

SWFREC News

August 2026

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

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RESEARCH AND INNOVATION

Our Researchers Share Advances in Agricultural Research at Caribbean Conference

Dr. Yiannis Ampatzidis, Dr. Ozgur Batuman, and graduate student **Pedro Ramirez** from the **Citrus Pathology Program** represented the UF/IFAS Southwest Florida Research and Education Center (SWFREC) at the **58th Annual Meeting of the Caribbean Food Crops Society (CFCS)** and the **1st Annual Virgin Islands Agricultural Caribbean Conference**, held in the U.S. Virgin Islands in collaboration with the **American Phytopathological Society–Caribbean Division**.

Dr. Ampatzidis presented his research on “*AI-Enabled Plant Scouting for Greenhouse and Nursery Production: Early Detection of Germination, Vigor, and Seed-Borne Disease Issues*,” highlighting the potential of artificial intelligence technologies to improve crop monitoring and production efficiency.

Graduate student **Pedro Ramirez** presented “*First Report of a Sw-5-Resistance Breaking Strain of Tomato Spotted Wilt Virus Infecting Tomato in New Jersey*,” sharing important findings in plant disease research and management.

The conference provided an excellent opportunity for our team to showcase innovative research, exchange knowledge with agricultural professionals, and strengthen collaborations across the Caribbean region.



Dr. Yiannis Ampatzidis



Dr. Ozgur Batuman



Graduate student **Pedro Ramirez**

RESEARCH AND INNOVATION

SWFREC Students and Postdocs Shine at the 9th Annual South Florida Student and Postdoc Research Symposium

Eight students and two postdocs from SWFREC participated in the **9th Annual South Florida Student and Postdoc Research Symposium** hosted by the Tropical Research and Education Center at the Miami-Dade County Extension Office in Homestead FL.

This event aims to showcase the scientific achievements of student and postdoctoral researchers while fostering collaboration, professional growth, and scientific communication within the South Florida research community.



Students **Seth Tsatsu**, **Pedro Ramirez**, **Lauren Fessler Mathews**, **Selin Boga**, and **Samuel Aregbesola** gave oral presentations while **Anastasia Kritharoula**, **Sotirios Kechagias**, and **Wenhao Liu** presented posters in the student competition. Postdocs **Dr. Sasha-Kay Clarke** and **Dr. Munib Inam** also presented 5-minute flash talks.

All of the presentations captured the diverse and unique research being conducted at SWFREC. **Dr. Clarke** was awarded **1st in the postdoc competition** and **Wenhao Liu** took **second in the poster competition**.



Overall, the experience allowed students and postdocs alike to learn about research going on throughout the region and to network with colleagues from within and across departments.

RESEARCH AND INNOVATION

Celebrating Student Success: Ph.D. Student Wenhao Liu Earns National Recognition at the 2026 ASABE Annual International Meeting.



Wenhao Liu, a Ph.D. student in the **Precision Agricultural Engineering Program** led by **Dr. Yiannis Ampatzidis**, received national recognition at the **2026 American Society of Agricultural and Biological Engineers (ASABE) Annual International Meeting**, held July 12–15 in Indianapolis, Indiana.

Liu received **3rd Place in the 2026 ASABE Student Research Presentation Competition** for his outstanding research presentation and was also honored with the **Graduate Leadership and Service Award** from the **Association of Overseas Chinese Agricultural, Biological, and Food Engineers (AOCABFE)**, recognizing his leadership, service, and academic achievements.

During the conference, Liu served as moderator for the **ITSC-112: Robotics for Precision Agriculture and Renewable Energy Automation** technical session and was appointed to both the **MS-60 Unmanned Aerial Systems Committee** and the **MS-23/6/2 Aerial Application Committee**, expanding his professional involvement within ASABE.

He also delivered two technical presentations highlighting his research on **LiDAR-based detection of dead citrus trees** and **LiDAR-based temporal monitoring of citrus canopy growth**, demonstrating the application of advanced sensing technologies to improve precision citrus management.

The conference also provided valuable opportunities for networking and collaboration. Liu met with representatives from several agricultural drone companies to discuss emerging industry needs and explore opportunities for future collaboration.

Following the conference, he visited the plant phenotyping facilities at Purdue University and the Department of Agricultural and Biological Engineering at the University of Illinois Urbana-Champaign to learn about ongoing research initiatives and strengthen professional connections.

These accomplishments reflect Liu's continued commitment to advancing precision agriculture through innovative research, professional leadership, and collaborative engagement.

Congratulations to Wenhao on these well-deserved accomplishments.



INTERNATIONAL COLLABORATION

Advancing Citrus Research Through International Collaboration: The Plant Physiology Team in Brazil

The SWFREC Plant Physiology Team, led by **Dr. Ute Albrecht**, had the opportunity to participate in a technical visit to Brazil, where team members met with citrus growers, researchers, and industry leaders to exchange knowledge on current challenges and innovations in citrus production.

A highlight of the visit was presenting and translating the team's research on oxytetracycline (OTC) trunk injection at Expocitrus 2026. The presentation highlighted research findings on huanglongbing (HLB) management and provided an opportunity to discuss how OTC trunk injection is being implemented in Florida with Brazilian growers, consultants, and researchers.

The visit also included tours of commercial citrus groves, experimental orchards, and leading research institutions, providing valuable opportunities to observe production practices firsthand, strengthen international collaborations, and exchange ideas that will support advances in citrus research and management in both Brazil and Florida.



SPOTLIGHT ON OUR RESEARCHERS

Faces Behind the Research: Meet Our Postdoctoral Researchers



Dr. Deived Uilian de Carvalho
Horticultural Sciences, Plant Physiology

Dr. Deived Uilian de Carvalho's research focuses on developing sustainable solutions to help Florida citrus production overcome Huanglongbing (HLB), or citrus greening, the industry's most devastating disease.

Dr. de Carvalho's work evaluates innovative therapeutic treatments, trunk injection technologies, citrus rootstocks, propagation methods, and plant responses to environmental stresses to improve tree health, fruit production, and long-term orchard sustainability. Collaborating with UF/IFAS and USDA Agricultural Research Service scientists, Dr. de Carvalho has published extensively on citrus physiology, nursery production, rootstock performance, and disease management, with recent contributions advancing trunk injection strategies and integrated practices that provide growers with practical, science-based solutions for a more resilient citrus industry.



Dr. Isabela Figueiredo de Oliveira
Horticultural Sciences, Weed Science
Soil, Water, and Ecosystem Sciences, Soil Artificial Intelligence

Dr. Isabela Figueiredo de Oliveira's research integrates Weed Science and Soil Artificial Intelligence to advance sustainable and integrated agricultural management.

Dr. Figueiredo de Oliveira is contributing to the development of an AI-based extension tool designed to integrate soil properties, weed control, environmental, and agronomic information to translate research findings into accessible information, including risk indicators and integrated management recommendations, to support decision-making for growers. Complementing this applied approach, she investigates how weeds influence plant-soil interactions and the release of compounds in the rhizosphere in vegetable production systems using advanced analytical techniques, including HPLC and LC-MS. By exploring belowground communication between crops and weeds, valuable knowledge can be gained about complex plant interactions and their implications for crop production.



SPOTLIGHT ON OUR RESEARCHERS

Congrats to our recent graduates



Bryan Ottoniel Merlos Osorio, MS Student

**Horticultural Sciences
Vegetable Horticulture**

Bryan's research focuses on evaluating commercial biostimulant products for fresh-market tomato production under open-field conditions in Southwest Florida to better understand when these products deliver measurable benefits under real-world field conditions. Over two growing seasons, he evaluated their effects on plant growth, yield, fruit quality, and nutritional characteristics.

His goal is to provide growers with independent, science-based information that helps them make informed management decisions, identify when biostimulants are a worthwhile investment, and promote more sustainable, efficient production practices.



Igor Rodrigues da Silva, MS Student

**Horticultural Sciences
Plant Physiology**

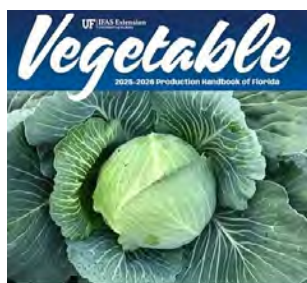
Igor is researching improved trunk-injection strategies to manage Huanglongbing (HLB), or citrus greening disease, a major challenge for Florida's citrus industry.

His work evaluates antibiotic formulations, adjuvant technologies, and injection practices to improve treatment effectiveness while reducing tree injury. Through field studies, Igor has assessed tree health, bacterial levels, yield, fruit quality, and wound recovery. He recently completed and successfully defended his M.S. research, with results being prepared for publication. His research aims to provide safer, more effective, and practical solutions to help citrus growers manage HLB.



PUBLICATIONS

Grower Handbooks



Vegetable Production Handbook of Florida

This handbook is designed to provide Florida growers with the latest information on crop cultivars, cultural practices, and pest management.

SWFREC authors featured in the book include weed scientist Dr. Ramdas Kanissery, entomologist Dr. Jawwad Qureshi, and vegetable pathologist Dr. Pam Roberts.

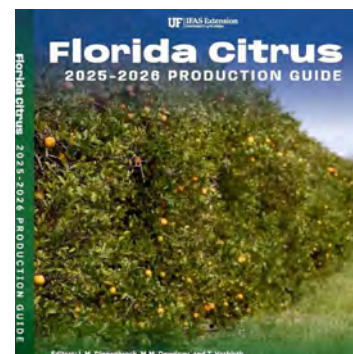
The book is available with printable sections here:

Ask IFAS: Vegetable Production Handbook

Florida Citrus Production Guide

This annual reference guide for the Florida citrus grower offers recommendations on the safest and most effective means of controlling pests of Florida citrus. Includes sections on horticultural practices; mites, insects and nematodes; diseases; weeds; and pesticides currently registered for use on Florida citrus.

SWFREC authors featured in the book include plant physiologist Dr. Ute Albrecht, citrus horticulturist Dr. Fernando Alferez, citrus pathologist Dr. Ozgur Batuman, weed scientist Dr. Ramdas Kanissery, entomologist Dr. Jawwad Qureshi, vegetable pathologist Dr. Pam Roberts, and soil microbiologist Dr. Sarah Strauss.



The book is available with printable sections here: **Ask IFAS: Florida Citrus Production Guide**

Research Publications

Compartmental and functional responses of the citrus microbiome and resistome to the systemic delivery of oxytetracycline by trunk injection, Antonio Castellano-Hinojosa, Jasmine de Freitas, Deived U de Carvalho, Brittney D Monus, Jesús González-López, Sarah L Strauss, Ute Albrecht, *Microbiological Research*, <https://doi.org/10.1016/j.micres.2026.128613>

Oxford Nanopore-Based cox1-spacer-cox2 Amplicon Sequencing Enables High-Resolution Molecular Identification of Oomycetes from Environmental Samples, Glen Groben, John Dobbs, Ozgur Batuman, Bruce Clarke, Ming-Yi Chou, Hai DT Nguyen, Emily Pfeufer, Catalina Salgado-Salazar, Nina Shishkoff, Jo Anne Crouch, *PhytoFrontiers*, <https://doi.org/10.1094/PHYTOFR-02-26-0023-R>

Multiplex RT-PCR for simultaneous detection of seven cucurbit viruses found in Florida cucurbits, Katherine Hendricks and Pamela Roberts *Plant Disease*, <https://doi.org/10.1094/PDIS-04-25-0864-SR>

AI-Driven Sound and Image Analytics for IoT-Enabled Poultry Welfare Monitoring: A Comprehensive Review, Yaqian Zhang, Ahmad Banakar, Seyed Mohamad Javidan, Yiannis Ampatzidis, Zhao Zhang, *Internet of Things*, <https://doi.org/10.1016/j.iot.2026.102026>

AgriBerry Vision: A Sprayer-Mounted Georeferenced Imaging Module for Strawberry Phenology Monitoring, Zijiang Huang, Won Suk Lee, Ruoyao Qin, Yiannis Ampatzidis, Shinsuke Agehara, Natalia A Peres, *Smart Agricultural Technology*, <https://doi.org/10.1016/j.atech.2026.102393>

Phosphorus fertilization increases fresh-market tomato yield in Central Florida sandy soils testing high in Mehlich-3 phosphorus, João Cardoso de Souza Junior, Shinsuke Agehara, Aleyda Acosta-Rangel, Sanjay Shukla, Vijay Santikari, Ibukun Timothy Ayankoko, Nikolay Bliznyuk, Mehran Homayounfar, Justin Schabow, Kelly Morgan, Thomas Obreza, Lisa Hickey, *Scientia Horticulturae*, <https://doi.org/10.1016/j.scienta.2026.115020>

Physiological Responses of Scion and Rootstock in Grafted Grapefruit Trees under Salinity Stress, Neus Alcón-Bou, John-Paul Fox, Ute Albrecht, Haimanote Bayabil, Sandra M Guzmán, Lorenzo Rossi, *Journal of Experimental Horticulture*, <https://doi.org/10.1016/j.jxh.2026.100016>

SWFREC AND THE COMMUNITY

Thank You to Our Community Partners

We are grateful for the generosity and support of our community partners who continue to make a meaningful impact at our center.

Thank You

Lott Agri Services, LLC for donating their time and expertise to level the vegetable fields on our farm. Their generosity has greatly improved our growing space and will benefit our farming program for years to come.



Florida Land & Fire for conducting a prescribed burn of our reservoir area. Their professional assistance has helped us maintain our property safely and effectively.

We are truly thankful for the partnership, generosity, and community spirit demonstrated by these companies. Their support plays an important role in helping us fulfill our mission.

OPPORTUNITIES AND UPCOMING EVENTS

Join Our Team: SWFREC Seeking a New Center Director & Professor

Are you passionate about advancing agricultural research, education, and Extension? The University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) is seeking an inspiring leader to serve as the next Center Director and Professor for the Southwest Florida Research and Education Center (SWFREC) in Immokalee, Florida.

We are looking for an accomplished scholar and collaborative leader with a strong record of research excellence, stakeholder engagement, and organizational leadership to guide SWFREC's continued contributions to agriculture and natural resources.

Location: **Immokalee, Florida**

Application review begins: September 1, 2026

Learn more about the position and application process

This is an exciting opportunity to help shape the future of agricultural innovation and make a lasting impact through research, education, and Extension. Please share this opportunity with colleagues and networks who may be interested. We look forward to welcoming the next leader of UF/IFAS SWFREC!

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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