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# *Inside* TREC

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***From our Director:***



Well, what an exciting year it has been so far! Our celebration of UF/IFAS TREC's 90th anniversary is now in full swing. On May 2nd, we had our official kickoff event at UF's Alumni Affairs Office in Coral Gables, Florida. The theme of that event was "**Gators in your backyard: Lifting our communities without sinking our environment.**" We chose to hold the event at that venue because of the more than forty thousand UF alumni and friends living in South Florida, many are unaware of the fact that UF/IFAS has a Research and Education facility located in Homestead. And as the theme suggests, our focus is strengthening the economy and making sure our farming operations remain productive and viable, without harming the environment. Participants at the evening's event were treated to a series of videos and PowerPoint presentations showcasing some of the Center's activities while enjoying some of the finest of South Florida's hors d'oeuvres and adult beverages. In addition, participants heard from one of TREC's upcoming shining stars, Dr. Ashley Smyth, who showcased the importance of the work being done by UF/IFAS TREC in helping to protect and enhance our environment in the face of climate change.

The next major event will be our "One Night in the Tropics" flagship fundraising event. So mark your calendars for October 26th at the Coral Gables Country Club. Believe me when I say that you do not want to miss the entertainment and surprises that are in store for you on that special night when you will feel like you are in a tropical paradise. This fundraising event, along with being fun, provides you the opportunity to contribute to the mission of the University of Florida and to support our programs. Closing out the year's celebration will be a "big enchilada" open house on December 4th at our Homestead campus. At this event, you will have the opportunity to see up-close all the wonderful and exciting things we have been doing, really cutting-edge science; to tour our campus; and to meet our outstanding students, staff, and faculty who make it all possible.

We hope to see you at these events as we celebrate 90 years of service to our communities.

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## Latest Publications from our Faculty:

Peer-reviewed papers:

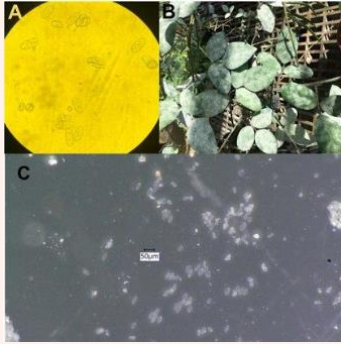
- Steck GJ, Fox A, **Carrillo D**, Dean D, Roda A and Epsky ND. 2019. Oriental fruit fly eradication in Florida [2015-2016](#): Program implementation, unique aspects and lessons. *American Entomologist* 65(2): [108-121](#). [Link](#)
- Owens D, Kendra PE, Tabanca N, Narvaez TI, Montgomery WS, Schnell EQ and **Carrillo D**. 2019. Quantitative analysis of contents and volatile emissions from  $\alpha$ -copaene and quercivorol lures, and longevity for attraction of *Euwallacea* nr. *forficatus* in Florida. *Journal of Pest Science* 92(1): 237–252. [Link](#)
- Cooperband MF, Wickham J, Cleary K, Spichiger SE, Zhang L, Baker J, Canlas I, Derstine N, **Carrillo D**. 2019. Discovery of three kairomones in relation to trap and lure development for spotted lanternfly, *Lycorma*

*delicatula* (Hemiptera: Fulgoridae). Journal of Economic Entomology 112(2): 671–682. [Link](#).

- Blaz J, Barrera-Redondo J, Vázquez-Rosas-Landa M, Canedo-Téxon A, Aguirre E, **Carrillo D**, Stouthamer R, Eskalen A, Villafán E, Alonso-Sánchez A, Lamelas L, Ibarra-Juarez LA, Pérez-Torres CA, Ibarra-Laclette E. 2019. Genomic Signals of Adaptation towards Mutualism and Sociality in Two Ambrosia Beetle Complexes. *Life* 9 (2): [Link](#)
- Lefcheck, J. S., B. B. Hughes, A. J. Johnson, B. W. Pfirman, D. B. Rasher, **A. R. Smyth**, B. L. Williams, M. W. Beck, and R. J. Orth. 2019. Are coastal habitats important nurseries? A meta-analysis. *Conservation Letters* 88:e12645–12. [Link](#)
- Neubauer, S. C., M. F. Piehler, **A. R. Smyth**, and R. B. Franklin. 2019. Saltwater Intrusion Modifies Microbial Community Structure and Decreases Denitrification in Tidal Freshwater Marshes. *Ecosystems* 22:912–928. [Link](#)
- **Zhang, S.**, X. Fan, Y. Fu, Q. Wang, E. McAvoy, and **D. Seal**. 2019. Field evaluation of tomato cultivars for tolerance to tomato chlorotic spot tospovirus. *Plant Health Progress* 20: 77-82. [Link](#)
- Liu, Q., K. Qiao, and **S. Zhang**. 2019. Potential of a small molecule carvacrol in management of vegetable diseases. *Molecules* 24:1932. [Link](#).
- Poudel, B. and **S. Zhang**. 2019. First report of *Erysiphe fallax* infecting phasey bean (*Macroptilium lathyroides*) in the United States. *Plant Health Progress* 20: 35-37. [Link](#).
- Poudel, B., M. G. Velázquez-del Valle, A. N. Hernández-Lauzardo, and **S. Zhang**. 2019. First report of *Alternaria tomatoca* causing leaf spot in sunflower in Mexico. *Plant Disease* 103(5): 1029. [Link](#).
- Ji, X., J. Li, B. Dong, H. Zhang, **S. Zhang**, and K. Qiao. 2019. Evaluation of fluopyram for southern root-knot nematode management in tomato production in China. *Crop Protection* 122: 84-89. [Link](#).
- Ji, X., B. Dong, J. Li, N. Li, **S. Zhang**, and K. Qiao. 2019. Inhibitory effect of allicin against *Meloidogyne incognita* and *Botrytis cinerea* in tomato. *Scientia Horticulturae* 253: [203-208](#). [Link](#).

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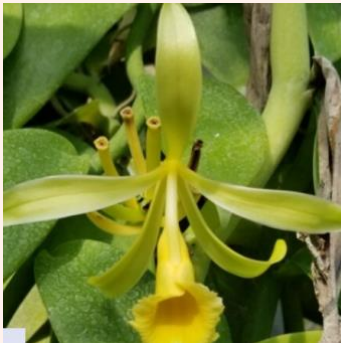
TREC in the News:



### EurekaAlert:

"First report of powdery mildew on phasey bean in Florida could spell trouble for papaya"

Dr. Zhang's Lab.



### wcjb20:

"Florida grown Vanilla might be on the way"

Dr. Chambers' Lab



### Miami Herald:

"Congress made it legal to grow hemp last year. Florida is now on board, too".

- WLRN: First Hemp Planting. [Link](#)

- Sunshine Economy: The Business of Cannabis. [Link](#)

- Land Journal: University of Florida Industrial Hemp

Farming Research Underway. [Link](#)

- CBS4: "With Hemp Now Legal In Florida, Many Look To Cash In On CBD Oil". [Link](#)

- AgNet Media: Hemp Research: 'A Lot of Different Moving Pieces'. [Link](#)

- Southwest Florida Online: Hemp Growing In Florida - On Verge For

Introduction. [Link](#)

Dr. Brym's Lab

## Important Information for Our Producers :

- It is the season to harvest pitaya (Dragon Fruit)! The Plant Diagnostic Clinic at TREC has a limited time **FREE diagnosis event for PITAYA FRUIT only**. If the pitaya growers have any disease issues on their pitaya fruit, they are welcome to bring in samples during the third weeks of June (10-14), July (15-

19), and August (12-16) for free diagnosis. The Plant Diagnostic Clinic is open Monday through Friday, 8:00 am to 12:00 pm and 1:00 pm to 5:00 pm.

- The pitaya field survey conducted by **Dr. Zhang's** team between mid-March and mid-May in 2019, found that **Stem Canker** is the most prevalent disease on pitaya stems, **followed by Alternaria blight and Anthracnose** in Miami-Dade County, FL. Growers should be advised to remove diseased stems, keep good airflow within the canopy, and clean up their groves, which will help to reduce the disease pressure and the potential impact on fruit quality.
- From **Dr. Catharine Mannion's** laboratory: New weevil pest attacking hibiscus is found in Miami-Dade and growers with infested plants will not be allowed to ship. Ficus whitefly continues to cause damage to ficus trees and hedges. Outbreaks of the Rugose spiraling whitefly are being attacked by a small wasp parasitoid causing those infestations to drop.

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## Faculty and Staff Awards

- A paper co-authored by **Dr. Daniel Carrillo, Rita Duncan et al.** titled "Identification of the Achilles heels of the laurel wilt pathogen and its beetle vector" was among those selected for the **2019 UF/IFAS high impact publications**. The awards recognize and celebrate the very significant and important impacts UF/IFAS research is having on advancing science and addressing important societal needs. The authors were recognized with a plaque at the 12th Annual UF/IFAS FAES Research Awards Ceremony on Thursday, May 16, 2019.
- **Dr. Wagner Vendrame** was selected for one of the **2019 North American Colleges and Teachers of Agriculture (NACTA) Educator Awards**. One of the central purposes of NACTA is to recognize those individuals whose efforts represent the very best in post-secondary instruction in agriculture.
- **Dr. Young Gu Her** whose paper titled "Identification of Hydrologically Sensitive Areas Considering Watershed Process Dynamics" was selected for the **2019 American Society of Agricultural and Biological Engineers (ASABE) Superior Paper Award**. Dr. Her and his co-authors will be honored at the General Session Recognition Program to be held during the ASABE Annual International Meeting, July 8, 2019.
- **Rafia Khan and Drs. Dak Seal and Shouan Zhang** received the **2019 Florida State Horticultural Society Florida Tomato Research Award** for contributing work to further the fresh market tomato industry in Florida during the two previous calendar years.
- **Dr. Jonathan Crane** and co-authors **R. Gazis, D. Carrillo, and F. Ballen** are the recipients of the **2018 Florida State Horticultural Society's Krome Memorial Institute Section Best Paper Award** for their paper titled "First Year Results of a Trial of 'Tahiti' Lime and Three Lime-hybrid Scions Grafted to Five Citrus Rootstocks Established at TREC".

- **Dr. Wagner Vendrame** is the recipient of the **2019 In Vitro Biology (SIVB) Service Award**.

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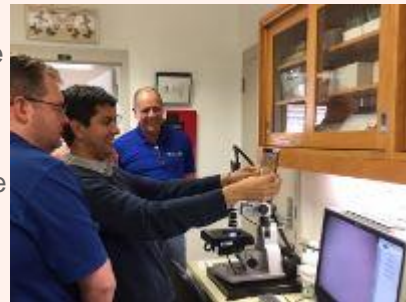
## Student, Alumni and Staff News

- **Ms. Raiza Castillo** (Ph.D. student with Dr. Schaffer) was awarded a competitive **“Innovator’s Travel Grant”** from PP Systems to attend the annual conference of the American Society for Horticultural Sciences (ASHS) in Las Vegas in July. According to PP Systems, the purpose of this award is “to support the next generation of scientists redefining the boundaries of life science research.”
- As part of our ongoing commitment to assist with the professional development of our students and staff, the **Director’s 2019 UF/IFAS TREC Student and Technician Travel Grant Awards (STTGA)** was presented to **Lynhe Demesyieux, Cliff Martin, Octavio Menocal** and **Melinda Yin**.
- **Romain Gloaguen** (Ph.D. student with Dr. Brym) received the 3rd Place for his presentation at the **Agronomy Grad Student Symposium**.

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## Outreach and Extension Activities

- **Dr. Shouan Zhang**, in collaboration with **Drs. Dakshina Seal** and **Qingren Wang**, organized a **Vegetable Growers Field Day** to show the growers and the industry field trials for control of root-knot nematode, downy mildew, and silver leaf in squash; management of bean golden mosaic virus (BGMV), anthracnose and Ascochyta leaf spot in beans. This took place April 24, in TREC. In total, 53 people attended the field day.
- On March 26, Dr. Wagner Vendrame organized a tour for the **FNGLA Miami-Dade Chapter Board of Directors**. They learned about the different research programs that are being conducted at the Center. They left excited as they became more aware of all the projects our TREC scientists are engaged in and how their work benefits the ornamental industry, the largest in Miami-Dade County.
- **Mr. Jerry Fankhauser, Jr.**, Assistant Director for the Florida Agricultural Experiment Station - UF/IFAS, visited TREC on May 7 with **Dr. Barack Otieno Abonyo**, from Kibabii University in Kenya, and his associate located in Orlando, FL, **Mr. Charles Odour**. This visit looked to foster opportunities and collaborations with TREC faculty.
- On May 1st, the Chair for the UF/IFAS Environmental Horticultural Sciences Department, **Dr. Dean Kopsell**, visited TREC to do a presentation of his



vision to the Advisory Board and discussed new ideas that will translate in supporting the ornamental industry in South Florida.

- On May 8th, **Dr. Ashley Smyth** participated in a “**Lunch & Learn series**” with the city of Hallandale Beach to educate city staff about climate change.
- On May 17th, **Vanessa Campoverde**, Extension Agent from the Miami-Dade County Extension Office, hosted the Caribbean K-8 Center, the first winner of “**Cultivating Dreams Scholarship**,” sponsored by the Farm Bureau Women’s Committee. **Drs. Elias Bassil and Romina Gazis**, from TREC, spoke to the students and had an interactive session of the research work they do providing them with a vision to consider pursuing a career in Science.
- On May 21, **Dr. Catharine Mannion**, organized a **Hibiscus Bud Weevil Pest Alert** at the UF/IFAS Miami-Dade County Extension Services Office with Ornamental Extension Agent, **Vanessa Campoverde**. Topics that were covered are the current regulatory requirements, ID and management for ornamental nurseries.
- On May 21, **Dr. Jonathan Crane**, Extension Fruit Specialist and **Jeff Wasielewski**, Tropical Fruit Extension Agent, organized a workshop for growers to learn about **passion fruit and dragon fruit**. Topics covered: basic tropical fruit horticulture like pruning, planting, fertilizing, and pest control. There was also a field visit to look at these particular crops.
- The **Hemp Newsletter** reached 900 subscribers. If interested, follow the [link](#).

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## Grants Received

- Four of our faculty received the **2019 UF/IFAS Equipment/Infrastructure Award**. This equipment will certainly help with our instrumentation and the cutting-edge research conducted at TREC:
  - **Dr. Ashley Smyth**- Membrane inlet mass spectrometer.
  - **Dr. Elias Bassil** - Plant phenotyping system that quantifies water use and plant growth in real time.
  - **Dr. Alan Chambers** - Particle bombardment gun used for biolistic transformation of plants.
  - **Dr. Young Gu Her** -Plantarray Unit.
- **Dr. Ashley Smyth** received funding from Florida Sea Grant, to conduct a survey of waterfront property owners and their knowledge of sea level rise and living shorelines.

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## Upcoming Events





### South Florida Graduate Research Symposium

This coming July 16th, 2019, TREC, will host the 7th Annual South Florida Graduate Research Symposium. This is a poster-only symposium that would allow graduate students to present their research and network with faculty and students from around the state. Graduate students will receive a certificate and a chance to win a cash prize. The symposium includes a nice field trip in the afternoon to a local orchid nursery.

Information: <https://7sfgrs.eventbrite.com>



### One Night in the Tropics

years of committed work to our community. We are the Night in the Tropics fundraising-dinner event to be held at the Coral Gables Country Club. Funds raised at the event will go towards a campaign for the construction of a modern residence facility to accommodate a large number of students and visiting researchers.

For more information and to buy tickets follow:

[www.tinyurl.com/one19](http://www.tinyurl.com/one19)

- **Dr. Ashley Smyth** will be chairing a session on urban wetlands and presenting her research on seagrass beds and nutrients cycling at the **2019 Annual Meeting for the Ecological Society of America** Aug 11-Aug 16.

- **Dr. Shouan Zhang** was invited to speak to provide a research update on TCSV at **Florida Tomato Institute** to be held on Sept 4, 2019, in Naples, FL.
- **Dr. Jonathan Crane** will be a speaker at the **International Mango Conference at Fairchild Tropical Botanic Garden** on Friday, July 12, 2019. Miami, FL. His topic: Current Status of Local Mango Industry in South Florida.
- **Dr. Elias Bassil** will be presenting his research at the **18th International Workshop on Plant Membrane Biology** on July 7th, Glasgow, Scotland. His topic: Plant vacuole transport of nutrients and salt.
- **Dr. Zack Brym** is organizing the next **Hemp Workshop**. Tentative date is Aug 2nd. Stay tuned for details.

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## ***Successful Events:***

### **One Night in the Tropics Kick Off**



The University of Florida Alumni Affairs office in Coral Gables hosted a successful reception to kick-off UF/IFAS TREC's One Night in the Tropics fundraising event to take place October 26th in the beautiful and historic Coral Gables Country Club. Dr. Edward "Gilly" Evans, TREC's Center Director, spoke about the importance of the research work our scientists do for the Miami-Dade community and announced the

celebration of TREC's 90th anniversary to be held on December 4th at the research facility. As part of the evening's program, Dr. Ashley Smyth, TREC's Biogeochemist, spoke on issues we face with sea-level rise in Florida, and expressed her commitment on tackling this imminent threat. Also, TREC donors and sponsors received a Certificate of Appreciation from Dr. Jonathan Crane, TREC's Associate Center Director, for their unconditional support to the center. Mark Trowbridge, President, and CEO of the Coral Gables Chamber of Commerce made a call for action to commit to TREC's One Night in the Tropics campaign.

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TREC's Corporate Run Team!

A team of 16 faculty, students and staff members represented TREC at the Miami Corporate Run 2019 this past April 25th. Overall we did great as a TEAM reminding us that together everyone achieves more. At the same time, we help create the awareness that "TREC is here."



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