting of the

FLORIDA STATE
HORTICULTURAL SOCIETY
2023



2023 Program Contents

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New Horticultural Crops in Florida. Photo Credit: Artichokes (upper left) and hops (lower right), Shinsuke Agehara, finger limes (upper right), Manjul Dutt and bitter melon (lower left), David (Guodong) Liu.

Program Overview

Registration Desk Hours –Registration Desk—South

Sunday June 11 2:00PM—6:00 PM

Monday June 12 7:30 AM—5:00 PM

Tuesday June 13 8:00 AM—12:00 PM

Sunday Afternoon—June 11

2:00—4:00	Poster Session Set up, Anna Mészáros	Atlantic Avenue Pre-Function
4:00—4:15	Opening Ceremony, John Griffis Jr.	Grand Salon 4-5
4:15—4:45	Speaker: Edgardo Etxeberria, Professor Emeritus UF/IFAS “The Early Days of the Florida State Horticultural Society: Part II”	Grand Salon 4-5
4:45—5:00	Awards Ceremony, John Griffis Jr.	Grand Salon 4-5
5:00—6:00	Welcome Reception (Included in conference registration)	Oceanview Room

Monday Morning—June 12

8:00—8:30	Coffee & Tea, Assorted light breakfast	Atlantic Avenue Pre-Function
8:30—9:45	General Session	Grand Salon 4-5
8:30	Welcome & Presidential Address: George Fitzpatrick, FSHS President	Grand Salon 4-5
9:00	Speaker: Zhanao Deng, Professor UF/IFAS “From the Amazon to Florida: The Story of Caladiums and the Role of Horticultural Innovations in the Development of the Florida Caladium Industry”	Grand Salon 4-5
9:45	End of General Session	

Concurrent Monday Morning Sessions:

9:50-12:15	Agroecology & Natural Resources	Grand Salon 2
9:50-12:00	Citrus	Grand Salon 4-5
9:50-12:00	Handing & Processing	Grand Salon 3
9:50-12:00	Krome Memorial Institute	Grand Salon 7
9:50-11:45	Ornamental, Garden, & Landscaping	Grand Salon 1
9:50-12:00	Vegetable	Grand Salon 8

Monday Lunch

12:00—1:00 Lunch (on your own)

Monday Afternoon

Concurrent Monday Afternoon Sessions:

1:20-4:45	Agroecology & Natural Resources	Grand Salon 2
1:10-5:00	Citrus	Grand Salon 4-5
1:20-4:45	Handing & Processing	Grand Salon 3
1:20-4:45	Krome Memorial Institute	Grand Salon 7
12:50-2:15	Ornamental, Garden, & Landscaping	Grand Salon 1
1:20-4:45	Vegetable	Grand Salon 8

Monday Evening

5:15—6:15	Reception and Poster Session (Included in conference registration - Presenters are encouraged to stay by their posters)	Atlantic Avenue Pre-function
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Tuesday Morning —June 11

7:00—8:15	Horticultural Crops Breakfast (Event ticket required) Invited Speaker: Karen Stauderman, Ex- tension Agent III, UF/IFAS Extension “In Search of Healthy Feet: Work Boot and Sock Preferences of the Florida Farmer”	Oceanview Room
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8:30—9:00	FSHS Annual Business Meeting. George Fitzpatrick, FSHS President	Grand Salon 4-5
9:00—9:30	Student Competition and Poster Competition Awards . Xin Zhao, Anna Mészáros	Grand Salon 4-5
9:30	Coffee Break	Atlantic Avenue Pre-Function

Concurrent Tuesday Morning Sessions:

9:50—11:30	Citrus	Grand Salon 4-5
9:50—10:45	Vegetable	Grand Salon 8

Tuesday Lunch

12:00—1:00	Extension Luncheon (Event ticket required) Invited Speakers: Dr. Chris Gunter "The Agent and Specialist Connection, Opportunities for Success"	Grand Salon 4-5
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Tuesday Afternoon

1:00—5:10	In-Service Training "Use Plant Growth Regulators in Florida Horticulture Industry" See full agenda at back of program	Grand Salon 6-7
1:30—4:00	Mango Summit See full agenda at back of program	Grand Salon 1-3

Florida State Horticultural Society 2022-2023 Board of Directors and Ex-Officio Members

Chairman of the Board: John Griffis Jr.

President: George Fitzpatrick

President-Elect: Ute Albrecht

Sectional Vice Presidents

Agroecology & Natural Resources: Bonnie Wells

Citrus: Lorenzo Rossi

Handling & Processing: Angelos Deltsidis

Krome Memorial Institute: Kimberly Morgan

Ornamental, Garden and Landscape: Ashley Stonecipher

Vegetable: Lisa Hickey

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Richard Campbell

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Program Coordinator: Germán Sandoya

Florida State Horticultural Society

2023 Meeting Facilitators

Local Arrangements Coordinator: Karen Stauderman

Sponsorship Coordinator: Gene McAvoy

Student Competitions Coordinator: Xin Zhao

CEU Coordinator: Tripti Vashisth

Poster Session Coordinator: Anna Mészáros

FSHS Newsletter Team: Alicia Lamborn

Student Travel Grant Coordinator: David Austin

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National Mango Board
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Citrus Research and Development Foundation, Inc (CRDC)**

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Mary Lamberts and George Fitzpatrick, in memory of Dr. J.J. Lamberts,
Professor Emeritus of English at Arizona State University**

Bronze Level Sponsor (under \$500)

Florida Tomato Committee

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

2023 FSHS Patron Members

Ed Etxeberria

Gene McAvoy

Karen Stauderman

Erika Wallace

Presentation, Publication and Submission Guidelines

- Full payment of page charges from past years is required before presentations and submissions can be accepted in the current year.
 - The SENIOR AUTHOR must be a member of the Society, and the PRESENTING AUTHOR of the paper must be registered for the annual meeting (except for invited papers) for papers to be accepted for publication in 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 emailed as a **Word document** to the FSHS editor, Mary Lamberts (editors@fshs.org), copying the appropriate sectional VP, at the time of the meeting. PDFs will be returned to the author for resubmission in the correct format.
- Please **name** your manuscript using: the paper number from the Conference Program (ANR-5), your last name (Gettys) (you can add other last names using a hyphen between them); please add **SN** at the end if the paper is a scientific note or **Abstract + doi** if that is the format you are using. Both the Editor and Publish keep track of manuscripts using this system.
- Authors may also publish their manuscripts in any refereed journal, grower publication or EDIS document. The publications will be published as an abstract + a doi or other link.
- For **all** submissions, see the complete Manuscript Preparation Guide (<https://www.fshs.org/instructions-for-authors>), **including the Literature Cited Chart**, for the Proceedings of the Florida State Horticultural Society.

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.

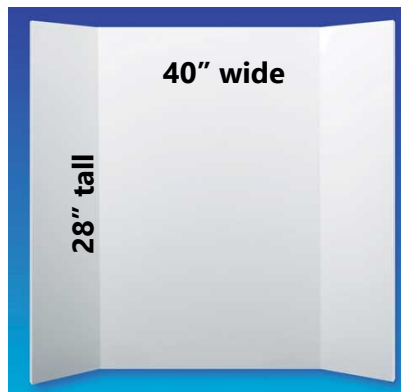
2023 FSHS

Poster Presentation Guidelines

- All posters must be set up Sunday, June 11th, by 5:00pm at the Atlantic Avenue Pre-function Area adjacent to the Grand Ballroom.
- Posters will be judged between Sunday 5:00 pm and Monday 3:00 pm.
- Judging scoring criteria will be provided to poster presenters and judges via email in advance.
- Poster presenters are encouraged to be at their displays during the Monday Evening Reception (5:15pm-6:15pm) and during break times to interact with meeting participants.
- The winners for best poster will be announced at the business meeting Tuesday morning.
- Posters must be taken down on Tuesday, June 13th, by noon.

Poster dimensions and set-up:

- A 40" wide x 28" tall poster board and paper clips will be provided for participants to display their posters.
- The poster must not exceed the 40" x 28" size limit (landscape).
- Two posters will be displayed per table.



Welcome 2023 FSHS Sectional Vice-Presidents!

Agroecology & Natural Resources: Bonnie Wells, UF/IFAS Extension, Brevard County, bcwells@ufl.edu

Citrus: Lorenzo Rossi, UF/IFAS Indian River Research and Education Center, l.rossi@ufl.edu

Handling & Processing: Angelos Deltsidis, University of Georgia, adeltsidis@uga.edu

Krome Memorial Institute: Kimberly Morgan, UF/IFAS Southwest Research and Education Center, kimorgan@ufl.edu

Ornamental, Garden, & Landscape: Ashley Stonecipher, UF/IFAS Extension, Volusia County, ams2904@ufl.edu

Vegetables: Lisa Hickey, UF/IFAS Extension, Manatee County, lisa.hickey@ufl.edu

Technical Program Schedule

Poster Session:

Anna Mészáros

Coordinator

ameszaros@ufl.edu

- [P1-ANR] **Arbor Day Planting Event - Teaching Youth the Importance of Native Trees.** Leslie Munroe^{1*}, Kaitlyn McCarty¹, and Andrea Lazzari¹. ¹University of Florida IFAS Extension, Indian River County, Vero Beach, FL. (lnmunroe@ufl.edu)
- [P2-ANR] **Phenology of Leaf Emergence of Beautyberry (*Callicarpa americana*) Seedlings from Northern and Southern Populations Grown in a Common Garden.** Dalton Tryba^{1*}, Anna Goebel¹, and Brian Bovard². ¹Department of Biological Sciences, Florida Gulf Coast University, Fort Myers, FL. ²Department of Ecology and Environmental Studies, Florida Gulf Coast University, Fort Myers, FL. (dtryba5851@eagle.fgcu.edu)
- [P3-ANR] **Successes and Challenges of the Duval County Backyard Hen Permit Program.** Stephen Jennewein^{1*}. ¹University of Florida IFAS Extension, Duval County, Jacksonville, FL. (sjennewein@ufl.edu)
- [P4-C] **Optical and thermal data integration to analyze the impact of the mealybug pest on citrus trees.** Fàtima Della^{1*}, Belen Franch^{1,2}, Dražen Skoković¹, Alberto San Bautista³, Constanza Rubio⁴, Italo Moletto-Lobos¹, Bertran Mollà-Bononad¹, and María José Sánchez-Torres¹. ¹Global Change Unit, Image Processing Laboratory, Parc Científic, Universitat de València (Paterna), 46980, Spain. ²Department of Geographical Sciences, University of Maryland, College Park MD 20742, United States. ³Departamento de Producción Vegetal, Universitat Politècnica de València (Valencia), 46022, Spain. ⁴Centro de Tecnologías Físicas, Universitat Politècnica de València (Valencia), 46022, Spain. (fatima.della@uv.es)
- [P5-C] **Application of Remote Sensing for Monitoring the Incidence of *Delotococcus aberiae* in Citrus Farms at Castellón (Spain).** Constanza Rubio¹, Belen Franch^{2,3}, Fran Valls⁴., Daniel Tarrazo-Serrano¹, Sergio Castiñeira¹, Antonio Uris¹, David Fita⁴,

Patricia Arizo-García⁴, and Alberto San Bautista^{4*}. ¹Centro de Tecnologías Físicas, Universitat Politècnica de València, Spain, ²Global Change Unit, Image Processing Laboratory, Universitat de València, Spain, ³Department of Geographical Sciences, University of Maryland, USA. ⁴ Departamento de Producción Vegetal, Universitat Politècnica de València, Spain.
(asanbau@prv.upv.es)

- [P6-C] **Hedging and Thinning to Mitigate Fruit Disorder Incidence in HLB-Affected 'Sugar Belle' Mandarin.** Joseph Volpe^{1*} and John M. Chater ¹, ¹University of Florida IFAS, Citrus Research and Education Center, Lake Alfred, FL.
(joevolpe@ufl.edu)
- [P7-C] **High-throughput Phenotyping and Fruit Juice Quality of 'OLL-8', Sweet Orange on Different Rootstocks.** Emily Worbington^{1*}, John M. Chater ¹, Heaven Heflin¹, and Joseph Volpe¹. ¹Citrus Research and Education Center, University of Florida IFAS, Lake Alfred, FL. (emilyworbington@ufl.edu)
- [P8-C] **'Donaldson': Characterization of a Rediscovered Variety for Use in Orange Juice.** Matthew Mattia^{1*}, Jinhe Bai¹, Zhen Fan¹, Kristen Jeffries¹, Gabriela Olmedo¹, and Anne Plotto¹. ¹United States Department of Agriculture, Agricultural Research Service, Ft. Pierce, FL. (Matthew.Mattia@usda.gov)
- [P9-HP] **Jicama as a Low-Sugar Ingredient for Juice Production: The Impact of Soil Amendment and Harvest Maturity on Juice Quality.** Thais Pádua Freitas^{1*}, Jinhe Bai¹, Wei Zhao¹, Jason C1. Hong¹, Nancy Owens¹, Marlee Trandel¹, and Erin Rosskopf¹. ¹USDA-ARS, Horticultural Research Laboratory, Fort Pierce, FL. (erin.rosskopf@usda.gov)
- [P10-OGL] **Measuring Phosphate, Calcium and Magnesium in Leachate During Greenhouse Production of Philodendron 'Green Princess' - Comparing Analysis Methods and Evaluating Results.** Kara Fischer^{1*}, Rory Cushen², Bryce Crosby³, Malcolm M. Manners⁴, and John L Griffis, Jr.¹. ¹Ecology and Environmental Studies Dept., Florida Gulf Coast University, Ft. Myers, FL. ²Integrated Studies Dept., Florida Gulf Coast University, Ft. Myers, FL. ³Biology Dept. Florida Southern College, Lakeland, FL ⁴Horticultural Sciences Dept., Florida Southern College, Lakeland, FL. (kdfischer4684@eagle.fgcu.edu)
- [P-11-OGL] **Profitability and Cost Estimates for Producing Tropical Hibiscus: A Partial Budget Analysis.** Nicholas Haley^{1*},

Hasmeen Abu¹, Trent Blare², and Fredy H. Ballen². ¹University of Florida, Gainesville, FL. ²Tropical Research and Education Center, University of Florida IFAS, Homestead, FL (nhaley@ufl.edu)

- [P-12-OGL] **Measuring Potassium in Leachate During Greenhouse Production of Philodendron 'Green Princess' - Comparing Analysis Methods and Evaluating Results.** Heidi Randall^{1*}, Rory Cushen², Malcolm M. Manners³, and John L. Griffis, Jr.¹. ¹Ecology and Environmental Studies Dept., Florida Gulf Coast University, Ft. Myers, FL. ²Integrated Studies Dept., Florida Gulf Coast University, Ft. Myers, FL. ³Horticultural Sciences Dept., Florida Southern College, Lakeland, FL. (hmrandall7022@eagle.fgcu.edu)
- [P-13-OGL] **How do Different pH meters Compare? A Look at Soil pH Meters: Store-Bought, Portable Scientific Meters, and Analytical Lab pH Meters.** Grantly Ricketts^{1*} Kate Rotindo¹, and Amir Rezazadeh¹. ¹University of Florida IFAS Extension, St Lucie County, Fort Pierce, FL. (gricketts@ufl.edu)
- [P-14-OGL] **Education About Harvesting Rainwater; More Likely to Install Whatever the Cost.** Lisa Strange^{1*} and Lynn Barber². ¹University of Florida IFAS Extension, Taylor County, Perry, FL. ²University of Florida IFAS Extension, Hillsborough County, Seffner, FL. (lstrange@ufl.edu)
- [P-15-V] **Quantifying Irrigation Amounts for Tomatoes Produced in Conventional and Compact Bed Geometries.** Shahd Al-rabia^{1*} and Rao Mylavarapu¹. ¹Soil, Water and Ecosystem Sciences Department, University of Florida IFAS, Gainesville, FL. (s.alrabia@ufl.edu)
- [P-16-V] **Microgreens: Potential for Innovative Farming in Florida.** Amir Rezazadeh^{1*}. University of Florida IFAS Extension, St. Lucie County, Fort Pierce, FL. (amir2558@ufl.edu)
- [P-17-V] **Introducing Horticulture Skills to Youth through the 4-H Blueberry Project.** Julio Perez^{1*}, ¹University of Florida IFAS Extension, Putnam County, East Palatka, FL. (pjulio@ufl.edu)
- [P-18-V] **Nitrogen Uptake Efficiency Using Controlled Release N in Drip Irrigated Tomatoes Under Conventional and Compact Bed Geometrics.** Shraddha Sharma^{1*} and Rao Mylavarapu¹. ¹Soil, Water and Ecosystem Science Department, University of Florida IFAS, Gainesville, FL. (sharma.shraddha@ufl.edu)
- [P-19-V] **Genome Editing in Cucurbits: Current Status and Future**

Prospects. Shallu Thakur^{1*} and Geoffrey Meru¹. ¹Tropical Research and Education Center, University of Florida IFAS, Homestead, FL. (thakurshallu@ufl.edu)

[P-20-V] **Dual-Purpose Seed Pumpkin: Advances and Opportunities.** Yuqing Fu^{1*}, Swati Shrestha¹, Vincent N. Michael¹, Marie Dorval¹, Riphine Mainviel¹, Prerna Sabharwal¹, Shallu Thakur¹, and Geoffrey Meru¹. ¹Tropical Research and Education Center, University of Florida IFAS, Homestead, FL. (gmeru@ufl.edu)

[P-21-V] **Key Quality Component and Bioactive Compound Analysis of Novel Calabaza Germplasm Lines.** Megan Kinsman^{1*}, Amarat Simonne², Steven Sargent³, Geoffrey Meru⁴, Carlene A. Chase³, and Andrew MacIntosh¹. ¹Food Science and Human Nutrition Department, University of Florida, Gainesville, FL. ²Family, Youth and Community Sciences Department, University of Florida, Gainesville, FL. ³Horticultural Sciences Department, University of Florida, Gainesville, FL. ⁴Tropical Research and Education Center, University of Florida IFAS, Homestead, FL. (m.kinsman@ufl.edu)

[P-22-V] **Screening Chili and Sweet Pepper Lines for Drought Tolerance and Hybrid Vigor for Leaf, Stem, and Fruit Quality Traits.** Alexander Butler^{1*}, Hailey Maurer¹, Emily Sanz¹, and Bala Rathinasabapathi¹. ¹Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL. (brath@ufl.edu)

Agroecology & Natural Resources Section

Bonnie Wells
Presiding
bcwells@ufl.edu

Monday Morning Session

(9:50 – 12:15) Grand Salon 2

9:50 Welcome and Introduction, Nickie Munroe.

A – Student Presentations

- 10:00 **The Use of Control Release Fertilizer in North Florida Field Corn Production.** [Jay Capasso](mailto:jcapasso@ufl.edu)^{1*}, Kelly Morgan², Vivek Sharma³, Kevin Athrearn⁴, Lakesh Sharma², Joel Love⁴,. ¹UF/IFAS Extension Columbia County, Lake City, FL, ²UF/IFAS Soil, Water & Ecosystem Sciences Dept, Gainesville, FL, ³UF/IFAS Agricultural & Biological Engineering Dept, Gainesville, FL, ⁴UF/IFAS North Florida REC Suwannee Valley, Live Oak, FL. (jcapasso@ufl.edu) [ANR-1]
- 10:15 **Alternative Sprinkler Systems for Reduced Water Use in Florida Strawberry Production.** [Josue St Fort](mailto:josue.stfort@ufl.edu)^{*}, Carlene A. Chase, and Vivek Sharma. School of Natural Resources and the Environment, Horticultural Sciences Department, Agricultural and Biological Engineering Department, Gainesville, FL. (cachase@ufl.edu) [ANR-2]

B – Agroecology

- 10:30 **Micro-forests yield macro benefits.** [Marguerite Beckford](mailto:mbeckford@ufl.edu)^{*}, UF/IFAS Extension Citrus County, Lecanto, FL. (mbeckford@ufl.edu) [ANR-3]
- 10:45 **Can Sargassum Compost be a Cost Effective Alternative for Growers?**
[Trent Blare](mailto:tblare@ufl.edu)^{*}, Afeefa A. Abdool-Ghany, Helena M. Solo-Gabriele, Department of Chemical, Environmental, and Materials Engineering at the University of Miami, FL. (tblare@ufl.edu) [ANR-4]
- 11:00 **Bamboo production practices in Florida: water and fertiliza**

Agroecology and Natural Resources Section

tion requirements. Davie Kadyampake*, UF/IFAS Citrus REC, Lake Alfred, FL. (dkadyampakeni@ufl.edu) [ANR-5]

11:15 **The rest of the story: Three years of research with "natural" herbicides and aquatic plants.** Lyn A Gettys*, Kyle L Thayer, Joseph W Sigmon, Jennifer H Bishop, UF/IFAS FLREC, Davie, FL. (lgettys@ufl.edu) [ANR-6]

C – Florida Friendly Landscaping

11:30 **Teaching Florida-Friendly Landscaping as Part of Youth Development Programming.** Leslie N. Munroe*, Kaitlyn McCarty, Andrea Lazzari, UF/IFAS Extension Indian River County, Vero Beach, FL. (lnmunroe@ufl.edu) [ANR-7]

11:45 **Case Study: Using the State Florida-Friendly Landscaping™ Survey to Estimate Water Savings.** Tiare Silvasy^{1*}, Jen Marvin², C.J. Bain², Esen Momol², ¹UF/IFAS Extension Hillsborough County, Seffner, FL, ²UF/IFAS Center for Land Use Efficiency (CLUE), Gainesville, FL. (tsilvasy@ufl.edu) [ANR-8]

12:00 **Agroecology & Natural Resources Section Business Meeting.** Presiding Nickie Munroe VP-Elect.

12:15 **Lunch**

Monday Afternoon Session

(1:20 – 4:45) Grand Salon 2

1:20 Welcome back and introductions

D – Natural Resources

1:30 **Birding: Introduce this Popular Hobby into Your Program for Success.** Jim E. Davis* UF/IFAS Extension Sumter County, Bushnell, FL. (dvisshdn@ufl.edu) [ANR-9]

1:45 **Field Trip to Deep Creek Preserve** – led by Volusia County Land Management, 964 S. State Road 415, New Smyrna Beach, FL, 32168

Meet in the lobby at 1:45 to depart for Deep Creek Preserve. Plan to drive your own vehicle or carpool. The drive is approximately 40 minutes and we have a presentation and tour planned at 2:30 pm.

We will meet our guide at the entrance of the preserve.

The 8,040 acre Deep Creek Preserve includes natural and agricultural features. The 8,040-acre Deep Creek Preserve includes natural and agricultural features. Two acquisitions make up this site, the first, a cattle and silviculture ranch purchased with funds from Volusia Forever and Volusia County Water and Utilities in 2010 as a key component toward the goal of acquiring a connected wildlife greenway through the Volusia Conservation Corridor. A naturally wet site, the plant communities of Deep Creek Preserve include dome swamps, basin swamps, wet and mesic flatwoods. Three trails traverse the preserve and all are open to hiking, bicycling, and horseback riding during the daylight hours. While exploring it, you may identify these distinct natural communities by the presence of certain trees and plants. Wildlife on the site may include deer, turkey, black bear, otter, fox, bobcat, coyote, Sherman's fox squirrel, gopher tortoise, bald eagle, swallow tailed kite, and wading birds. Participants should wear comfortable walking shoes, sunscreen, bug spray and water.

4:00 **Return to the Hotel**

4:45 **End of sessions.** See you next year for the 137th FSHS annual meeting!

Citrus Section

Lorenzo Rossi
Presiding
l.rossi@ufl.edu

Monday Morning Session

(9:50 – 12:00) Grand Salon 4-5

9:50 **Welcome and Introductions**, Lorenzo Rossi.

A – Student presentations

- 10:00 **Integrating cover crops and weed management practices in mature HLB-affected citrus trees.** [Gabriel Pugina](#)¹, Sarah L. Strauss¹, Ramdas Kanissery¹, Ute Albrecht^{1*}. ¹UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL (gabrieldecastro@ufl.edu) [C-1]
- 10:15 **Impacts of soil organic amendments and weed control practices on nutritional status and tree performance of Valencia sweet orange trees.** [Ankit Pokhrel](#)¹, Ramdas Kanissery¹, Sarah L. Strauss¹, Ute Albrecht^{1*}. ¹UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL (pokhrel.an@ufl.edu) [C-2]
- 10:30 **Fruit size as an indicator of drop likelihood in HLB-affected 'Valencia' sweet orange.** [Mary Sutton](#)¹, and Tripti Vashisth^{1*}. ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL (mary.sutton@ufl.edu) [C-3]
- 10:45 **Initial host response of sensitive and tolerant citrus varieties to *Candidatus Liberibacter Asiaticus* (CLas) transmitted by Asian Citrus Psyllid (ACP).** [Yuanzhi Jimmy Wang](#)¹, Xiaokang Zhuo¹, Ronald Tapia¹, Fahong Yu², Qibin Yu¹, Paige M. Holden¹, Riccardo Russo¹, Xu Wei¹, Frederick G. Gmitter, Jr.^{1*}. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; ²Interdisciplinary Center for Biotechnology Research, University of Florida, Gainesville, FL. (ywang8@ufl.edu) [C-4]
- 11:00 **Effect of exogenous silicon and potassium in improving cold tolerance in Satsuma mandarin.** [Scott Cruz](#)¹, Mujahid Hussain¹, Davie M. Kadyampakeni², Ali Sarkhosh³, and Muhammad Adnan Shahid^{1*}. ¹UF/IFAS North Florida Research and Education Center, Quincy, FL; ²UF/IFAS Citrus Research and Education Center, Lake

Alfred, FL; ³UF/IFAS Horticultural Sciences Department, Gainesville, FL (scruzarevalo@ufl.edu) [C-5]

- 11:15 **Exploiting OLL somaclonal-derived nucellar seedlings to improve juice quality of early-mid season varieties in the Florida Citrus Industry.** [Maria Brenelli](#)¹, and Jude Grosser^{1*}. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (mbrenellidepaiva@ufl.edu) [C-6]
- 11:30 **Interactions of four citrus scion/rootstock combinations in response to salinity stress.** [Neus Alcón Bou](#)¹, Edzar Van Santen², Sandra M. Guzmán¹, and Lorenzo Rossi¹. ¹UF/IFAS Indian River Research and Education Center, Fort Pierce, FL; ²UF/IFAS Agronomy Department, Gainesville, FL (neusalconbou@ufl.edu) [C-7]
- 11:45 **Impact of silicon on citrus performance: a review.** [Jose Prieto Fajardo](#)¹, and Davie M. Kadyampakeni^{1*}. ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (j.prietofajardo@ufl.edu) [C-8]
- 12:00 **Lunch**

Monday Afternoon Session

(1:10 – 5:00) Grand Salon 4-5

1:10 Welcome and Introductions

A – Student presentations (c'ed)

- 1:15 **Does Brassinosteroids application advance internal fruit quality in citrus?** [Divya Arya](#)¹, Saoussen Ben Abdallah¹, and Fernando M. Alferez^{1*}. ¹UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. (divyaaryal@ufl.edu) [C-9]
- 1:30 **Optimize 2,4-D applications and investigate alternatives for citrus calyx retention.** [Susan Mostert](#)¹, Paul Cronje², Wilma Du Plooy², Fernando M. Alferez^{3*}. ¹Department of Horticultural Science, University of Stellenbosch, South Africa; ²Citrus Research International (CRI), Nelspruit South Africa; ³UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. (20816707@sun.ac.za) [C-10]
- 1:45 **Effect of rootstock on the cold tolerance potential of Satsuma mandarin (*Citrus unshiu*).** [Mujahid Hussain](#)¹, Tie Liu², Ali Sarkhosh², William Hammond³, John Chater⁴, Kevin M. Folta², and Muhammad Adnan Shahid^{1*}. ¹UF/IFAS North Florida Research and Education Center, Quincy, FL. ²UF/IFAS Horticultural Sciences Department, Gainesville, FL; ³UF/IFAS Agronomy Department, Gainesville,

Citrus Section

FL (m.hussain1@ufl.edu) [C-11]

- 2:00 **The physiological responses of citrus tree roots to soil acidification.** Duplicate Sambani¹, Tripti Vashisth¹, and Davie M. Kadyampakeni^{1*}. ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (d.sabani@ufl.edu) [C-12]

B – Cultural practices, Soil and Nutrient Management

- 2:15 **Cover crop studies in citrus groves: a renewed interest in a century old soil management practice.** Lorenzo Rossi^{1*}, and Lukas M. Hallman¹. ¹UF/IFAS Indian River Research and Education Center, Fort Pierce, FL (l.rossi@ufl.edu) [C-13]
- 2:30 **Florida growers: perceptions of adopting cover crops in citrus production.** Tara Wade^{1*}, and Shourish Chakravarty¹. ¹UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL (tara.wade@ufl.edu) [C-14]
- 2:45 **Impact of cover crops on temporal nutrient uptake, distribution, availability, and water dynamics in the soil.** Miurel Brewer¹, Sarah L. Strauss², Ramdas Kanissery² and Davie M. Kadyampakeni^{1*}. ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; ²UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL (dkadyampakeni@ufl.edu) [C-15]
- 3:00 **Oak mulch to increase citrus groves soil health: conclusions from a 3-year study.** Lukas M. Hallman¹, John M. Santiago¹, and Lorenzo Rossi^{1*}. ¹UF/IFAS Indian River Research and Education Center, Fort Pierce, FL. (l.rossi@ufl.edu) [C-16]
- 3:15 **Effect of nitrogen and phosphorus rates on citrus leaf, soil nutrient concentrations, fruit yield, and postharvest quality of HLB affected citrus trees.** Alisheikh Atta¹, Davie M. Kadyampakeni¹, Samuel Kwakye¹, and Kelly Morgan^{2*}. ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. ²UF/IFAS Soil, Water and Ecosystem Sciences Department, Gainesville, FL. (aatta@ufl.edu) [C-17]
- 3:30 **Plant sap analysis as a tool to optimize fertilizer application for sustainable citrus production.** Guilherme Locatelli¹, John-Paul Fox¹, Neus Alcón Bou¹, John M. Santiago¹, Ashley E. Boyle¹, Lukas M. Hallman¹, Lorenzo Rossi^{1*}. ¹UF/IFAS Indian River Research and Education Center, Fort Pierce, FL. (locatellig@ufl.edu) [C-18]

C – Tree and Fruit Physiology

- 3:45 **Combining Individual Protective Covers (IPCs) and brassinosteroids to protect young citrus trees against *Diaphorina citri* and *Candidatus Liberibacter asiaticus*.** Saoussen Ben Abdallah¹, Ute Albrecht¹, Ozgur Batuman¹, Jawwad Qureshi¹, Fernando M. Alferez^{1*}. ¹UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. (saoussen.benabda@ufl.edu) [C-19]
- 4:00 **Efficacy of Gibberellic Acid treatment on HLB-affected 'Hamlin' Sweet Orange.** Taylor Livingston¹, and Tripti Vashisth^{1*}. ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL (tlivingston@ufl.edu) [C-20]
- 4:15 **Exploring circadian rhythms in HLB-affected sweet orange.** Shalini Pareek¹, Daniel Stenton¹, and Tripti Vashisth^{1*}. ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL (spareek@ufl.edu) [C-21]
- 4:30 **Profiling of HLB-symptomatic sweet orange fruit to understand the cause and mechanism of poor fruit attributes.** Meryam Manzoor¹, Mary Sutton¹, Taylor Livingston¹, and Tripti Vashisth^{1*}. ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL (Imanzoor@ufl.edu) [C-22]
- 4:45 **Citrus section business meeting.** Presiding Lorenzo Rossi, VP and John Chater, VP-elect
- 5:00 **Adjourn**

Tuesday Morning Session

(9:50 – 11:30) Grand Salon 4-5

- 9:50 **Welcome and introductions**

D – Breeding and genetic improvement

- 10:00 **Cold hardy citrus in North Florida: future prospects and challenges.** Muhammad Adnan Shahid^{*}. UF/IFAS North Florida Research and Education Center, Quincy, FL (mshahid@ufl.edu) [C-23]
- 10:15 **Hamlin N13-32: A somaclone under observation for HLB tolerance.** John Chater^{*}. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (jchater@ufl.edu) [C-24]

Citrus Section

- 10:30 **Identification of a new natural bud sport from the Flame grapefruit.** Manjul Dutt^{1*}, Lamiaa Mahmoud¹, and Gary England¹. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (manjul@ufl.edu) [C-25]
- 10:45 **Morphological and physiological changes to 'Valencia' sweet orange scion grafted onto Australian lime derived citrus rootstocks.** Lamiaa Mahmoud¹, Jude Grosser¹, and Manjul Dutt^{1*}. ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (lamia.mahmoud@ufl.edu) [C-26]
- 11:00 **HLB pathogen levels in juice across diverse citrus genotypes do not correlate with sensory and volatile profiles.** Gabriela Olmedo¹, Kristen Jeffries¹, Wei Zhao¹, Elizabeth Baldwin¹, Weiqi Luo¹, Zhen Fan², Xiuxiu Sun³, Matthew Mattia¹, Ed Stover¹, Anne Plotto¹, and Jinhe Bai^{1*}. ¹USDA-ARS Horticultural Research Laboratory, Fort Pierce, FL; ²UF/IFAS Gulf Coast Research and Education Center, Wimauma FL; ³USDA-ARS Daniel K. Inouye U.S. Pacific Basin Agricultural Research Center, Hilo, HI. (g.maria.olmedo@gmail.com) [C-27]
- 11:15 **Transcriptional analysis of carotenoids accumulation and metabolism in a pink-fleshed lemon mutant.** Giuseppe Lana^{1*}, Jaime Zacarias-Garcia², Gaetano Distefano³, Alessandra Gentile³, Maria J. Rodrigo² and Lorenzo Zacarias². ¹UF/IFAS Citrus Research and Education Center, Lake Alfred, FL; ²Food Biotechnology Department, Instituto de Agronomica y Tecnologia de Alimentos, Consejo Superior de Investigaciones Cientificas (IATA-CSIC), Paterna, Valencia, Spain; ³Department of Agriculture, Food and Environment, University of Catania, Catania, Italy. (giuseppelana@ufl.edu) [C-28]
- 11:30 **End of sessions.** See you next year for the 138th FSHS annual meeting in Orlando, FL!

Handling & Processing Section

Angelos Deltsidis
Presiding
adeltsidis@uga.edu

Monday Morning Session

(9:50 – 12:00) Grand Salon 3

9:50 **Welcome and Introductions.** Angelos Deltsidis.

A - Cultivar Evaluations

- 10:00 **Postharvest Performance of UF 'Marathon' Mandarin.** Cuifeng Hu¹, Fred G. Gmitter², Jude Grosser², and Mark A. Ritenour^{*1}. ¹Indian River Research and Education Center, University of Florida, IFAS, Fort Pierce, FL; ²Citrus Research and Education Center, University of Florida, IFAS, Lake Alfred, FL (ritenour@ufl.edu) [HP-1]
- 10:15 **Postharvest Evaluation of Elite Lettuce Germplasm in Non-traditional Areas of Florida.** Adrian Berry¹, Steven Sargent¹, Jesse Murray², Christian Christensen³, Robert Hochmuth⁴, and Germán Sandoya^{*2}. ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL; ²Everglades Research & Education Center, University of Florida, IFAS, Belle Glade, FL; ³Hastings Agricultural Extension Center, University of Florida, IFAS, Hastings, FL; ⁴North Florida Research & Education Center-Suwannee Valley, University of Florida, IFAS, Live Oak, FL. (gsandoyamiranda@ufl.edu) [HP-2]
- 10:30 **Total Phenolic Content of Peel and Flesh of Muscadine Grape Genotypes: A Comparative Study.** Fariborz Habibi^{*1}, Ali Sarkhosh¹, Patrick J. Conner², and Jeffrey K. Brecht¹. ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville FL; ²Department of Horticulture, University of Georgia, CAES, Tifton, GA. (fhhabibi@ufl.edu) [HP-3]

Handling & Processing Section

- 10:45 **A Comparison of the Effects of 1-MCP Treatment on Climacteric and Nonclimacteric Guava Fruits.** Madison Morgan¹, Jeffrey K. Brecht^{1*}, Steven A. Sargent¹, Moshe Doron¹, and Jonathan H. Crane². ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville FL; ²Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. (jkbrecht@ufl.edu) [HP-4]
- 11:00 **The Role of Aldehyde Dehydrogenase (ALDH) in the Metabolism of Alcohols, Aldehydes, and Esters in Ripe Fruits.** Yoshinori Ueda¹, Wei Zhao², Hideshi Ihara¹, Yoshihiro Imahori¹, Eleni Tsantili³, Sumithra K.Wendakoon⁴, Alan Chambers⁵, and Jinhe Bai^{*2}. ¹Osaka Metropolitan University, Sakai, Osaka, Japan; ²Horticultural Research Laboratory, USDA-ARS, Ft Pierce, FL; ³Agricultural University of Athens, Athens, Greece; ⁴Ryukoku University, Shiga, Japan; ⁵Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. (jinhe.bai@usda.gov) [HP-5]
- 11:15 **Effect of 1-methylcyclopropene and Cooling Method on Broccoli Quality during Storage.** Adrian Berry^{*}, Steven Sargent and Merce Santana. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL (adberry@ufl.edu) [HP-6]
- 11:30 **Evaluation of Akorn Semipermeable Fruit Coatings to Extend Mango Shelf Life by Creating an Internal Modified Atmosphere.** Faisal Shahzad, Jeffrey K. Brecht^{*}, Steven A. Sargent, and Moshe Doron. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. (jkbrecht@ufl.edu) [HP-7]
- 11:45 **Handling and Processing session business meeting.** Presiding Angelos Deltsidis, VP and Adrian Berry VP-elect
- 12:00 **Lunch**

Monday Afternoon Session

(1:20 – 5:00) Grand Salon 3

1:20 **Welcome back** – Angelos Deltsidis

B – Student Presentations

1:30 **Assessing the Effects of Gaseous Ozone Application During Cold Storage on Fresh Peach Quality.** Orestis Giannopoulos^{*1},

Ramsey Corn¹, Camille Esmel McAvoy¹, Dario Chavez², Angelos Deltsidis¹. ¹Department of Horticulture, University of Georgia, CAES, Tifton, GA ²Department of Horticulture, University of Georgia, CAES, Griffin, GA (orestis.g@uga.edu) [HP-8]

- 1:45 **Tissue-specific characterization of *Passiflora edulis* fruit reveals key proteins and pathways during postharvest shelf life.** Ellen Garcia*, Jin Koh², Ali Sarkhosh¹, and Tie Liu¹. ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ²The Interdisciplinary Center for Biotechnology Research, University of Florida, Gainesville, FL (ellengarcia11@ufl.edu) [HP-9]
- 2:00 **Salmonella cross-contamination risks between tomatoes and harvest bins during harvesting.** Mari Schroeder* and Michelle D. Danyluk. Food Science and Human Nutrition Department, University of Florida, Lake Alfred, FL. (mari.schroeder@ufl.edu) [HP-10]
- 2:15 **Use of Modified Carton Boxes Improves Airflow during Forced Air-Cooling Operations.** Ramsey Corn*, Orestis Giannopoulos, Camille Esmel McAvoy, and Angelos Deltsidis. Department of Horticulture, University of Georgia, CAES, Tifton, GA (ramsey.corn@uga.edu) [HP-11]
- 2:30 **Evaluating the Effect of Various Picking Intervals on the Stability and Postharvest Quality of Georgia-grown Blueberries.** Amit Godara*, Karoline Ponder, Ramsey Corn, Camille Esmel McAvoy, Zilfina Rubio Ames and Angelos Deltsidis. Department of Horticulture, University of Georgia, CAES, Tifton, GA (amit.godara@uga.edu) [HP-12]
- 2:45 **Evaluation of Surface Water Treatment Efficacy Protocol Using Calcium Hypochlorite Against *Salmonella* Spp. in Florida Water.** LaTaunya Tillman* and Michelle Danyluk. Food Science and Human Nutrition Department, University of Florida, IFAS, Lake Alfred, FL (tillmanl@ufl.edu) [HP-13]

3:00 **Coffee Break**

C – Postharvest Pathology, Disorders, and Stress

- 3:15 **Simulation of The Risk of Microbial Contamination for Dropped and Drooping Grapefruits and Strawberries with Ink.** Claudia A. Pegueros-Valencia*, Loretta M. Friedrich, Michelle D.

Handling & Processing Section

- Danyluk. Food Science and Human Nutrition Department, University of Florida, Lake Alfred, FL. (claudiapeguerosv@hotmail.com) [HP-14]
- 3:30 **Preharvest-Applied Fungicides for Postharvest Diplodia Stem-end Rot Control on Grapefruit.** [Jiuxu Zhang](mailto:jiuxuzhang@ufl.edu)¹, Jiaqi Yan², Monty Myers¹, Cuifeng Hu¹, Liliana M. Cano¹, Jinhe Bai³, Anne Plotto³, and Mark A. Ritenour^{*1}. ¹Indian River Research and Education Center, University of Florida, IFAS, Fort Pierce, FL; ²College of Horticulture, China Agriculture University, Beijing, China; ³US Horticultural Research Laboratory USDA, ARS, Fort Pierce, FL. (ritenour@ufl.edu) [HP-15]
- 3:45 **Florida's Extension Programs Prepare Produce Growers for Produce Safety Rule Inspection.** [Clara Diekman](mailto:cdiekman97@ufl.edu)^{1*}, Micah Gallagher², Matthew Krug³, Kirby Quam⁴, Chelsea Peebles⁴, Keith Schneider², Renee Goodrich², Michelle Danyluk¹, and Taylor O'Bannon¹. ¹Citrus Research and Education Center, University of Florida, Lake Alfred, FL; ²Food Science and Human Nutrition Department, University of Florida, Gainesville, FL; ³Southwest Florida Research and Education Center, University of Florida, Immokalee, FL; ⁴Florida Department of Agriculture and Consumer Services, Bartow, FL (cdiekman97@ufl.edu) [HP-16]
- 4:00 **Development of Innovative Tools for Understanding Postharvest Senescence in Ornamental Vegetables.** [Tie Liu](mailto:jiuxuzhang@ufl.edu)^{1*}, Utsab Ghimire¹, Eleni Pliakoni², Shinsuki Agehara³, Jeffrey Brecht¹. ¹Horticultural Sciences Department, University of Florida, Gainesville, FL; ²Department of Horticulture, College of Agriculture & Life Sciences, Kansas State University, Olathe, KS; ³Gulf Coast Research and Education Center, University of Florida, IFAS, Balm, FL (jiuxuzhang@ufl.edu) [HP-17]
- 4:15 **Maintaining Visual Quality and Fresh, Firm Texture During Countertop Ripening of Peach, Guava, and Passionfruit with Vented Containers.** [Sonya Leonore Stahl](mailto:cocoplum@ufl.edu)^{*} and Steven A. Sargent. Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL (cocoplum@ufl.edu). [HP-18]
- 4:30 **Can Mandarins Be Blended to Orange Juice and Still Maintain Orange Juice Flavor?** [Anne Plotto](mailto:anne.plotto@usda.gov)^{1*}, Jinhe Bai¹, Kristen Jeffries¹, Zhen Fan², Xiuxiu Sun¹, Elizabeth Baldwin¹, Matt Mattia¹, Ed Stover¹. ¹US Horticultural Research Lab, USDA, ARS, Fort Pierce, FL; ²Gulf Coast Research & Education Center, University of Florida, IFAS, Balm, FL (anne.plotto@usda.gov) [HP-19]

4:45 **End of sessions.** See you next year for the 137th FSHS annual meeting!

Krome Memorial Institute

Dr. Kimberly L. Morgan
Presiding
kimorgan@ufl.edu

Monday Morning Session

(9:50 – 12:00) Grand Salon 7 and by Zoom

9:50 **Welcome and Introduction**, Dr. Kimberly L. Morgan.

A – Tropical/Subtropical Fruits

10:00 **Identifying and Overcoming Barriers to Expanding Passion Fruit Production in Florida.** [Mark Bailey](mailto:Mark.Bailey@ufl.edu), University of Florida, Gainesville, FL. (ironhill@ufl.edu) [K-1]

10:15 **Evaluation of Papaya Cultivars in the Valley of Les Cayes, Haiti.** [Ludger Jean Simon](mailto:ljeansimon@auc.edu.ht)¹, Junior ARISTIL^{1,2}, Clenold RAYMOND¹, Sergio Duclona¹, and Pierre DUCCLONA¹ ¹American University of the Caribbean, Rd. Nationale No. 2, Charpentier, Les Cayes, Haiti; ²Centre de Recherche Interdisciplinaire pour la Vulgarisation Agricole et le Developpement Local (CREIVADEL), University Notre Dame d'Haiti, Rebon, Torbeck, Sud d'Haiti (ljeansimon@auc.edu.ht) [K-2]

10:30 **Identification of biological pathways of the carambola flavor using multi-omics.** [Jingwen Li](mailto:lijingwen@ufl.edu)^{*1}, Zhixin Wang¹, Jonathan Crane², and Yu Wang¹. ¹Food Science and Human Nutrition Department, University of Florida, IFAS, Gainesville, FL, ²Horticultural Sciences Department, University of Florida, Gainesville, FL. (lijingwen@ufl.edu) [K-3]

B – Berries

10:45 **Analysis of metabolomic profiles and evaluation of biological activities of six blackberry cultivars.** [Hana Lee](mailto:Hana.Lee@ufl.edu)¹, Zhanao Deng¹, Yu Wang². ¹Gulf Coast Research and Education Center, Uf/IFAS

Wimauma ²Citrus Research and Education Center, UF/IFAS, Lake Alfred . (lee.hana@ufl.edu) [K-4]

- 11:00 **Effects of foliar application of selenium and iodine on chemical and sensory characteristics of blackberry and raspberry fruits.** Carlos Henrique Milagres¹, [Francielle Roberta Dias de Lima](mailto:Francielle.Roberta.Dias.de.Lima@ufl.edu)², Everton G. Morais³, Gilson Gustavo Lucinda Machado⁴, Elano Pinheiro Pereira¹, Shinsuke Agehara², Luiz Roberto Guimarães Guilherme³, and Rafael Pio¹. ¹Department of Agriculture, Federal University of Lavras, Lavras, MG ²Gulf Coast Research and Education Center, University of Florida IFAS, Wimauma, FL ³Department of Soil Science, Federal University of Lavras, Lavras, MG ⁴Department of Food Science, Federal. (diasdelimaf@ufl.edu) [K-5]
- 11:15 **Nitrogen and Phosphorus Fertilization Rate Effects on Blueberry Fruit Quality.** [Gerardo H. Nunez](mailto:Gerardo.H.Nunez@ufl.edu), Lauren Goldsby, and Marlon Retana-Cordero. Horticultural Sciences Department, University of Florida, Gainesville. (g.nunez@ufl.edu) [K-6]
- 11:30 **Exploring Thornless Blackberry Cultivars while Comparing Trellising Styles in Containerized Production in North Florida.** [Evelyn "Prissy" Fletcher](mailto:Prissy.Fletcher@ufl.edu) and Christian Christensen. UF/IFAS Extension - St. Johns County. (pfetch@ufl.edu) [K-7]
- 11:45 **Utilizing Foliar Fertilization to Overcome Poor Soil Quality on a Blueberry Farm- A Case Study from Duval County.** [Stephen Jennewein](mailto:Stephen.Jennewein@ufl.edu)¹ and George Richardson¹. ¹UF/IFAS Extension, Duval County. (sjennewein@ufl.edu) [K-8]

12:00 **Lunch**

Monday Afternoon Session

(1:20 – 5:00) Grand Salon 7 and by Zoom

1:20 **Welcome and Introduction.** Dr. Kimberly L. Morgan

C - Student Presentations

1:30 **Blueberry response to different sources of salinity stress.** [Yasmeen Saleem](mailto:Yasmeen.Saleem@ufl.edu)^{1*} and Davie Kadyampakeni². ¹UF/IFAS Citrus Re-

Krome Memorial Institute

search and Education Center, Lake Alfred, FL; ²UF/IFAS Gulf Coast Research and Education Center, Wimauma.

(saleemyasmeen@ufl.edu) [K-9]

- 1:45 **A5-14-8: A Large Fruit Muscadine Breeding Selection for Table Grapes.** Zhongbo Ren, V. Tsolova, and I. El-Shakarway. Center for Viticulture, Florida A&M University Tallahassee, FL 3231. (zhongbo.ren@famuedu) [K-10]

D – Avocado

- 2:00 **A Farm Level Econometric Demand Model for Florida Green-skin Avocados.** Fredy H Ballen, Trent Blare. UF/IFAS, Tropical Research and Education Center, , Homestead. (fredy.ballen@ufl.edu) [K-11]
- 2:15 **Partial documentation of a new avocado fruit deformity.** Jonathan Crane.UF/IFAS, Tropical Research and Education Center, Homestead. (jhcr@ufl.edu) [K-12]
- 2:30 **Influence of Rootstock Ecotype on Physiological Responses and Survival of Avocado Trees to Flooding.** Melinda H. Yin, Ana I. Vargas, Edwin. A. Gutierrez-Rodriguez, Bruce Schaffer. UF/IFAS Tropical Research and Education Center, Homestead. (bas56@ufl.edu) [K-13]
- 2:45 **Break**

D – Grape

- 3:00 **The University of Florida’s grape breeding program: Historical insights and new directions.** Manjul Dutt.UF/IFAS, Citrus Research and Education Center, Lake Alfred, FL 33850. (manjul@ufl.edu) [K-14]
- 3:15 **C13-15-1: A Promising Muscadine Grape Breeding Line for White Wine.** Zhongbo Ren, V. Tsolova, and I. El-Shakarway. Center for Viticulture, Florida A&M University, Tallahassee, FL 32317. (zhongbo.ren@famuedu) [K-15]

E – Horticultural Production and Market-

ing Risk Management

- 3:30 **Krome Memorial Institute Business Meeting.** Presiding Kimberly Morgan VP and Muhammad Adnan Shahid VP-Elect
- 3:45 **Using information technology advances to better manage economic risks along specialty crop supply chain.** Kimberly Morgan. UF/IFAS, SW FL Research and Education Center, Immokalee. (kimorgan@ufl.edu). [K-17]
- 4:00 **Risk analysis of a novel bacterial disease management system.** Tara Wade, Lonege Ogisma, and Kelvin Amon. UF/IFAS, SW FL Research and Education Center, Immokalee. (tara.wade@ufl.edu). [K-18]
- 4:15 **The Oriental Fruit Fly Host Database.** Jeff Wasielewski, Cliff Martin, and Daniel Carrillo. UF/IFAS Miami-Dade Extension. (jwasielewski@ufl.edu). [K-19]
- 4:30 **David Fairchild's Plant Introduction Garden in Miami Celebrates 100 years of Horticultural Research.** Raymond G. McGuire. Friends of Chapman Field. (miarmc@comcast.net) [K-20]
- 4:45 **End of sessions.** See you next year for the 137th FSHS annual meeting!

Ornamental Garden and Landscape

Ashley Stonecipher
Presiding
ams2904@ufl.edu

(9:50 – 11:45) Grand Salon 1

9:50 **Welcome and Introductions.** Ashley Stonecipher.

A - Horticulture in the Greenhouse

10:15 **Measuring Nitrate in Leachate During Greenhouse Production of Philodendron, Green Princess, - Comparing Analysis Methods and Evaluating Results.** [Rory Cushen](mailto:rorycushenfl@gmail.com)^{*1}, Bryce Crosby², Malcolm M. Manners³, John L Griffis, Jr.⁴, Özlem Tuncay⁵. ¹Integrated Studies Dept., Florida Gulf Coast University, Ft. Myers, FL, ²Biology Department, Florida Southern College, Lakeland, FL, ³Horticultural Science Department, Florida Southern College, Lakeland, FL, ⁴Ecology and Environmental Studies Department, Florida Gulf Coast University, Ft. Myers, FL, ⁵Horticulture Dept. Ege University, Izmir, Turkey. (rorycushenfl@gmail.com) (brycecrosby5@gmail.com) [OGL-1]

B - Homeowner Gardening

10:30 **Promoting Home Gardens and Healthier Eating through Garden to Table Workshops.** [Ashley Stonecipher](mailto:ams2904@ufl.edu)^{*1}, Terri Keith², UF/IFAS Extension Volusia County, UF/IFAS Extension Jackson County. (ams2904@ufl.edu) [OGL-2]

10:45 **Encouraging Homeowner Citrus.** [David Austin](mailto:davidaustin@ufl.edu)^{*1}. ¹UF/IFAS Extension Highlands County (davidaustin@ufl.edu) [OGL-3]

11:00 **Plant of the Month: Serving up bite-sized information from plant to plate.** [Cynthia Nazario-Leary](mailto:cnazarioleary@ufl.edu)^{*1}, Martha Maddox¹, Kevin Korus¹. ¹UF/IFAS Extension Alachua County. (cnazarioleary@ufl.edu) [OGL-4]

C - Commercial Horticulture

- 11:15 **Designing Climate-smart Extension for the Commercial Horticulture Industry in Florida.** Henry Mayer^{*1}, Yvette Goodie^{*2} Donald Rainey³ Michael Orfanedes⁴ Hamutahl Cohen⁵, Ryan Klein⁶ and John Roberts⁷. ¹UF/IFAS Extension Miami-Dade, ²UF/IFAS Extension Martin County, ³UF/IFAS Broward County, ⁴UF/IFAS Collier County, ⁵UF/IFAS Palm Beach County, ⁶UF/IFAS Environmental Horticulture Department, ⁷UF/IFAS Regional Specialist Agent (hmayer@ufl.edu) [OGL-5]
- 11:30 **Ornamental, Garden and Landscape section business meeting.** Presiding Ashley Stonecipher VP and David Austin VP-Elect.
- 11:45 **Lunch**

Monday Afternoon Session

(12:50 – 2:15) Grand Salon 1

- 12:50 **Welcome and Introduction.** Ashley Stonecipher

D - Student Presentation

- 01:00 **Performance of Philodendron ,Green Princess, grown under various light levels and fertilizer regimes.** Bryce Crosby^{*1} Malcolm M. Manners², John L Griffis, Jr.³, Susan A Serrano⁴. ¹Biology Department, Florida Southern College, Lakeland, FL, ²Horticultural Science Department, Florida Southern College, Lakeland, FL, ³Ecology and Environmental Studies Department, Florida Gulf Coast University, Ft. Myers, FL, ⁴Mathematics Department, Florida Southern College, Lakeland, FL. (brycecrosby5@gmail.com) [OGL-6]

E - Native Plants

- 01:15 **Multi-agent collaboration for rethinking a native landscape as an educational tool.** Emily Marois^{*1}, Anna Mészáros¹, Kara Krueger¹, Frank Dowdle¹, Matthew VanWeelden¹. ¹UF/IFAS Extension Palm Beach County. (emarois@pbcgov.org) [OGL-7]
- 01:30 **How Does Consumers, Knowledge of Native and Pollinator-**

Ornamental, Gardening & Landscape Section

Friendly Plants Impact Their Plant Purchase Decisions? [Hayk Khachatryan](#)^{*1}, Xuan Wei², Melinda Knuth³ UF/IFAS Mid-Florida Research and Education Center. (hayk@ufl.edu) [OGL-8]

F - Horticulture Management

- 01:45 **Viburnum Disease Management During Propagation.** Shawn Steed^{*1} UF/IFAS Extension, [Wael Elwakil](#)^{*1}, Marissa Cassaway², and Gary Vallad². ¹UF/IFAS Extension, Hillsborough County, ²Gulf Coast Research and Education Center. (wael.elwakil@ufl.edu) [OGL-9]
- 02:00 **Palm Fruit Management.** [A.D. Ali](#)^{*1}, Don Hodel², Manny Nassar¹, Leonard Burkhart¹. ¹The Davey Institute, The Davey Tree Company, ²University of California Cooperative Extension, ³ad.ali@davey.com [OGL-10]
- 02:15 **End of sessions.** See you next year for the 137th FSHS annual meeting!

Vegetable Section

Lisa Hickey

Presiding

lisa.hickey@ufl.edu

Monday Morning Session

(9:50 – 12:00) Grand Salon 8

9:50 **Welcome and Introductions.** Lisa Hickey, VP

A – Breeding

10:00 **Developing artichoke as a new winter crop in Florida through cultivar selection and vernalization.** [Shinsuke Agehara](mailto:sagehara@ufl.edu)* and Weining Wang. Gulf Coast Research and Education Center, University of Florida IFAS, Wimauma, FL. (sagehara@ufl.edu) [V-1]

10:15 **Genetic Mechanisms underlying Nuclear Male-Sterility in Squash.** [Geoffrey Meru](mailto:gmeru@ufl.edu)*, Emily Wang, Yuqing Fu, and Vincent Michael. Tropical Research and Education Center, University of Florida, IFAS, Homestead, FL. (gmeru@ufl.edu) [V-2]

B – Cultivation

10:30 **Cauliflower Production During Anticipated Climate Change Conditions.** G. Papathanasiou¹, P. Tsouvaltzis^{1,2*} and A.S. Sio-mos¹. ¹Vegetable Crops, Department of Horticulture, Aristotle University, Thessaloniki, Greece. ²Vegetable Horticulture, Horticultural Sciences Department, Southwest Research and Education Center- IFAS, University of Florida, Immokalee, FL. (ptsouv@ufl.edu) [V-3]

10:45 **Integrating Cover Crops as a BMP For Improving Soil Health into Commercial Vegetable Production.** Laura Jalpa and Rao Mylavarapu*. Soil, Water and Ecosystem Sciences Department, University of Florida, IFAS, Gainesville, FL. (raom@ufl.edu) [V-4]

11:00 **LED lights influence the volatile and nutritional quality of amaranth microgreens.** Marlee A. Trandel^{1*}, Jinhe Bai¹, Kristen Jeffries¹, Michael Hensley¹, Wesley Schonborn¹, Francesco Di Gioia² and Erin Roskopf¹. ¹United States Department of Agriculture -Agriculture Research, Citrus and Other Subtropical Products

Vegetable Section

- Research Unit, U.S. Horticultural Research Laboratory, Fort Pierce, FL. ²Department of Plant Science, Pennsylvania State University, University Park, PA. (marlee.trandel@usda.gov) [V-5]
- 11:15 **Tomato Production in Miami-Dade County – Challenges and Solutions.** Qingren Wang, UF/IFAS Extension Miami-Dade County, FL. (qrwang@ufl.edu) [V-6]
- 11:30 **Exploring the terroir of Florida hops through cone quality analysis and beer sensory evaluation.** Álvaro J. Bautista* and Shinsuke Agehara. Gulf Coast Research and Education Center, University of Florida, IFAS, Wimauma, FL (sagehara@ufl.edu) [V-7]
- 11:45 **Toward Breeding Sweet Mini Peppers Improved for Bacterial Spot Resistance.** Dominick Padilla^{1*}, Lucas Manko¹, Jeff Jones², and Bala Rathinasabapathi¹. ¹Horticultural Sciences Department, University of Florida, IFAS, Gainesville, FL. ²Plant Pathology Department, University of Florida, IFAS, Gainesville, FL. (dpadilla@ufl.edu) [V-8]
- 12:00 **Lunch**

Monday Afternoon Session

(1:20 – 4:45) Grand Salon 8

- 1:20 **Welcome back and introductions.** Lisa Hickey, VP
- 1:30 **Vegetable Section Business Meeting.** Presiding Lisa Hickey, VP and Alex Bolques, VP Elect.

C- Student Presentations

- 1:45 **Comparing Corn Silk Fly Populations in Sweet Corn Fields and Surrounding Habitats.** Larissa Pereira Lima^{1*}, Julien Beuzelin¹, Dakshina Seal², Sandra Allan³. ¹Everglades Research and Education Center, University of Florida IFAS, 3200 E Palm Beach Rd, Belle Glade, FL 33430; ²Tropical Research and Education Center, University of Florida IFAS, 18905 SW 280 St, Homestead, FL 33031; ³Center for Medical, Agricultural and Veterinary Entomology, USDA-ARS, 1700 SW 23rd Dr, Gainesville, FL 32608. (lpereiralima@ufl.edu) [V-9]
- 2:00 **Effect of Cover Crop Species Proportion on Plant-Parasitic Nematode Populations under Greenhouse Conditions in Florida.** Jean Maude Louizias¹, Johan Desaeger², Rosalie L.

Koenig³, Gabriel Maltais-Landry⁴, and Carlene A. Chase¹. ¹Horticultural Sciences Department, [University of Florida IFAS, Gainesville, FL](#). ²Gulf Coast Research and Education Center, University of Florida IFAS, Wimauma, FL. ³Agromomy Department, University of Florida IFAS, Gainesville, FL. ⁴Department of Soil, Water, and Ecosystem Sciences, University of Florida IFAS, Gainesville, FL. (jlouizias@ufl.edu) [V-10]

- 2:15 **Effect of Insecticide residue on the survival rate of *Catolaccus hunteri*, Biocontrol agent of pepper weevil *Anthonomus eugenii* Cano.** [Nagamani Kanchupati](#) and Dakshina Seal. Tropical Research and Education Center, University of Florida IFAS, Homestead, FL. (Kanchupati.n@ufl.edu) [V-11]
- 2:30 **Evaluation of Tropical Pumpkin for Yield and Horticultural traits in Florida.** [Perna Sabharwal](#)¹, Yuqing Fu¹, Vincent Njung'e Michael¹, and Geoffrey Meru¹. Tropical Research and Education Center, University of Florida, Homestead, FL. (prernasabharwal@ufl.edu) [V-12]
- 2:45 **Exploring the host range of the pathogen *Xanthomonas hortorum* pv. *vitiens* causal agent of bacterial leaf spot of lettuce.** [Byron Manzanero](#)^{*}, Calvin Odero, Katia Xavier, Germán Sandoya. Everglades Research and Education Centre, University of Florida IFAS, Belle Glade, FL. (bmanzanero@ufl.edu) [V-13]
- 3:00 **Tackling Nitrogen Fertilization for Improving Organic Celery Production: Fertilizer Source, Preplant Fertilization, and In-season Fertigation.** [Zachary Ray](#)¹, Lincoln Zotarelli¹, Gabriel Maltais-Landry², and Xin Zhao^{1*}. ¹Horticultural Sciences Department, University of Florida, Gainesville, FL. ²Department of Soil, Water, and Ecosystem Sciences, University of Florida, Gainesville, FL. (zxin@ufl.edu) [V-14]
- 3:15 **Afternoon Break**

D – Fertilization and Irrigation

- 3:30 **Comparing Aluminum Tolerance of Two Primary Potato Varieties Grown in Florida.** Qiansheng Li, Marina Curtis Gluck^{*}, Guodong Liu. (M.curtis@ufl.edu) [V-15]
- 3:45 **Effects of Oxygen Fertilization on Phosphorus Nutrition and Tuber Yield of Potato Grown in Northeast Florida.** Guodong

Vegetable Section

Liu*, Qiansheng Li, and Marina Gluck. Horticultural Sciences Department, University of Florida IFAS, Gainesville, FL.
(quodong@ufl.edu) [V-16]

E – General Category

- 4:00 **Boosting Farm Incomes with Maize Production in Zambia.**
Godfrey Ejimakor^{1*}, Tiberious Etyang², Leonard Sonnenschein², Brian Gondwe³, Violet Nkhoma³, Sydney Mwamba⁴, Douglas Mwasi⁵, Chungu Chalilwe⁵, and Dickson Matulula⁵ ¹North Carolina A&T State University, ²Salvation Farming Solutions, LLC, ³Zambia Agricultural Research Institute, ⁴Policy Monitoring and Research Centre, and ⁵Catholic Relief Services Zambia.
(ejimakor@ncat.edu) [V-17]
- 4:15 **Exploring Computer Vision Approaches Towards Water Vapor Condensation Detection on Fresh Produce Surfaces.**
Spencer Serrano* and Ziyne Boz. Agricultural and Biological Engineering, 120 Frazier-Rogers Hall, University of Florida, Gainesville, FL. (serranos@ufl.edu) [V-18]
- 4:30 **Understanding & Bridging the Gap Between Consumers, Growers, Researchers and Stakeholder .** Alejandro Bolques^{1*}, Zhifeng Gao², Derek Farnsworth², Md Azhar Uddin². ¹Research and Extension University, Florida Agricultural and Mechanical University, Quincy, FL. ²Food and Resource Economics Department, University of Florida IFAS, Gainesville, FL.
(alejandro.bolques@famu.edu) [V-19]
- 4:45 **Adjourn**

Tuesday Morning Session

(9:50 – 10:45) Grand Salon 8

9:50 **Welcome and Announcements.** Lisa Hickey, VP

E – Pest Management

- 10:00 **Chemical delivery is critical to successful control of root-knot nematodes in squash: a case study of fluazaindolizine.**
Qingchun Liu* and Shouan Zhang. Tropical Research and Education Center, Department of Plant Pathology, University of Florida IFAS, Homestead, FL. (q.liu1@ufl.edu) [V-20]

- 10:15 **Chemical control of a new weevil pest of celery in Florida.** Julien Beuzelin^{1*}, Anna Mészáros². ¹ Everglades Research and Education Center, University of Florida/IFAS, Belle Glade, FL. ²University of Florida IFAS Extension, Palm BrWest Palm Beach, FL. (jbeuzelin@ufl.edu) [V-21]
- 10:30 **Management of *Listronotus sparsus* in parsley with foliar and drench insecticide applications.** Anna Mészáros^{1*}, Julien Beuzelin², Craig Frey³. ¹Palm Beach County Extension, University of Florida IFAS, West Palm Beach, FL. ²Everglades Research and Education Center, University of Florida IFAS, Belle Glade, FL. ³Hendry County Extension, University of Florida IFAS, LaBelle, FL. (ameszaros@ufl.edu) [V-22]
- 10:45 **End of sections.** See you next year for the 137th FSHS annual meeting!

In-Service Training– Agriculture

Tuesday Afternoon Session

Daytona Beach Hilton Oceanfront Resort, Daytona Beach, FL

1:00 P.M.—5:10 Grand Salon 6-7

“Use Plant Growth Regulators in Florida Horticulture Industry”

Organizers: Tripti Vashisth and Chris Oswalt

(tvashisth@ufl.edu; wcoswalt@ufl.edu)

Agenda

- 1:00 **Welcome and Introduction, pre-testing, background.** Dr. Tripti Vashisth and Chris Oswalt. UF/IFAS, Citrus Research and Education Center, Lake Alfred, FL
- 1:20 **What are PGRs?** Craig Campbell, Valent U.S.A. LLC, Winter Garden, FL
- 2:10 **Use of PGRs in vegetable production.** Dr. Shinsuke Agehara, UF/IFAS, Horticultural Sciences Department, GCREC, Wimauma, FL
- 2:50 **Break**
- 3:00 **Use of PGRs in blueberry production.** Drs. Jeffery Williamson and Gerardo Nunez UF/IFAS, Horticultural Sciences Department, Gainesville, FL
- 3:40 **Use of Auxins and Brassinosteroid in citrus to improve fruit growth and development. Dr. Fernando Alferez,** UF/IFAS, Horticultural Sciences Department, SWFREC, Immokalee, FL
- 4:20 **Rejuvenating HLB-affected trees with use of PGRs.** Dr. Tripti Vashisth UF/IFAS, UF/IFAS, Horticultural Sciences Department, Citrus Research and Education Center, Lake Alfred, FL

- 5:00 **Conclusion: questions, discussions, post-testing.** Dr. Tripti Vashisth and Chris Oswald, UF/IFAS, Citrus Research and Education Center, Lake Alfred, FL.
- 5:10 **Adjourn**

Mango Summit

Tuesday Afternoon Session

Hilton Daytona Beach Oceanfront Resort, Daytona Beach, FL

1:30 —3:45 PM Grand Salon 1-3 and zoom

Organizer: Noris Ledesma, UF/IFAS, Moderator: Dr. Kimberly Morgan, UF/IFAS SW Florida Research and Education Center

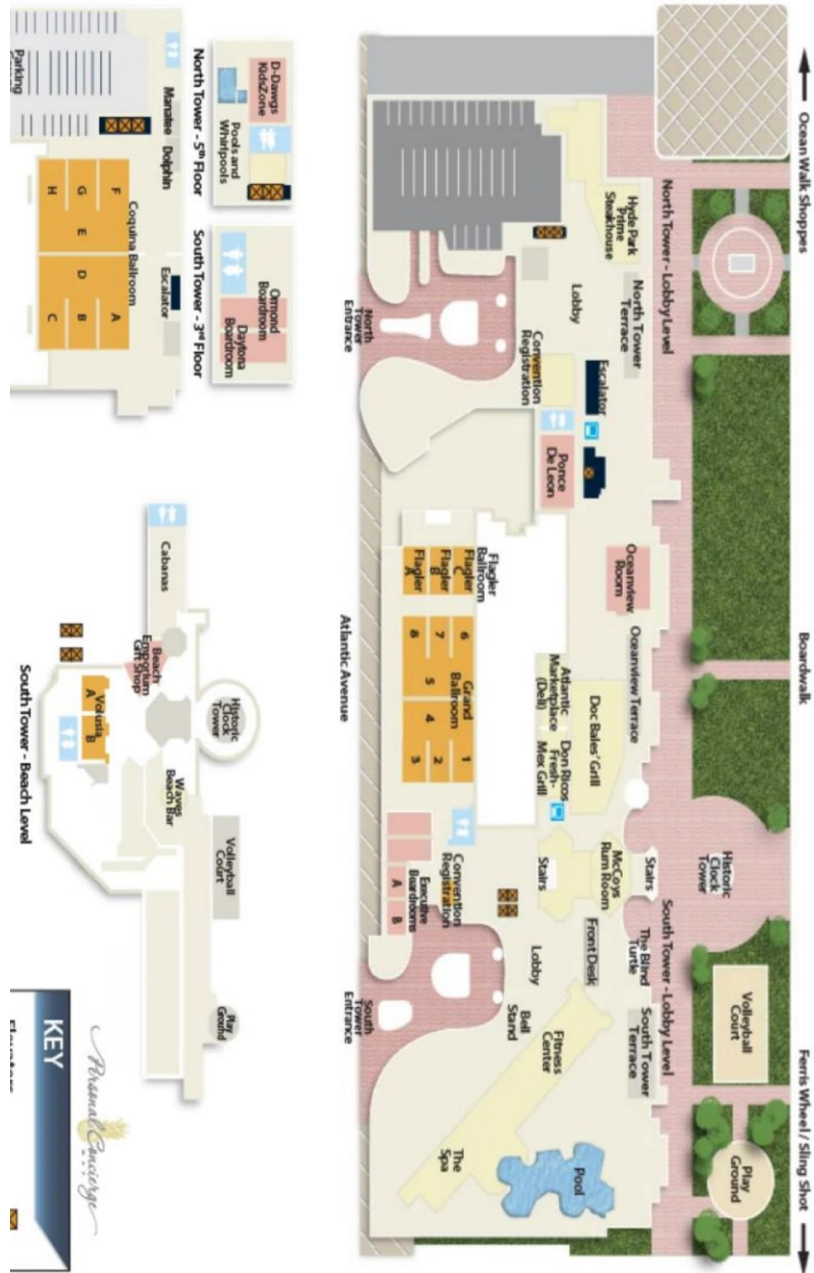
(norisledesma.mango@gmail.com and kimorgan@ufl.edu)

Agenda

- 1:30 **Welcome and Introductions.** Noris Ledesma, ¹Tropical Research & Education Center, University of Florida/IFAS, Homestead, Florida.
- 1:40 **Florida's Changing Mango Industry.** [Jonathan Crane](mailto:jhcr@ufl.edu)¹, R Jeff Wasielewski², Richard Campbell³, and Noris Ledesma¹ ¹Tropical Research and Education Center, University of Florida/IFAS, Homestead, FL, ²Miami-Dade County Extension Service, UF/IFAS, Homestead, FL, ³Ciruli Brothers, Tubac, AZ, (jhcr@ufl.edu) [K-20]
- 2:00 **Non-Destructive Techniques to Determine Optimal Harvesting Time in Exporting Mango Varieties in Mexico.** [Jorge Alberto Osuna-García](mailto:osuna.jorgealberto@inifap.gob.mx)¹, María Josefina Graciano-Cristóbal¹, and Ricardo Goenaga² ¹National Institute for Forestry, Agriculture and Livestock Research. Santiago Ixcuintla Experimental Station. Km. 6. Carret. Internacional México-Nogales, Entronque a Santiago Ixcuintla, Santiago Ixcuintla, Nayarit, México. C. P. 63300. ²USDA-ARS-Tropical Agriculture Research Station. Mayaguez, Puerto Rico 00680 (osuna.jorgealberto@inifap.gob.mx) [K-21]
- 2:20 **Botanical Characterization and Herbarium Specimens of Mangifera species.** [Noris Ledesma](mailto:norisledesma@ufl.edu)¹, Lyndon Carvajal², and Carlos Andres Paz Lopez², ¹Tropical Research & Education Center, University of Florida/IFAS, Homestead, Florida, ²Distrital University Francisco Jose de Caldas, Bogota, Colombia.

- 2:40 **Break**
- 3:00 **Mango Production in Mexico.** Sergio Roberto Márquez-Berber¹, Gustavo Almaguer-Vargas¹, Alma Velia Ayala-Garay², Diana América Reyna-Izaguirre³, and Abdul Khalil Gardezi⁴ ¹Crop Science Department, Chapingo Autonomous University, Texcoco, Estado de México, Mexico. ²Head of OCIMA. National Institute for Agricultural, Livestock and Forest Research, Texcoco, Estado de México, Mexico. ³Agricultural Industries Department, Chapingo Autonomous University, Texcoco, Estado de México, Mexico. ⁴Hidroscience Center. Postgraduate College, Texcoco, Estado de México, Mexico. (smarquezb@chapingo.mx) [K-23]
- 3:20 **Feasibility of Modified Atmosphere Packaging (MAP) Plus Ethylene Scrubbing for Extended International Shipping of Mangos.** Jeffrey K. Brecht¹, Steven A. Sargent¹, Faisal Shahzad¹, Moshe Doron¹, and Sergio Tonetto de Freitas² ¹Horticultural Sciences Department, UF/IFAS, Gainesville, FL 32611; ²Brazilian Agricultural Research Corporation, Embrapa, Petrolina, PE, Brazil. (jkbrecht@ufl.edu) [K-24]
- 3:40 **National Mango Board** Rolff V. Mitton, M. Michel, and Leonardo Ortega, National Mango Board. U.S.A. (rmitton@mango.org) [K-25]
- 4:00 **Adjourn**

Daytona Beach Hilton Hotel Map



Meet your 2024 FSHS Sectional Vice-Presidents!

Agroecology & Natural **Leslie Nicole Munroe**, UF/IFAS
Resources: Extension Indian River County,
lmunroe@ufl.edu

Citrus: **John Chater**, UF/IFAS Citrus
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Krome Memorial Institute: **Muhammad Adnan Shahid**,
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Education Center, mshahid@ufl.edu

Ornamental, Garden, & **David Austin**, UF/IFAS
Landscape: Highlands County, davidaustin@ufl.edu

Vegetables: **Alex Bolques**, FAMU,
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