

SWFREC News

September 2026

Celebrating research, innovation, and the people advancing agricultural science.

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WELCOME TO OUR TEAM!

Welcome Dr. Azita Varziri to UF/IFAS and SWFREC!

Please join us in welcoming **Dr. Azita Varziri**, who is joining **UF/IFAS** and **SWFREC** as a **State Specialized Agent II/IV in Family and Consumer Sciences**, specializing in **Food Business and Entrepreneurship**.

Dr. Varziri will work with aspiring and established food entrepreneurs, cottage food operators, and small and value-added food businesses across Florida. Her work will help entrepreneurs make informed business decisions and build strong foundations for long-term viability and growth.

Drawing on her background in **agricultural economics, marketing, and consumer research**, Dr. Varziri will develop and evaluate Extension programs and decision-support resources focused on business planning, market development, pricing, consumer needs, and other key aspects of food business management. Through education, technical assistance, and collaboration with Extension faculty and industry partners, she will help strengthen the business capacity and sustainability of Florida's food entrepreneurs.

We are excited to welcome Dr. Varziri to the SWFREC family and look forward to the expertise and new opportunities she will bring to Florida's food and agricultural communities. **Welcome to UF/IFAS and SWFREC, Dr. Varziri!**



IN THE NEWS

Want to know more about Florida's cottage food laws? Hear from the experts!

Dr. Stephanie Brown and **Jennifer Hagen** of UF/IFAS recently joined WGCU's Gulf Coast Life to share their expertise on cottage foods and what Florida law allows. Their work helps Floridians understand the rules for making and selling food from home.

- What foods can you sell?
- What are the rules for operating from your home?
- What should new cottage food entrepreneurs know?

Tune in to hear Dr. Brown and Jen Hagen explain it in their own words—and learn more about the important work they're doing to support Florida's cottage food community.

[Listen to the full interview on WGCU](#)

Gulf Coast Life

What are 'cottage foods' and what's allowed under Florida law?

▶ LISTEN • 24:04

by Mike Kiniry



Dr. Stephanie Brown, State Specialized Extension Agent for Food Science at University of Florida's Institute of Food and Agricultural Sciences' Southwest Florida Research & Education Center; and Jennifer Hagen, Family and Consumer Sciences agent with UF/IFAS' Lee County Extension office

COLLABORATION

Three Florida Universities Unite to Turn Soil Science Into Solutions for Florida's Water Quality

The **Soil Science Artificial Intelligence Lab**, led by **Dr. Nikolaos Tziolas**, is excited to be part of a new EPA-funded collaboration bringing together **Florida Gulf Coast University**, **Florida State University**, and **UF/IFAS** to address nutrient losses from agricultural lands and their connection to Florida's coastal water quality.

The project will investigate how humic acid can improve nutrient management, reduce nitrogen and phosphorus losses, and support crop productivity. Research will span controlled experiments, tomato field trials, watershed-scale modeling of the Peace River, and a pilot application in Southwest Florida.

The lab will also contribute AI agents and large language models (LLMs) to help translate research findings into practical decision-support tools for growers and stakeholders.

By connecting soil science, agriculture, hydrology, watershed modeling, and AI, the team aims to develop science-based pathways from the soil beneath our crops to the waters reaching the Gulf.

The project is led by **Dr. Ahmed Elshall (FGCU)**, **Dr. Ming Ye (FSU)**, and **Dr. Nikolaos Tziolas (UF/IFAS)** and will run through June 2029.



COLLABORATION

International Expert Shares New Perspectives on HLB Management

SWFREC recently welcomed **Prof. Alberto Urbaneja** of the **Valencian Institute of Agricultural Research (IVIA) in Valencia, Spain**, for an invited seminar on innovative approaches to managing Huanglongbing (HLB) and its vectors.

During his presentation, ***“Proactive Strategies Against HLB and Its Vectors: A Mediterranean Perspective,”*** Prof. Urbaneja shared insights from his extensive research on pest management in horticultural crops and highlighted proactive strategies being developed to address HLB before it becomes established in citrus-growing regions.

Prof. Urbaneja has been a longtime collaborator of SWFREC. His relationship with the center began nearly two decades ago through collaborations with Professor Phil Stansly and has continued through ongoing research partnerships with Dr. Jawwad Qureshi, Dr. Fernando Alferez and other SWFREC researchers.

A leading scientist in Mediterranean horticultural pest management, Prof. Urbaneja currently leads an international project focused on developing **new strategies to combat HLB worldwide and strengthen prevention efforts in Mediterranean citrus production regions**. His work combines innovative, state-of-the-art approaches to pest and disease management with an international perspective on the future of citrus production.

The seminar provided an excellent opportunity for SWFREC researchers, students, and collaborators to learn from Prof. Urbaneja’s expertise and to strengthen scientific connections between citrus research programs in Florida and the Mediterranean region.

Thanks Prof. Urbaneja for sharing your knowledge and for your continued collaboration with our research community.



Dr. Ok-Kyung Kim Reflects on Her Year at SWFREC

After spending a year as a **Research Scholar** at **SWFREC**, **Dr. Ok-Kyung Kim** recently shared her experience at the Center through a seminar titled ***“My Year at SWFREC: From New Experiences to Research.”***

During her presentation, Dr. Kim reflected on her time in the Citrus Pathology Lab, sharing highlights from her research as well as the knowledge, experiences, and new perspectives she gained throughout the year.

Over the past year, Dr. Kim has been a wonderful addition to the SWFREC research community, contributing to our research while building connections with colleagues and becoming part of the Center’s community.

We are grateful to have had Dr. Kim with us and to have shared this year of research, learning, and collaboration. **Thank you, Dr. Kim, and we wish you continued success in your research journey!**



AWARDS AND ACHIEVEMENTS

Congratulations to Dr. Jawwad A. Qureshi on receiving the 2026 Florida Government Productivity Award!

We are proud to **congratulate Dr. Jawwad Qureshi** on receiving the **2026 Florida Government Productivity Award!**

This prestigious award recognizes Dr. Qureshi's outstanding contributions, dedication to innovation, and commitment to improving productivity and delivering meaningful results. His work has made a significant impact and earned well-deserved recognition from the State of Florida. This achievement is a wonderful reflection of his leadership, expertise, and continued commitment to excellence.

Congratulations, Dr. Qureshi, on this well-deserved honor! We are proud to celebrate this outstanding achievement with you and look forward to your continued success.



Professor of Entomology Jawwad Qureshi, Ph.D.,
has been awarded a
**2026 Florida Government
Productivity Award**

Congratulations to Anastasia Kritharoula on Receiving a Scholarship!

Congratulations to **Anastasia Kritharoula**, PhD Student, on being selected to receive the **Doris Lowe and Earl and Verna Lowe Scholarship for Graduate Students** for the 2026-2027 academic year by the UF/IFAS College of Agricultural and Life Sciences.

The scholarship supports graduate students whose work contributes to agricultural and wildlife environments. We are proud of Anastasia's accomplishments and look forward to her continued success in advancing innovative technologies for agriculture.



Growing Success: Celebrating Three SWFREC Graduates

The Southwest Florida Research and Education Center (SWFREC) is proud to celebrate three graduate students who participated in the UF/IFAS graduation ceremony in early August and received their Master's degrees in Horticultural Science:

- 🎓 Igor Rodrigues da Silva
- 🎓 Sotiris Tasioulas
- 🎓 Bryan Merlos Osorio

Their graduate research has contributed to advancing horticultural science and addressing important challenges facing Florida agriculture. We also recognize their committee chairs for their mentorship and guidance:

- 🌿 Dr. Ute Albrecht, Plant Physiologist
- 🍊 Dr. Fernando Alferez, Citrus Horticulturist
- 🌿 Dr. Ramdas Kanissery, Weed Scientist

Congratulations to Igor, Sotirios, and Bryan on this significant accomplishment! We are proud of your hard work and dedication and wish you continued success in your careers and future endeavors.

Go Gators! 🐾🎓



RESEARCH AND INNOVATION

SWFREC Faculty Share Expertise at Citrus & Specialty Crop Expo 2026

The 2026 Citrus & Specialty Crop Expo brought together growers, researchers, industry professionals, and agricultural experts in Fort Myers to share the latest research, technologies, and strategies for Florida's citrus and specialty-crop industries. SWFREC faculty and staff played an important role in the program, sharing research-based solutions to some of the challenges facing Florida growers today.

From citrus health and pest management to soil health, precision agriculture, and vegetable production, SWFREC researchers covered a wide range of timely topics. **Dr. Ute Albrecht** discussed strategies for optimizing oxytetracycline (OTC) performance in citrus, while **Dr. Fernando Alferez** explored innovative approaches involving IPCs and brassinosteroids. **Dr. Ozgur Batuman** addressed thrips- and whitefly-transmitted tomato viruses, and **Dr. Yiannis Ampatzidis** highlighted advances in AI-enabled smart tree-crop sprayers.

The specialty-crop program also featured **Dr. Jawwad Qureshi** on biopesticides for managing key vegetable pests, **Dr. Ramdas Kaniserry** on nutsedge management in Florida plasticulture, and **Dr. Sarah Strauss** on the effects of fumigation on soil microbial communities and the role of soil microbes in citrus soil health.

Dr. Tara Wade provided insights into the costs and economics of bell pepper production in Southwest Florida, while **Dr. Sanjay Shukla** discussed the relationship between drainage ditches, field conditions, and yield variability, along with opportunities to improve production consistency. The program also highlighted the work of **Amanda McVay, Ph.D. student**, who presented research evaluating conventional fungicides for managing powdery mildew.

Together, these presentations showcased the expertise of our faculty and staff at SWFREC and the center's commitment to delivering science-based solutions that help Florida's growers improve crop health, productivity, and sustainability.



Panel Discussion: UF/IFAS: Dr. Ute Albrecht, Citrus growers: Larry Black and Jim Snively, Moderator: Frank Giles

RESEARCH AND INNOVATION

Entomology Team Showcases Research at Florida Entomological Society Meeting

The entomology team highlighted its diverse research portfolio at the **Florida Entomological Society Annual Meeting**, presenting studies focused on biological control, Asian citrus psyllid (ACP), huanglongbing (HLB), cover crops, and emerging agricultural pests.

Dr. Jawwad Qureshi presented research on the conservation and impact of natural enemies for suppressing ACP, *Diaphorina citri*, while **Dr. Sasha Clarke** shared field research evaluating combinations of antibiotics, insecticides, and gibberellic acid for managing ACP and HLB. **Dr. Chen Xuedong** presented research evaluating chemical control options for pepper weevil, an important pest of pepper crops.

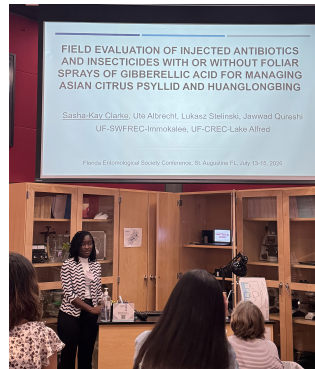
The meeting also provided an opportunity for graduate students to showcase their work. PhD students **Mohammed Usman** and **Seth Tsatsu** participated in the PhD Student Competition, presenting research on natural enemies and ACP populations in orchards using cover crops and management of *Nipaecoccus viridis* in citrus under individual protective covers.

The team's participation was further highlighted by student achievements. **Mohammed Usman** and **Seth Tsatsu** received **Travel Grant Awards**, and **Mohammed Usman** also received a **Mini Grant Competition Award**.

Together, the team's presentations reflected the breadth of ongoing entomology research, from biological control and conservation of natural enemies to cover-crop systems and chemical management of agricultural pests. Their participation also provided valuable opportunities to exchange ideas, share research findings, and build connections with colleagues across Florida's entomological and agricultural communities.

The team's strong presence at the meeting highlights the continued importance of research, collaboration, and student engagement in developing practical solutions for pest management in Florida agriculture.

**Researchers and students
share new findings
on citrus and vegetable
pest management**



RESEARCH AND INNOVATION

SWFREC Research Featured at American Society for Horticultural Science (ASHS) 2026

Faculty and graduate students from the **UF/IFAS Southwest Florida Research and Education Center (SWFREC)** showcased research at the **2026 American Society for Horticultural Science (ASHS) Annual Conference** in Dallas, Texas, highlighting innovative approaches to citrus health, HLB management and weed control.



The **Citrus Horticulture team** led by **Dr. Fernando Alferez** presented several studies focused on improving citrus performance under endemic Huanglongbing (HLB).

Dr. Fernando Alferez presented research combining individual protective covers (IPCs) and brassinosteroids to support recovery of HLB-affected trees.

Divya Aryal presented research on optimizing brassinosteroid application frequency to enhance citrus growth and physiological tolerance under HLB.

Pablo Orozco Quesada presented research on foliar CPA applications to reduce pre-harvest fruit drop in HLB-affected 'Hamlin' sweet orange, as well as a study evaluating Cu-cellulose-induced phytotoxicity and brassinosteroid mitigation. Orozco's fruit-drop research earned **second place in the ASHS Graduate Poster Competition at the Ph.D. level**.

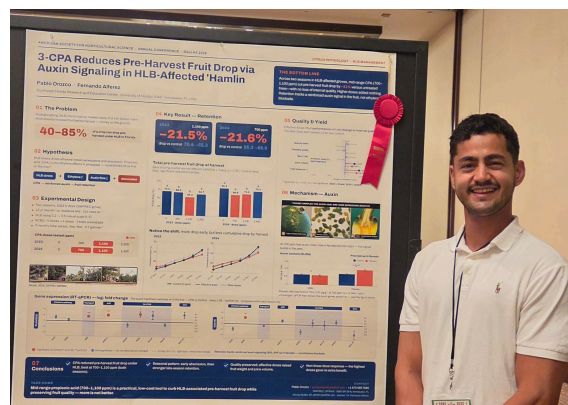


From the **Plant Physiology team**, led by **Dr. Ute Albrecht**, graduate student Igor Rodrigues da Silva presented research evaluating trunk-injection approaches for managing HLB while reducing injection-related injury.



Dr. Ramdas Kanissery, associate professor of **Weed Science**, presented research comparing the responses of yellow and purple nutsedge to pre-emergence herbicides, providing insights for improved weed-management strategies in Florida crops.

Together, these presentations showcased SWFREC's multidisciplinary research and its commitment to developing practical solutions for Florida growers while training the next generation of agricultural scientists.



SPOTLIGHT ON OUR RESEARCHERS

Faces Behind the Research: Meet Our PhD Students



Lauren Fessler Mathews, PhD Student

Plant Pathology

Lauren studies bacterial citrus diseases, focusing on practical solutions for Florida growers. Her work includes optimizing trunk injections and identifying new therapeutics for citrus greening - a disease that has decimated the state's citrus production in the past two decades. She is also investigating the prevalence of copper-resistant and copper-tolerant citrus canker bacteria across Florida. Her research aims to support sustainable citrus production and strengthen disease management throughout the industry.



Neelnayana Kalita, PhD Student

Agricultural and Biological Engineering

Neel researches rainwater movement through Florida's vegetable farms, where crops are grown on raised beds covered in plastic mulch. The work tracks water movement and determines the water available to crops, soil, and contribution to the Water Table. Her research has the capacity to equip Florida's expert growers with the data to fine tune water and nutrient use.

Faces Behind the Research: Meet Our Post-Docs Researchers

Munib Inam, PhD

Agricultural Natural Resources Economics

Munib conducts applied economic research on citrus production and natural resource management, examining the trade-offs that shape production and resource-use decisions.



Swarnali Mahmood

Soil Science Artificial Intelligence

Swarnali's research focuses on developing data-driven models to understand how weather variability, soil health, and management practices influence crop productivity and resilience in Integrated Crop-Livestock Systems (ICLS). The project combines biophysical and economic modeling to compare ICLS with conventional farming systems under different environmental and management scenarios, helping quantify yield stability, profitability, and production risk. Ultimately, the work aims to create science-based decision-support tools that guide farmers and stakeholders toward more resilient and sustainable agricultural systems.



PUBLICATIONS

Research Publications

Challenges and insights in UAV-based tomato yield estimation in commercial plasticulture systems, Mehran Homayounfar, Hadi Ghaderian, Gregory S Hendricks, Vijay P Santikari, Justin Schabow, Sanjay Shukla, *Discover Agriculture*, <https://doi.org/10.1007/s44279-026-00697-y>

LiDAR in precision agriculture for orchards and perennial tree crops: bibliometric analysis, sensor technologies, and algorithmic workflows, Wenhao Liu, Yiannis Ampatzidis, Benjamin Wilkinson, Won Suk Lee, John K Schueller, *Computers and Electronics in Agriculture*, <https://doi.org/10.1016/j.compag.2026.112049>

Non-Destructive Multinutrient Monitoring in Bahiagrass Pastures from UAV Multispectral Imagery Using a Machine-Learning Framework, Antonio de Oliveira Costa Neto, Yiannis Ampatzidis, Andrea Lazzari, Jim Fletcher, *Smart Agricultural Technology*, <https://doi.org/10.1016/j.atech.2026.102446>

Interpretable deep-learning DRASTIC for statewide nitrate-vulnerability mapping in Florida's surficial aquifer system, Seyed Mostafa Biazar, Namrata Ghimire, Golmar Golmohammadi, Nikolaos Tziolas, Young Gu Her, Ebrahim Babaeian, Saba Shaghghi, Koroush Mohammadi, *Progress in Disaster Science*, <https://doi.org/10.1016/j.pdisas.2026.100677>

Commercial Vegetable Production in Florida, Xavier Martini, Nicholas S Dufault, Ramdas Kanissery, Xiaoying Li, *EDIS*, <https://doi.org/10.32473/edis-cv100-2023>

2026–2027 Florida Citrus Production Guide: General Consideration for Use of PGRs in Citrus Groves in Florida: CPG vol. 2 ch. 2, CG103, 8/2026, Tripti Vashisth, Chris Oswalt, Mongi Zekri, Fernando Alferez, Jamie Burrow, Muhammad Shahid, *EDIS*, <https://doi.org/10.32473/EDIS-CG103-2026>

Compartment-Specific Functional and Taxonomic Responses of Plant Growth-Promoting Microbiomes Following Oxytetracycline Trunk Injection in Citrus, Antonio Castellano-Hinojosa, Jesús González-López, Sarah L Strauss, Ute Albrecht, *Journal of Sustainable Agriculture and Environment*, <https://doi.org/10.1002/sae2.70200>

2026–2027 Florida Citrus Production Guide: Herbicide Recommendation Tables: CPG vol 2. ch. 21, CG120, 8/2026, Ramdas Kanissery, Brent Sellers, *EDIS*, <https://doi.org/10.32473/EDIS-CG120-2026>

2026–2027 Florida Citrus Production Guide: Rust Mites, Spider Mites, and Other Phytophagous Mites: CPG vol. 2 ch. 6, CG106, 8/2026, Jawwad Qureshi, Lukasz Stelinski, Xavier Martini, Lauren Diepenbrock, *EDIS*, <https://doi.org/10.32473/EDIS-CG106-2026>

2026–2027 Florida Citrus Production Guide: Asian Citrus Psyllid: CPG vol. 2 ch. 4, CG104, 8/2026, Lauren Diepenbrock, Xavier Martini, Jawwad Qureshi, Lukasz Stelinski, *EDIS*, <https://doi.org/10.32473/EDIS-CG104-2026>

Granular Humic Acid Applications Have Limited Effects on Soil Properties and the Active Citrus Rhizosphere Microbiome in Sandy Subtropical Florida Soils, Emma K Dawson, Ute Albrecht, Sarah L Strauss, *Journal of Soil Science and Plant Nutrition*, <https://doi.org/10.1007/s42729-026-03503-2>

GeoSphere-DETR: RGB-D citrus fruit detection in cluttered orchards via geometry-gated fusion and geometry-aware confidence recalibration, Shiyu Liu, Yiannis Ampatzidis, Daeun Choi, Won Suk Lee, *Artificial Intelligence in Agriculture*, <https://doi.org/10.1016/j.aiia.2026.08.010>

Assessing diesel contamination in soils under bare and vegetated conditions using hyperspectral data, volatile organic compound measurements, and machine learning, Brierra T Mack, Samuel Aregbesola, Yang Lin, Nikolaos Tziolas, *Soil Security*, <https://doi.org/10.1016/j.soisec.2026.100248>

The Response of Soil Enzyme Activities to Functionally-Diverse Cover Crop Mixtures in Citrus Orchards Depends on Cover Crop Duration in Sandy Soils, Kendall Mackin, Sarah L Strauss, Yang Lin, Yaslin Gonzalez, James Colee, Gabriel Maltais-Landry, *Journal of Soil Science and Plant Nutrition*, <https://doi.org/10.1007/s42729-026-03514-z>

Spatiotemporal controls on soil organic carbon stocks in subtropical grazing lands: An uncertainty-aware digital soil mapping approach, Chang Zhao, Jiayi Song, José CB Dubeux Jr, Sabine Grunwald, Igor L Bretas, Hao-Yu Liao, Nikolaos Tziolas, Joel B Harley, Alina Zare, Ebrahim Babaeian, Liza Garcia, Luana MD Queiroz, Cristian TE Mendes, *Geoderma*, <https://doi.org/10.1016/j.geoderma.2026.118004>

SWFREC AND THE COMMUNITY

Thank You to Our Community Partners

Thank you to our generous community partners for supporting our upcoming Open House and helping us make this event possible.

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**For more info, contact Shea Teems
239-658-3431, ssteems@ufl.edu**

UPCOMING EVENTS

Food Safety Events

Produce Safety Alliance Grower Training

A one-day course for produce growers and packers who fall under the FSMA Produce Safety Rule.

- **September 23rd** - Homestead
<https://psa092326.eventbrite.com>
- **September 25th** - St. Augustine
<https://psa092526.eventbrite.com>
- **October 14th** - Jacksonville
<https://psa101426.eventbrite.com>
- **December 2nd** - Lake Alfred
<https://psa120226.eventbrite.com>

Food Safety Preventive Controls Alliance Training

A three-day course which teaches participants how to develop and document a Food Safety Plan for their operation based on the requirements of the FSMA Preventive Controls for Human Foods Rule.

- **October 20th - 22nd** - Lake Alfred
<https://fspca102026.eventbrite.com>

Food Safety Traceability Rule Training

A two-day hands-on course that provides participants with Food Traceability Rule knowledge and approaches to developing and implementing food traceability best practices.

- **September 30th - October 1st** - Lake Alfred - <https://bit.ly/4utryPH>

Remote- Produce Safety Alliance Grower Training

A three-day, three-hour virtual course for produce growers and packers who fall under the FSMA Produce Safety Rule.

- **October 6th - 8th** - <https://psa100626.eventbrite.com>
- **November 17th - 19th** - <https://psa111726.eventbrite.com>

For registration questions, please contact **Emmy Collins** (emilyscollins@ufl.edu)

Fall 2026 Flyer: <https://swfrec.ifas.ufl.edu/docs/pdf/events-agendas/26-Fall-Food-Safety-Calendar.pdf>

Open House: Save the Date!

When: **Tuesday, November 17, 2026**

You and your colleagues are cordially invited to the annual open house at the UF/IFAS Southwest Florida Research and Education Center (SWFREC).

Enjoy casual tours of our laboratories, guided trolley tours of our farm facilities, and educational science demonstrations. Learn about research, Extension, and other outreach activities that touch every community in southwest Florida.

Contact Us...



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