133rd Annual Meeting of the Florida State Horticultural Society =
October 19 – 20, 2020
Virtual
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<tr>
<td>8:30-9:45</td>
<td>General Session</td>
<td>General Session TEAMS room</td>
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<tr>
<td>8:30</td>
<td>Welcome &amp; Introductions: Gene McAvoy</td>
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<td>8:40</td>
<td>Welcome &amp; Presidential Address: Jeff Williamson</td>
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<td>9:10</td>
<td>Keynote Speaker Sandy Wilson</td>
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**Monday Morning**

**Concurrent Monday Morning Sessions:**

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<tr>
<td>9:50-12:00</td>
<td>Agroecology &amp; Natural Resources</td>
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<td>9:50-12:00</td>
<td>Citrus</td>
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<td>9:50-12:00</td>
<td>Handling &amp; Processing</td>
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<td>9:50-12:00</td>
<td>Krome Memorial Institute</td>
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<td>9:50-12:00</td>
<td>Ornamental, Gardening &amp; Landscaping</td>
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<td>9:50-12:00</td>
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**Monday Lunch**

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<td>12:00-1:20</td>
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<td>Citrus</td>
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<td>1:20-2:00</td>
<td>Handling &amp; Processing</td>
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<td>1:20-3:30</td>
<td>Krome Memorial Institute</td>
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**Concurrent Monday Afternoon Sessions:**

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<tr>
<td>7:00</td>
<td>Virtual Reception</td>
<td>Lounge in TEAMS</td>
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**Tuesday Morning**

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<tr>
<td>8:30-9:45</td>
<td>FSHS Annual Business Meeting</td>
<td>General Session TEAMS room</td>
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**Concurrent Tuesday Morning Sessions**

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<td>9:50-12:00</td>
<td>Vegetable</td>
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2020 FSHS Patron Members

Theodore Winsburg
Anne Plotto
Ed Exteberria

Welcome 2020 FSHS
Sectional Vice Presidents

Agroecology & Natural Resources  Lyn Gettys  lgettys@ufl.edu
Citrus  Davie Kadyampakeni  dkadyampakeni@ufl.edu
Handling & Processing  Tie Liu  tieliu@ufl.edu
Krome Memorial Institute  Ron Rice  rwr@ufl.edu
Ornamental, Gardening & Landscaping  Wagner Vendrame  vendrame@ufl.edu
Vegetable  Germán Sandoya  gsandoyamiranda@ufl.edu
Posters  Taylor Clem  taylorclem87@ufl.edu
Poster Session

Taylor Clem
Coordinator

[P-1] Field Evaluation of a New Mechanical Strawberry Gripper Developed for Autonomous Harvesting. Shinsuke Agehara¹, Weining Wang¹, Jonah Mapes², and Yunjun Xu².
¹UF/IFAS, Gulf Coast Research and Education Center, Wimauma, FL, ²UF/IFAS Mechanical and Aerospace Engineering, Orlando, FL. (sagehara@ufl.edu)


[P-3] Varieties of Tomato Saladette Type: Plastic Mulches, Nutrition and Production in Greenhouse. Víctor García-Gaytán¹ and M. Elena Gómez-Cabrera². ¹El Colegio de Michoacán, A.C. Laboratorio de Análisis y Diagnóstico del Patrimonio, Michoacán, México, ²Universidad Politécnica de Pénjamo, Guanajuato, México. (garvitan@gmail.com)


[P-5] Landscaping for Livestock. Maxine Hunter and Caitlin Bainum. UF/IFAS Extension Marion County, Ocala, FL. (maxine32666@ufl.edu)

[P-6] Multispecies lawns: an alternative strategy for water conservation and ecosystem functions. Brooke Moffis¹, Basil Iannone², Wendy Wilber³, Adam G. Dale⁴, J. Bryan Unruh⁵, Julia Rczyba⁶, and Sandra B. Wilson⁶. ¹UF/IFAS Extension Lake County, Tavares, FL, ²UF/IFAS School of Forest Resources and Conservation, Gainesville, FL ³UF/IFAS Extension, Center for Landscape Conservation and Ecology, Gainesville, FL ⁴UF/IFAS Entomology & Nematology Department, Gainesville, FL ⁵UF/IFAS West Florida Research and Education Center, Jay, FL ⁶UF/IFAS Department of Environmental Horticulture, Gainesville, FL. (burnb48@ufl.edu)

[P-7] Harvest Yields for Sweet Corn Variety Trial in Northeast Florida. Wendy Mussoline¹, Juan Gonzalez², Marcio Resende², and Christian Christensen³. ¹UF/IFAS Extension Flagler/Putnam County, Bunnell, FL, ²UF/IFAS, Horticultural Sciences Department,
Comparison of Drought Tolerance in Five Blueberry Cultivars by Using Dehydration Leaf Assay. Amir Rezazadeh\textsuperscript{1} and Eric T. Stafne\textsuperscript{2}. \textsuperscript{1}UF/IFAS Extension St Lucie, Fort Pierce, FL. \textsuperscript{2}Coastal Research and Extension Center, Mississippi State University, Poplarville, MS. (amir2558@ufl.edu)

Increasing Adoption of Water-Saving Technologies on Farms. Tatiana Sanchez. UF/IFAS Extension Alachua County, Gainesville, FL. (tatiana.sanchez@ufl.edu)

Understanding Lettuce Downy Mildew, Pathogen Distribution and Available Host Resistance in Florida. Lis Natali R. Porto, Richard N. Raid, Germán V. Sandoya- Miranda. UF/IFAS Everglades Research and Education Center, Belle Glade, FL. (gsandoyamiranda@ufl.edu)

Equipping Brevard County’s Turfgrass Industry with Sustainable Production Know-How through the Space Coast Golf and Turf Association. Bonnie C. Wells. UF/IFAS Extension Brevard County, Cocoa, FL. (bcwells@ufl.edu)

Extending Extension's Education to Half a Million. Hannah Wooten. UF/IFAS Extension Orange County, Orlando, FL. (hwooten@ufl.edu)

Surveys for Resistance-Breaking Tospoviruses in Southwest and South Florida Tomato Fields. Salih Yilmaz\textsuperscript{1}, Felicia Parks\textsuperscript{3}, Leon Lucas\textsuperscript{3}, H. Charles Mellinger\textsuperscript{3}, Tong Geon Lee\textsuperscript{4}, Samuel F. Hutton\textsuperscript{4}, Scott Adkins\textsuperscript{2}, Ozgur Batuman\textsuperscript{1}. \textsuperscript{1}UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. \textsuperscript{2}U. S. Horticultural Research Laboratory, USDA-ARS Fort Pierce, FL. \textsuperscript{3}Glades Crop Care Inc., Jupiter, FL. \textsuperscript{4}UF/IFAS, Gulf Coast Research and Education Center, Wimauma, FL. (saliyilmaz@ufl.edu)

Screening for Resistance to Stemphylium spp. In Florida-adapted baby spinach. Lis Natali R. Porto\textsuperscript{1}, Richard N. Raid\textsuperscript{2}, Germán V. Sandoya- Miranda\textsuperscript{1}. \textsuperscript{1}UF/IFAS Everglades Research and Education Center, Horticultural Sciences Department, University of Florida IFAS, Belle Glade, FL. \textsuperscript{2}Everglades Research and Education Center (EREC), Plant Pathology Department, University of Florida IFAS, Belle Glade, FL. gsandoyamiranda@ufl.edu
Agroecology & Natural Resources Section

Lyn Gettys
Presiding
lgettys@ufl.edu

Monday Morning Session

(9:50 AM – 12:00 PM)

9:50 Welcome and Introductions, Lyn Gettys

10:00 Connecting with Small Scale, Urban, Hobby and Community Garden Farmers through Video Mediums and Facebook Live. Lisa Hickey1, Sarah Bostick2 and Jessica Ryals3. 1UF/IFAS Manatee County Extension, Palmetto, FL, 2UF/IFAS Sarasota County Extension, Sarasota, FL, 3UF/IFAS Collier County Extension, Naples, FL (Lisa.Hickey@ufl.edu) [ANR-1]

10:15 Homeowners Perceptions of Florida Wildflowers for Ecological Landscaping. Tiare F Silvasy1. 1UF/IFAS Extension Orange County, Orlando, FL. (tsilvasy@ufl.edu) [ANR-2]

10:30 Investigating the Feasibility of Microorganisms in Hydroponic Systems. Michelle Incledon1 and Kimberly Moore1. 1UF/IFAS Fort Lauderdale Research and Education Center, Ft. Lauderdale, FL. (mincledo818@gmail.com) [ANR-3]

10:45 The Use of Algal Turf Scrubber (ATS) Biomass as a Slow-Release Fertilizer. Emily E. Becks, Kimberly A. Moore and H. Dail Laughinghouse. UF/IFAS Fort Lauderdale Research and Education Center, UF/IFAS, Davie, FL. (ebecks@ufl.edu) [ANR-4]

11:00 Sustainable Calcium Management and the Usage of Organic Acids: Impacts on Marketable Fruit Yield in Strawberries (Fragaria x ananassa). Jared Essman1, Michael J. Mulvaney2, Gabriel Maltais-Landry3, Shinsuke Agehara1. 1UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL, 2UF/IFAS West Florida Research and Education Center, Jay, FL, 3UF/IFAS Soil and Water Sciences Department, Gainesville, FL. (jp.essman@ufl.edu) [ANR-5]

11:15 Restoring a 1920’s Golf Course into an Ecological Park: A Case Study of the Rolling Hills. Tina McIntyre1, Kaydie McCormick1 and Audrey Genest2. 1UF/IFAS, Seminole
Student Presentations

11:30  **Plant diversity across agroecosystems representing different disturbance regimes in south Florida.** Cliff Martin, Daniel Calzadilla, and Zachary Brym. UF/IFAS Tropical Research and Education Center, Homestead, FL. ([brymz@ufl.edu](mailto:brymz@ufl.edu)) [ANR-7]

11:45  **Experiential Urban Forestry Extension: Tree-Juvenation Florida.** Marguerite M. Beckford. UF/IFAS Sarasota County Extension, Sarasota, FL. ([mbeckford@ufl.edu](mailto:mbeckford@ufl.edu)) [ANR-8]

12:00  **Evaluation of “Natural” Products for Water Hyacinth Control.** Lyn A. Gettys, Kyle L. Thayer and Joseph W. Sigmon. UF/IFAS Fort Lauderdale Research and Education Center, Davie, FL. ([lgettys@ufl.edu](mailto:lgettys@ufl.edu)) [ANR-9]

12:15  **Agroecology and Natural Resources Business Meeting**

12:30  **End of Section**
Monday Morning Session

(9:50 AM – 12:00 PM)

9:50 Welcome and Introductions, Davie Kadyampakeni

A - Citrus Horticultural Practices

10:00 Flushing pattern, Asian citrus psyllid colonization and Ca. Liberibacter asiaticus transmission in different graft combinations of citrus. Caroline de Favari Tardivo¹, Kim D. Bowman², Jawwad Qureshi¹, Ute Albrecht¹. ¹UF/IFAS, Southwest Florida Research and Education Center, Immokalee, FL, ²USDA-ARS, U.S. Horticultural Research Laboratory, Fort Pierce, FL. (ualbrecht@ufl.edu; caroline.defava@ufl.edu) [C-1]

10:15 Relative performance and gene expression patterns following abiotic and biotic stresses on open pollinated seedlings of S10 salt tolerant rootstock. Lamiaa M. Mahmoud¹,², Patrick Huyck¹, Christopher Vincent¹, Fred Gmitter¹, Jude W. Grosser¹, and Manjul Dutt¹. ¹UF/IFAS, Citrus Research and Education Center, Lake Alfred, FL, ²Pomology Department, Faculty of Agriculture, Mansoura University, Egypt. (manjul@ufl.edu; lamiaa.mahmoud@ufl.edu) [C-2]

10:30 Evaluation of Varying Rates of Manganese on HLB-Affected Trees (Valencia) in Florida. Samuel Kwakye, Davie Kadyampakeni, Tripti Vashisth. UF/IFAS, Citrus Research and Education Center, Lake Alfred, FL. (dkadyampakeni@ufl.edu; skwakye@ufl.edu) [C-3]

10:45 Rootstock effects on the performance of ‘Hamlin’ orange trees grown in HLB endemic conditions. Sudip Kunwar¹, Ute Albrecht¹, Jude Grosser². ¹UF/IFAS, Southwest Florida Research and Education Center, Immokalee, FL, ²UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (ualbrecht@ufl.edu; skunwar@ufl.edu) [C-4]

11:00 Canopy growth and physiological assessment of ‘Valencia’ orange trees (Citrus sinensis) with and without individual protective covers. Susmita Gaire, Fernando
Monday Afternoon Session

(1:20 PM – 3:00 PM)

1:20 PM Welcome and Introductions, Davie Kadyampakeni

A - Citrus Horticultural Practices (continued)

1:30 Implications of Huanglongbing (HLB) on Fruit Growth and Development of Sweet Oranges. Mary Sutton, Tripti Vashisth, Christopher Vincent. UF/IFAS, Citrus Research and Education Center, Lake Alfred, FL. (vashisth@ufl.edu) [C-9]

1:45 Horticultural attributes and root architecture of field grown ‘Valencia’ trees grafted on different rootstocks propagated by seed, cuttings, and tissue culture. Sameer Pokhrel¹, Ute Albrecht¹, Bo Meyerling¹, Kim D. Bowman². ¹UF/IFAS, Southwest Florida Research and Education Center, Immokalee, FL, ²USDA-ARS, U.S. Horticultural Research Laboratory, Fort Pierce, FL. (ualbrecht@ufl.edu) [C-10]
2:00 **Brassinosteroid and IAA influence on citrus fruit abscission.** Daniel Boakye, Fernando Alferez. UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. (alferez@ufl.edu) [C-11]

2:15 **Citrus Nutrition Trends in the Florida Citrus Industry.** Jamie Burrow, Tripti Vashisth UF-IFAS Citrus Research and Education Center, Lake Alfred, FL. (vashisth@ufl.edu) [C-12]

**B - Citrus Technologies, Entomology and Pathology**

2:30 **Developing a neutral electrolyzed water treatment for pest management in a citrus under protective screen production system.** Timothy Ebert, L. Waldo, P. Mungofa, W. Holmes, N. Mariner Jr., A. Schumann. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (tebert@ufl.edu) [C-13]

2:45 **Development of a Greenhouse Portable and Adjustable Prototype Sprayer to Analyze Fungal Biopesticide Deposition on Citrus Leaves.** Sandra Guzman¹, Eric Herrera¹, Pasco B. Avery¹, Robert C. Adair². ¹UF/IFAS Indian River Research and Education Center, Fort Pierce, FL. ²The Florida Research Center for Agricultural Sustainability, Vero Beach FL. (sandra.guzmangut@ufl.edu) [C-14]

3:00 **Adjourn**
Tuesday Morning Session

(9:50 AM – 11:00 AM)

9:50 Welcome and Introductions, Davie Kadyampakeni

B - Citrus Technologies, Entomology and Pathology (Continued)

10:00 Attraction of Asian citrus psyllid to metabolically engineered anthocyanin-producing lime. Nabil Killiny, and Manjul Dutt. UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. (nabilkilliny@ufl.edu) [C-15]

10:15 Performance of leaf wetness sensors for applicability in decision-support systems for management of citrus, blueberry, and strawberry diseases. André Bueno Gama and Natalia A. Peres. UF/ IFAS Gulf Coast Research and Education Center, Wimauma, FL. (nperes@ufl.edu) [C-16]

10:30 Chemical control of citrus rust mite, Phyllocoptruta oleivora (Ashmead). Jawwad Qureshi, Barry Kostyk. UF/ IFAS Southwest Florida Research and Education Center, Immokalee, FL. (jawwadq@ufl.edu) [C-17]

10:45 Incidence of Asiatic Citrus Canker on Poncirus And Poncirus Hybrid Accessions in A Florida Field Planting. Ed Stover¹, Chandrika Ramadugu², Mikeal Roose², Richard F. Lee³, Manjunath Keremane³. ¹USDA-ARS, U.S. Horticultural Research Laboratory, Ft. Pierce, FL. ²University of California, Riverside, CA, ³USDA-ARS National Clonal Germplasm Repository for Citrus and Dates, Riverside, CA. (ed.stover@usda.gov) [C-18]

11:00 End of Session
Monday Morning Session

(9:50 AM – 12:00 PM)

9:50   Welcome and Introductions, Tie Liu

10:00 Effect of ‘Tahiti’ Lime Fruit Size on the Percent of Juice Content Measured by the Standard USDA Volume Method and an Alternative Weight Method. Jonathan H. Crane¹, Steven A. Sargent², Carlos F. Balerdi³, and Jay Harrison⁴. ¹UF/IFAS Tropical Research and Education Center, Homestead, FL, ²UF/IFAS Horticultural Sciences Department, Gainesville, FL, ³UF/IFAS Miami-Dade County Extension, Homestead, FL, ⁴UF/IFAS Department of Statistics, Gainesville, FL. (jhcr@ufl.edu) [HP-1]

10:15 Steam Explosion of Orange Juice Processing Residues and their Potential Value. Randall G. Cameron, John A. Manthey¹, and Christina Dorado¹. ¹USDA-ARS, U.S. Horticultural Research Laboratory, Ft. Pierce, FL (christina.dorado@usda.gov) [HP-2]

10:30 Produce Safety in Florida: Education, Outreach, and Compliance. Taylor Langford¹, Joyjit Saha³*, Leah Tapley², Matthew Krug⁴, Travis Chapin³, Renée Goodrich¹, and Michelle Danyluk³. ¹UF/IFAS Food Science and Human Nutrition Department, UF/ IFAS Gainesville, FL, ²Florida Department of Agriculture and Consumer Services, Bartow, FL, ³UF/IFAS Citrus Research and Education Center, Lake Alfred, FL, ⁴UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. (mddanyluk@ufl.edu) [HP-3]

10:45 Using Omics Approaches to Understand Postharvest Storage Conditions of Broccoli (Brassica oleracea). Yogesh Ahlawat and Tie Liu. UF/IFAS Horticultural Sciences Department, Gainesville, FL. (tieliu@ufl.edu) [HP-4]

11:00 Biology and abundance of Cowpea weevil (Callosobruchus maculatus) on different leguminous seeds. Garima Garima and Dakshina Seal. UF/IFAS Tropical Research and Education Center, Homestead, FL. (garima.garima@ufl.edu) [HP-5]
11:15  **Food Safety and Regulatory Guidance for Florida Food Processors Operating Out of Shared-Use Commercial Kitchens.** Sarah Ellis¹, Jennifer Hagen², Jessica Ryals³, Matt Krug⁴. ¹UF/IFAS Citrus County Extension, Lecanto, FL, ²UF/IFAS Lee County Extension, Ft. Myers, FL, ³UF/IFAS Collier County Extension, UF/IFAS Naples, FL. ⁴UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL. ([mkrug@ufl.edu](mailto:mkrug@ufl.edu)) [HP-6]

11:30  **Handling and Processing Section Business Meeting**

12:00  **Lunch** (on your own)

### Monday Afternoon Session

(1:20 PM – 2:00 PM)

1:20  **Welcome and Introductions**, Tie Liu

### Student Oral Competition

1:30  **Recovery of Ripening by Mature Green Banana Fruit Following 1-Methylcyclopropene (1-MCP) Application.** Lan-Yen Chang and Jeffrey Brecht. UF/IFAS Horticultural Sciences Department, Gainesville, FL. ([lanyen.chang@ufl.edu](mailto:lanyen.chang@ufl.edu)) [HP-7]

1:45  **Sensory and Quality Analysis of HLB-Tolerant Citrus Cultivar Blends for Juice Production.** Charles Sims¹, Renée Goodrich-Schneider¹, Yu Wang², Zhifeng Gao¹, and Stephanie Hricik¹. ¹UF/IFAS Food Science and Human Nutrition Department, Gainesville, FL, ²UF/IFAS Citrus Research and Education Center, Lake Alfred, FL. ([goodrich@ufl.edu](mailto:goodrich@ufl.edu)) [HP-8]

2:00  **End of Section**
Monday Morning Session

(10:00 AM – 12:00 PM)

9:50  Welcome and Introductions, Ron Rice

A – Tropical Fruits

10:00 Evaluation of Vigor of 4 Mango Cultivars in South Florida. Noris Ledesma¹ and Javier Medina². ¹UF/IFAS Tropical Research & Education Center, Homestead, FL. ²Almería University, Almería, Spain. (norisledesma.mango@gmail.com) [K-1]

10:15 Current Recommendations for Control of Laurel Wilt and its Ambrosia Beetle Vectors in Florida’s Commercial Avocado Groves. Jonathan H. Crane¹, Daniel Carrillo¹, Edward A. Evans¹, Romina Gazis¹, Bruce Schaffer¹, Fredy Ballen¹ and Jeff Wasielewski². ¹UF/IFAS Tropical Research & Education Center, Homestead, FL. ²UF/IFAS Miami-Dade County Extension, Homestead, FL. (jhcr@ufl.edu) [K-2]

10:30 The Introduction and Utilization of Kasturi to South Florida (Mangifera casturi). Noris Ledesma¹, Tomas Ayala Silva² and Stephen Brady³. ¹UF/IFAS Tropical Research and Education Center, Homestead, FL. ²USDA, Mayaguez, Puerto Rico. ³Naples Botanical Garden, Naples, FL. (norisledesma.mango@gmail.com) [K-3]

10:45 Establishing Management Practices to Reduce Economic Losses Caused by Major Diseases in the Production of Dragon Fruit in Florida. Tiago P. Lelis¹, Cheng-Fang Hong², Shouan Zhang¹, Jonathan H. Crane¹ and Romina Gazis¹. ¹UF/IFAS Tropical Research & Education Center, Homestead, FL. ²National Chung Hsing University, Taichung City, Taiwan. (r.gazisseregina@ufl.edu) [K-4]

11:00 ‘Jumbo Kesar’ Mango for South Florida. Noris Ledesma¹ and Bhaskar Savani². ¹UF/IFAS Tropical Research and Education Center, Homestead, FL. ²Savani Farms, Fort Washington, Pennsylvania. (norisledesma.mango@gmail.com) [K-5]
B – Student Presentations

11:15 **Artificial Chilling for Blackberry Production in Florida.** Christianah Oladoye, Jeffrey Williamson and Guodong Liu. UF/IFAS Horticultural Sciences Department, Gainesville, FL. ([guodong@ufl.edu](mailto:guodong@ufl.edu)) [K-6]

11:30 **Sustainable Strategies to Combat the Papaya Ringspot Virus.** Sarah E. Brewer and Alan H. Chambers. UF/IFAS Tropical Research and Education Center, Homestead, FL. ([sarah.brewer@ufl.edu](mailto:sarah.brewer@ufl.edu)) [K-8]

12:00 Lunch (on your own)

**Monday Afternoon Session**

(1:20 PM – 3:30 PM)

1:20 **Welcome and Introductions**, Ron Rice

C – Crop Management (Historical)

1:30 **University of Florida/IFAS, Tropical Research and Education Center – Efforts to Register Pest Control Substances for Florida’s Tropical Fruit Industry, 1993-2020.** Jonathan H. Crane¹, Rebecca Tannenbaum¹ and Janine M. Spies². ¹UF/IFAS Tropical Research and Education Center, Homestead, FL. ²IR-4 Southern Region, UF/IFAS Food and Environmental Toxicology Lab, Gainesville, FL. ([jhcr@ufl.edu](mailto:jhcr@ufl.edu)) [K-9]

D – Vanilla Breeding

1:45 **Vanilla Chromosome Counting – Techniques and Implications.** Maria Brym and Alan Chambers. UF/IFAS Tropical Research and Education Center, Horticultural Sciences Department, Homestead, FL. ([maria.brym@ufl.edu](mailto:maria.brym@ufl.edu)) [K-10]

2:00 **Breeding Specialty Vanilla for Production in the United States.** Alan Chambers. UF/IFAS Tropical Research & Education Center, Horticultural Sciences Department, Homestead, FL. ([ac@ufl.edu](mailto:ac@ufl.edu)) [K-11]

E – Subtropical Fruits and Other Crops
2:15  **O47-16-10: A PD Resistant and Premium Wine Producing Bunch Grape Hybrid with Later Bud Burst in Spring.** Z. Ren, V. Tsolova and I. El-Sharkawy. Florida A&M University, Tallahassee, FL. (zhongbo.ren@famu.edu) [K-12]

2:30  **An Improved Protocol for Efficient In-Vitro Micro-propagation of Two Blueberry Cultivars.** Matthew Creech¹*, Hanna Baz¹, Abigail Plontke¹ and Heqiang Huo¹,². ¹UF/IFAS Mid-Florida Research and Education Center, Apopka, FL. ²UF/IFAS Department of Environmental Horticulture, Gainesville, FL. (mcreech@ufl.edu) [K-13]

2:45  **Low Cost High Tunnel versus Open Field Production of Organically Grown Strawberries in North Florida: A Three-Year Evaluation.** Alex Bolques¹, Gilbert Queeley², Fanny Ospina¹ and Vonda Richardson². ¹Florida A&M University, Research and Extension Center, Quincy, FL. ²Florida A&M University Cooperative Extension Program, Tallahassee, FL. (alejandro.bolques@famu.edu) [K-14]

3:00  **Enhanced Rooting for Begonia Propagation by the Application of Soluble Carbon-Nanoparticles.** Matthew Creech¹*, Hanna Baz¹, Abigail Plontke¹ and Heqiang Huo¹,². ¹UF/IFAS Mid-Florida Research and Education Center, Apopka, FL. ²UF/IFAS Department of Environmental Horticulture, Gainesville, FL. (mcreech@ufl.edu) [K-15]

3:15  **Krome Memorial Section Business Meeting:** Ron Rice and Ali Sarkhosh
We need to finalize our next Krome VP-Elect!

3:30  **Adjourn** Krome Memorial Institute
Ornamental, Garden & Landscape Section

Wagner Vendrame
Presiding
vendrame@ufl.edu

Monday Morning Session

(9:50 AM – 12:15 PM)

9:50  Welcome and Introductions, Wagner Vendrame

A – Genetics & Breeding

10:00  UF-1013-1' ['Luscious(R) Royale Red Zone(TM)]: An Infertile Cultivar of Lantana camara. Zhanao Deng¹, Sandra B. Wilson², Xiaobao Ying¹, Chunxian Chen³, Rosanna Freyre², Victor Zayas², and David M. Czarnecki II¹. ¹UF/IFAS Gulf Coast Research and Education Center, Department of Environmental Horticulture, Wimauma, FL, ²UF/IFAS Department of Environmental Horticulture, Gainesville, FL, ³USDA-ARS, Fruit and Tree Nut Research Laboratory, Byron, GA (zdeng@ufl.edu) [OGL-1]

B – Micropropagation

10:15  Micropropagation of a Novel Cordyline Hybrid. David Beleski, Wagner Vendrame, Jian Jian Xu, Damaris Hernandez, Jane Nguyen, Daniella Menendez. UF/IFAS Department of Environmental Horticulture, Gainesville, FL (dbeleski@ufl.edu) [OGL-2]

C – Extension Programs

10:30  Provoking Behavior Change in Residential Fertilizer Users. Tina Mcintyre, UF/IFAS Extension Seminole County, Sanford, FL (k.mcintyre@ufl.edu) [OGL-3]

10:45  Shifting Tides: Lessons Learned from Virtual Plant Clinics. Michelle Leonard-Mularz, UF/IFAS Monroe County Extension Service, Key West, FL (mleonard@ufl.edu) [OGL-4]

D – Pests, Diseases and Weed Control

11:00  Estimating Neonicotinoid Insecticides Related Information Treatment Effects on Consumers’ Preferences for Ornamental Plant. Hayk Khachatryan, Xuan Wei, and Alicia
11:15 Selecting Preemergent Herbicides for Use in Container-grown Amaryllis. Shawn Steed¹ and Michael Sweet. ¹UF/IFAS Hillsborough County Extension, Seffner, FL, ²Sweet Dream Amaryllis, Valrico, FL (ststeed@ufl.edu) [OGL-6]

E – Student Presentations

11:30 Understanding of Genome Size and Chromosome Number Variation in Begonia. Julian Ginori¹,², Heqiang Huo¹,², Sandra Wilson¹ Zhanao Deng¹,³. ¹UF/IFAS Department of Environmental Horticulture, Gainesville, FL, ²UF/IFAS Mid-Florida Research and Education Center, Apopka, FL, ³UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL (julian08@ufl.edu) [OGL-7]

11:45 Morphological and Cytological Characterization of Six Porterweed Selections. Renjun Qian¹, Stephen B. Parrish², Sandra B. Wilson³, and Zhanao Deng². ¹Zhejiang Institute of Subtropical Crops, Zhejiang, China, ³UF/IFAS Gulf Coast Research and Education Center, Department of Environmental Horticulture, UF, IFAS, Wimauma, FL, ³UF/IFAS Department of Environmental Horticulture, Gainesville, FL (zdeng@ufl.edu) [OGL-8]

12:00 Lunch (on your own) and Adjourn Ornamental, Garden and Landscape Section
Vegetable Section

Germán Sandoya
Presiding
(gsandoyamiranda@ufl.edu)

Monday Morning Session

(9:50 AM – 12:00 PM)

9:50  Welcome and Introduction, Germán Sandoya

A. Production Systems

10:00  Promotion of Hops as an Alternative Crop in Florida using Group and Mass Media Extension Approaches. Mariel Gallardo¹, Aleyda Acosta-Rangel¹, Amanda Rivera¹, Zhanao Deng¹, Jack Rechcigl¹, Simon Bollin², and Shinsuke Agehara¹. ¹UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL, ²Agriculture Industry Development, Hillsborough County Economic Development Department, Tampa, FL. (sagehara@ufl.edu) [V-1]

10:15  Lettuce in Advanced Production Systems as an Early Fall Alternative Crop. Gary K. England¹, German Sandoya², Wendy Mussoline³ and Gustavo Kreutz². ¹UF/IFAS Hastings Agricultural Extension Center, Hastings, FL, ²UF/IFAS Everglades Research and Education Center, Wimauma, FL, ³UF /IFAS Flagler County Extension, Bunnell, FL. (gke@ufl.edu) [V-2]

10:30  Gas exchange responses of hops to hill spacing and nitrogen fertilization at different development stages in a subtropical climate. Aleyda Acosta Rangel¹, Tiare Silvasy¹, Jack Rechcigl¹, Simon Bollin² and Shinsuke Agehara¹. ¹UF/IFAS Gulf Coast Research and Education Center, UF/IFAS, Balm, FL, ²Agriculture Industry Development, Hillsborough County Economic Development Department, Tampa, FL. (sagehara@ufl.edu) [V-3]

10:45  Enhancing Strawberry Productivity using Drip Irrigation, Plastic Mulch, and New Cultivars in Bangladesh. Prosanta K. Dash¹, Carlene A. Chase², Shinsuke Agehara³, Lincoln Zotarelli². ¹Faculty of Agrotechnology Discipline, Life Science School, Khulna University, Khulna-9208, Bangladesh, ²UF/IFAS Horticultural Sciences Department,
11:00 **Characterization of leaf gas exchange in hops grown in the subtropical production system with supplemental lighting.** Aleyda Acosta Rangel¹, Jack Rechcigl¹, and Shinsuke Agehara¹. ¹UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL. (sagehara@ufl.edu) [V-5]

### B. Germplasm and Genetics 1

11:15 **Globe Artichoke Variety Trials Using Controlled-Release Fertilizer in Northeast Florida.** Evelyn “Prissy” Fletcher¹ and Gary England². ¹UF/IFAS St. Johns County Extension, St. Augustine, FL, ²UF/IFAS Hastings Agriculture and Extension Center, Hastings, FL. (pfletch@ufl.edu) [V-6]

11:30 **Developing Interspecific Bridge Lines between *Cucurbita pepo* and *C. moschata*.** Yuqing Fu¹, Vincent Michael, Pamela Moon, Christine Waddill, Shouan Zhang and Geoffrey Meru. UF/IFAS Tropical Research and Education Center, Homestead, FL. (yuqingf@ufl.edu) [V-7]

11:45 **The genetic diversity of the genus *Lactuca* for Fusarium wilt.** Gulnoza Hisamutdinova¹, Jesse J. Murray¹,², Richard N. Raid¹,³, Maria J. Truco⁴, Germán V. Sandoya¹,²,³. ¹UF/IFAS Everglades Research and Education Center, Belle Glade, FL, ²UF/IFAS Horticultural Sciences Department Gainesville, FL, ³UF/IFAS Department of Plant Pathology Gainesville, FL, ⁴University of California Davis Genome Center, Davis, CA. (gsandoyamiranda@ufl.edu) [V-8]

12:00 **Lunch** (on your own)

### Monday Afternoon Session

(1:20 PM – 4:45 PM)

1:20 **Welcome back and introductions - Germán Sandoya**

### C. Germplasm and Genetics 2

1:30 **Resistance to Cucurbit Leaf Crumple Virus in Squash.** Geoffrey Meru¹, Emily Wang¹, Yuqing Fu¹, Renato Carvalho², Melanie Kalischuk², and Matthews Paret². ¹UF/IFAS Tropical Research and Education Center, Homestead, FL, ²UF/IFAS North Florida Research and Education Center, Quincy FL. (gmeru@ufl.edu) [V-9]
1:45 QTL-seq for rapid mapping of genomic regions associated with Zucchini Yellow Mosaic Virus resistance in squash. Shrestha Swati, Yuqing Fu, Vincent Michael, Geoffrey Meru. UF/IFAS Tropical Research and Education Center, Homestead, FL 33031. (s.shrestha@ufl.edu) [V-10]

D. Pest Management 1

2:00 How economically important are thrips (Thysanoptera: Thripidae) to vegetable growers of South Florida? Dakshina Seal, Rafia Khan, Cathie Sabines, Rosan Adhikari and Shawbeta Seal. UF/IFAS, Tropical Research and Education Center, Homestead, FL (dseal3@ufl.edu) [V-11]

2:15 Alternative application strategy for nematode management in vegetable crops. Sarah da Silva Benevenute, Joshua Freeman, Rui Yang. UF/IFAS North Florida Research and Education Center, Quincy, FL. (joshuafr@ufl.edu; sbenevenute@ufl.edu) [V-12]

2:30 Management of diamondback moth, *Plutella xylostella* (Lepidoptera: Plutellidae) by using reduced-risk insecticides. Rafia A. Khan, Dakshina Seal, Cathie Sabines and Showbeta Seal. UF/IFAS Tropical Research and Education Center, Homestead, FL. (rkhan@ufl.edu) [V-13]

E. Student Presentations

2:45 Effect of a Multispecies Cover Crop on Root Colonization by Arbuscule Mycorrhizal Fungi. Thioro Fall1, Guodong Liu1, Elias Bassil2, Yuncong Li2, Bruce Schaffer2, Kelly Morgan3, and Andy Ogram4. 1UF/IFAS Horticultural Sciences Department, Gainesville, FL, 2UF/IFAS Tropical Research and Education Center, Homestead, FL, 3UF/IFAS Southwest Florida Research and Education Center, Immokalee, FL, 4UF/IFAS Soil and Water Sciences Department, Gainesville, FL. (guodong@ufl.edu; tfall@ufl.edu) [V-14]

3:00 Post-planting Root Growth Dynamics and Morphology of Bare-root and Plug Strawberry Transplants and Their Impacts on Field Performance. Jose Hernandez-Monterroza and Shinsuke Agehara. UF/IFAS Gulf Coast Research and Education Center, UF/IFAS, Wimauma, FL. (sagehara@ufl.edu; josev.hernandez@ufl.edu) [V-15]

3:15 QTL mapping of *Phytophthora* crown rot resistance in squash. Michael Vincent Njung’e1, Yuqing Fu1 and Geoffrey Meru1. 1Tropical Research and Education Center, UF/IFAS, Homestead, FL. (michael.vn@ufl.edu) [V-16]

3:30 Vegetative and Reproductive Response of Long Bean and Luffa to Different Level of Nitrogen Input in High Tunnel. Yanlin Wang1, Guodong Liu1, Gabriel Malaitis-Landry2, Bala Rathinasabapathi3, and Steven A. Sargent1. 1UF/IFAS Horticultural Sciences
Department, Gainesville, FL. 2F/IFAS Soil and Water Sciences Department, Gainesville, FL. (guodong@ufl.edu; yanlinewang66@ufl.edu) [V-17]

3:45  **Exogenous Gibberellic Acid and Cytokinin Effects on Budbreak, Flowering, and Yield of Blackberry Grown under Subtropical Climatic Conditions.** Syuan-You Lin and Shinsuke Agehara. UF/IFAS Gulf Coast Research and Education Center, UF/IFAS, Wimauma, FL. (sagehara@ufl.edu) [V-18 and K-16]

4:00  **Vegetable Business Meeting** - Germán Sandoya, VP and Lincoln Zotarelli, VP-Elect. Please volunteer to be a VP-Elect!

**F. Agricultural Engineering and Precision Agriculture**

4:30  **Application of sUAV to Improving Vegetable Crop Management.** Qingren Wang. UF/IFAS Extension Miami-Dade County. (qrwang@ufl.edu) [V-19]

4:45  End of Monday Session

**Tuesday Morning Session**

(9:50 AM – 11:45 AM)

9:50  **Welcome and introductions**, Germán Sandoya

**G. Nutrient Management**

10:00  **Evaluation of Biostimulant Products for Tomato Production in Florida.** Weining Wang, Christopher Delcastillo, Aleyda Acosta-Rangel, Syuan-You Lin, Jose Hernandez-Monterroza, Mariel Gallardo, and Shinsuke Agehara. UF/IFAS Gulf Coast Research and Education Center, Wimauma, FL. (sagehara@ufl.edu) [V-20]

10:15  **Rapid Identification of Phosphorous-Efficient Genotypes from Commercial Tomato Varieties.** Guodong Liu. UF/IFAS Horticultural Sciences Department, Gainesville, FL (guodong@ufl.edu) [V-21]

10:30  **Effect of IN-M1 Concentric® on Plant Growth and Yield of Tomato.** Qingchun Liu and Shouan Zhang. UF/IFAS Tropical Research and Education Center, Homestead, FL. (szhang0007@ufl.edu) [V-22]

10:45  **Physiological, growth and yield responses of yellow squash and snap bean to Potassium and Zinc foliar fertilizer.** Ana I. Vargas, Dakshina Seal, and Bruce Schaffer.
H. Pest Management 2

11:00  **Management of the Pepper Weevil, *Anthonomus eugenii* Cano (Coleoptera: Curculionidae) using Bio-rational Insecticides in Combination with other Management Strategies.** Victoria O. Adeleye¹, Dakshina Seal¹, Oscar Liburd², Heather McAuslane² and Hans Alborn³. ¹UF/IFAS Tropical Research and Education Center, Homestead, FL, ²UF/IFAS Entomology and Nematology Department, Gainesville, FL, ³UUSDA-ARS, Center for Medical, Agricultural and Veterinary Entomology, Gainesville, FL.  
* (vadeleye@gmail.com) [V-24]

11:15 **Management of pepper weevil *Anthonomus eugenii* Cano using rotations of insecticides.** Jawwad A. Qureshi and Barry Kostyk. UF/IFAS Southwest Florida Research and Education Center, UF/IFAS, Immokalee, FL.  
* (jawwadq@ufl.edu) [V-25]

11:30 **Distribution pattern of Thrips (Thysanoptera: Thripidae) and Tobacco streak virus in snapbean within South Florida.** Rosan Adhikari, Dakshina R. Seal, Rafia A. Khan. UF/IFAS Tropical Research and Education Center, Homestead, FL.  
* (adhikarirosan@ufl.edu) [V-26]

11:45 **Adjourn Vegetable Section**

12:00 **End of Meeting.** See you next year in Daytona Beach for the 133rd FSHS annual meeting!