

EntNem

Jan - Feb 2023 Newsletter

UF/IFAS Entomology and
Nematology Department

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Table of Contents

<u>Letter From the Interim Chair</u>	2
<u>New Hires</u>	3
<u>Insect I.D.</u>	4
<u>Faculty and Staff News</u>	5
<u>ENSO</u>	9
<u>Student News</u>	10
<u>Education & Outreach</u>	12
<u>Student Highlights</u>	13
<u>Publications</u>	14
<u>Grants</u>	15

Letter from the Interim Chair



Dear Friends in Entomology
& Nematology,

I cannot believe we are already in March 2023, but many great things have already happened in the first two months of the year. Our people are winning awards all over the place, faculty, staff, and students - despite the many challenges facing us, our students, and our stakeholders. I personally have been really excited to visit with many of our faculty and staff over the last two months as part of the review process, as well as meeting with our students and hearing about their successes and challenges. I am really glad to see so many of our people being

recognized for their hard work. As we transition into spring and, for those of us teaching or taking classes, spring break I look forward to our department continuing to shine. I am proud to be a part of this with you all.

Dr. Dan Hahn

Professor and Interim Department Chair

Please welcome our
Newest
members!

Dr. De-Fen Mou

Assistant Professor of Molecular Ecology



Matthew Walkup

Lab Technician II



Steven Keith

Lab Technician II



Insect ID LAB

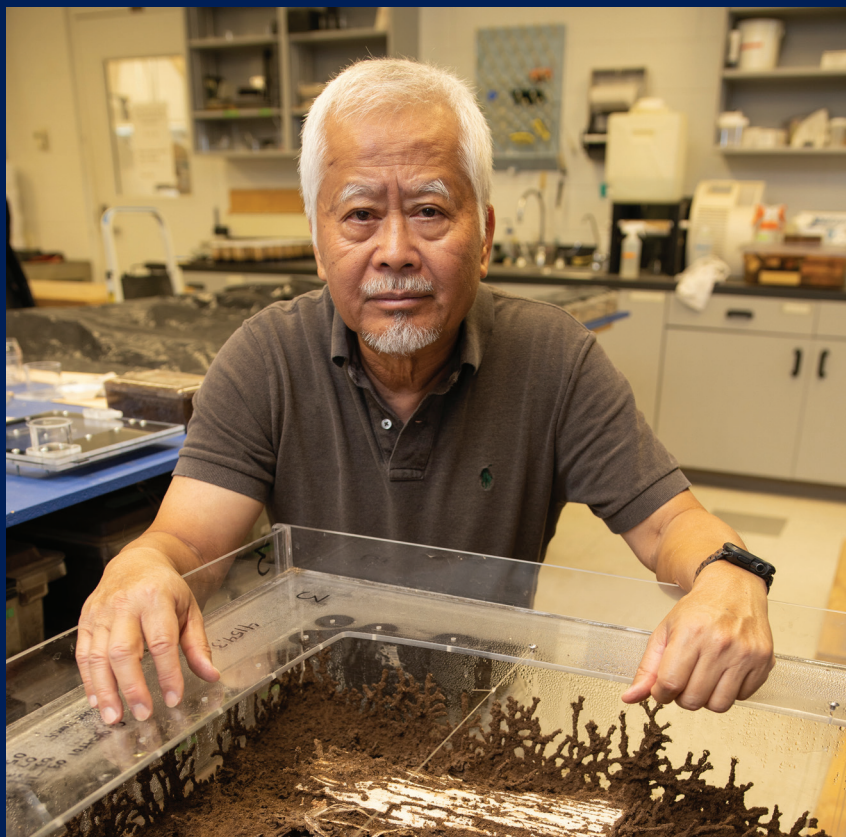
Lyle Buss and his daughter Holly recently found some redbud aphids, *Aphis pawneepae*, on a redbud tree in their yard. The colonies occur on the underside of twigs and on trunks at the base. Only a few records of this species are known from Florida, all from Gainesville. If you find them elsewhere in Florida, send samples to the Insect ID Lab and get a 'New County Record' from DPI! Thanks to Susan Halbert at DPI for ID confirmation of the aphids.



Faculty and Staff News

American Association for the Advancement of Science Honors Dr. Su & Dr. Stelinski as Lifetime Fellows!

Dr. Nan-Yao Su, Institute of Food and Agricultural Sciences, is a distinguished professor in the UF/IFAS entomology and nematology department and is based at Ft. Lauderdale Research & Education Center. His research focuses on urban entomology, specifically termite biology, and control. Su developed the Sentricon system, a bait system for termite control. Sentricon helped reduce pesticide use by over 9,000 metric tons and received the Presidential Green Chemistry Challenge Award by the U.S. EPA. He has also served as a technical adviser relating to termite issues for foreign governments such as China, New Zealand and Vietnam.



Dr. Lukas Stelinski, Institute of Food and Agricultural Sciences, is a professor in the UF/IFAS department of entomology and nematology based at the UF/IFAS Citrus Research and Education Center. He specializes in applied chemical ecology, vector-pathogen interactions and insect toxicology. Stelinski has conducted research and Extension programs on pest management in subtropical fruit crops and is a recognized expert on controlling pests by applying insect pheromones that disrupt mating. His work develops management strategies to moderate the impact of arthropod-pathogen interactions limiting citrus production while maintaining established biological controls.



UF/IFAS office of the Dean for Research has recognized Virni and Janice for their outstanding assistance in securing external awards totaling more than a million dollars these past two quarters (July 2022 - Dec 2022). They will be honored at the annual awards ceremony on May 25, 2023.



Dr. De-Fen Mou specializes in identifying and managing plant pathogen vectors that impact key crops in the Everglades Agricultural Area, including sugarcane, sorghum, rice, sweet corn, and vegetables. Her extension program uses knowledge developed in research programs to address stakeholders' and advisory boards' concerns and needs.

There is a new Lab Tech in the Landscape Nematology and Nematode Assay Lab. Matthew Walkup has been working part-time in the lab since 2016 when he was in high school. He graduated from UF with his BS in Business Administration in December and joined the lab in a new Teams position as a Lab Technician 2.

Congrats Matt!



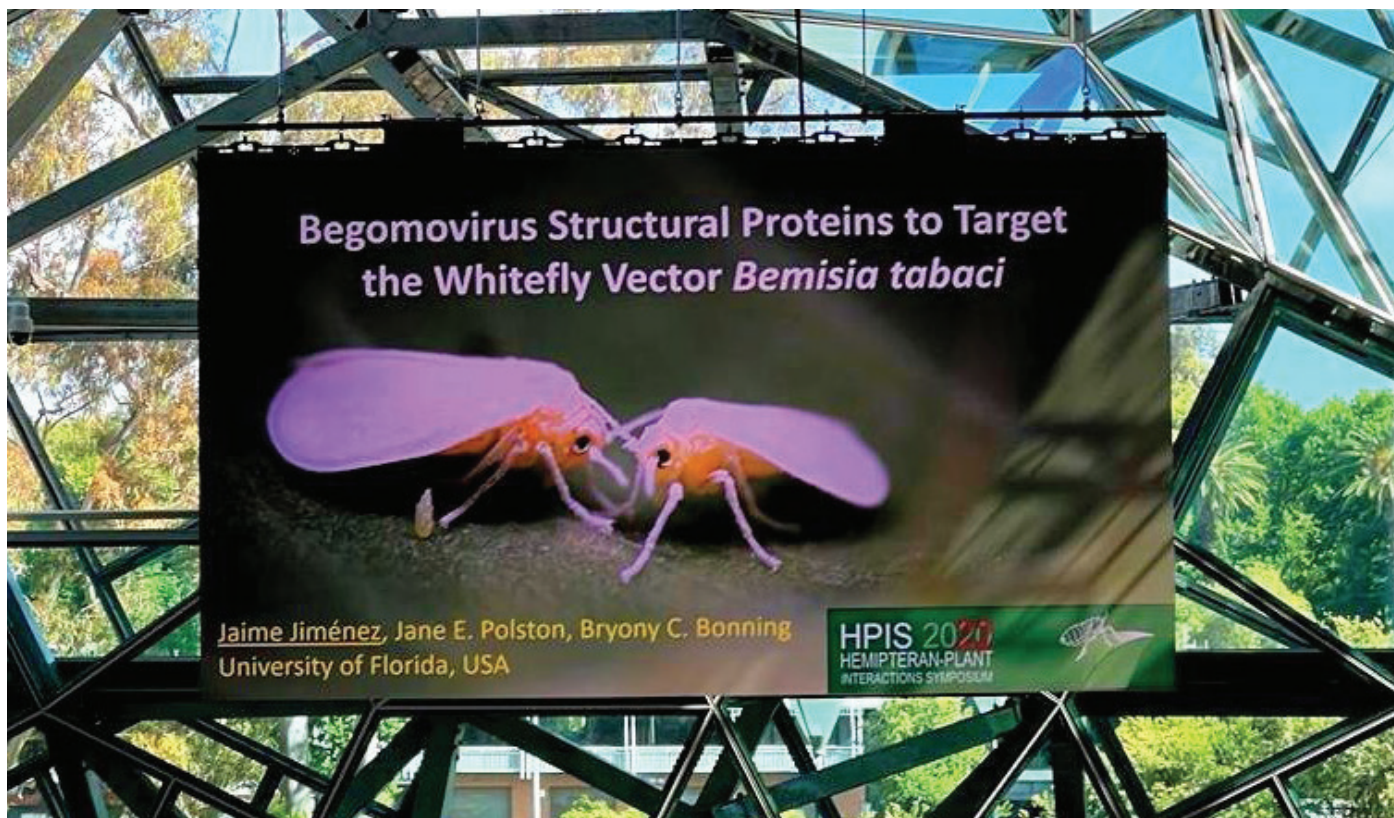
Meet Steven Keith: the man behind the buzzing hives at the University of Florida's Honey Bee Research and Extension Lab (UFHBREL). As a beekeeper and hive manager, he's on a mission to improve honey bee health and educate others about the importance of these pollinators. With a background in apiary management, honey processing, and swarm removal and relocation, Steven's responsibilities include managing the research hives, assisting with data collection, and helping students learn the buzzworthy basics of beekeeping.



Southeastern Branch
ESA-SEB Awards
Committee has awarded
Dr. Rebecca Baldwin
the 2023 Southeastern
Branch Distinguished
Achievement Award
in Teaching.

Dr. Norm Leppla recently attended an invitation only awards luncheon honoring Madeline Mellinger, CEO of Glades Crop Care. Glades Crop Care is one of the nation's largest independent crop consulting firms, providing service for over 65,000 acres primarily of high-cash value fresh market produce. Madeline received the prestigious **"Woman of the Year in Agriculture Award"**. The awards ceremony took place at the Florida State Fair Event Center in Tampa and the Florida Commissioner of Agriculture, Wilton Simpson, presided. Many Florida agricultural leaders attended to honor Madeline, including members of the Florida Legislature and our UF/IFAS Senior Vice President of Agriculture and Natural Resources, **Dr. Scott Angle**. Directors of several commodity associations delivered testimonials in appreciation of the many valuable contributions to Florida agriculture made by Madeline; Dr. Charles Mellinger, Director of Technical Services; and the Glades Crop Care staff. In her acceptance speech, Madeline acknowledged the support of our UF/IFAS IPM Program and noted the importance of the Doctor of Plant Medicine Program.





Dr. Jaime Jimenez, postdoctoral researcher in the Bonning lab, presented a talk entitled “Begomovirus structural protein-mediated delivery system to target the whitefly vector *Bemisia tabaci*” at the 4th Hemipteran-Plant Interactions Symposium (HPIS) held December 7-9 in Melbourne, Australia. This interdisciplinary, international meeting held every 3 years provides a unique opportunity for interaction with global leaders in hemipteran research.



Elena Alyanaya

The annual Staff and Faculty Superior Accomplishment Awards Program has recognized Elena Alyanaya’s superior service in the Administrative/Supervisory category.



ENSO hosted a billiards night at
Palomino Pool Hall.



ENSO is constantly buzzing with activity and is always finding new ways to engage with our department's graduate student community! For a taste of the excitement, be sure to follow their Instagram page.



Student News

Our departmental 'John A. Mulrennan, Sr. Outstanding PhD Student Award' has been awarded to Dr. Kristin Sloyer. Her dissertation on "The Ecology of *Culex (Melanoconion)* Vectors of Venezuelan Equine Encephalitis Subtypes ID and II" showcases her excellent research. The awardee of the college-wide competition will be announced in April.



Kaylin Kleckner and Jennifer Standley were both recipients of the Student Paper Awards at the American Association of Professional Apiculturists' American Bee Research Conference held in January in Jacksonville. Kaylin's research presentation was "Screening new compounds against small hive beetles (*Aethina tumida*) with a novel acute toxicity bioassay and field trial" and Jenn's was "Sterilizing royal jelly for use in *Apis mellifera* in vitro rearing programs". They were two of the three recipients of this award. In addition, Kaylin will be traveling to San Diego to give her presentation at the American Association of Professional Apiculturists' annual meeting.

Clebson Tavares, graduate student in **Dr. Bryony Bonning's** lab was recipient of two recent awards: the 2022 Pauline O. Lawrence Scholarship in Physiology/Biochemistry/Toxicology, and the 2022 CALS William C. and Bertha M. Cornett Fellowship in recognition of his research accomplishments. Marley Iredale, co-supervised by Dr. Bryony Bonning and **Dr. Jamie Ellis**, received a 2023 Foundation for the Preservation of Honey Bees Scholarship. This award promotes the professional development of graduate students with exceptional promise in research that benefits bees, beekeepers and/or the apiculture industry. The scholarship provided \$5,000 plus all expenses paid for Marley's attendance of the 2023 American Beekeeping Federation Conference held January 3-7 in Jacksonville, FL, at which she presented her research.



Ashley Malcolm and Vanessa Gonzalez completed NSF Research Experiences for Undergraduates (REU) internships in the Bonning lab in December. Ashley and Vanessa worked on hemipteran proteomes and gut binding peptides as part of a CAMTech-funded project. <https://www.iucrc-camtech.org/>



Sara Salgado, a PhD student in **Dr. Minter's** Lab, won the Global Early Career Award from the International Organization for Biological Control. Congratulations, Sara!!!!

Iris Strzyzewski, from **Dr. Martini's** lab is one of the two CALS nominees for the Madelyn Lockhart Dissertation Fellowship Award that honors a PhD. Candidate who is both an outstanding researcher and who has contributed to creating a more inclusive and diverse community.



Entomological Society of America's Southeastern Branch Student Awards Committee has selected Alex Orfinger to receive this year's SEB-ESA John Henry Comstock Award!

EDUCATION & OUTREACH:



Amy Vu was in Jarabacoa, Dominican Republic through the United States Agency for International Development (USAID) Farmer to Farmer, Partners of the Americas program for 15 days in February. The purpose of this assignment was to train ASAJA (the local beekeepers) association in honey bee production and management. Amy conducted a needs assessment prior to visiting the Dominican Republic to compile resources for beekeepers. During the visit, participants learned about honey bee queen production, pest and disease management (specifically related to *Varroa destructor*), swarm prevention and management, and equipment rotation. The goal was to have the association members learn how beekeepers can increase honey production, diversify their products, and have the best management practices and skills to implement into their operations to increase the quality of colonies. Hands-on workshops, informal and formal meetings, and presentations were provided. Amy plans to follow up on her work with the association in Jarabacoa. The beekeepers have a lot of potential for growth that can have a positive impact on their local communities and beyond.

In February, we had two exciting events that kept us buzzing with excitement! Firstly, we hosted the 4-H Insectathon, where over 60 enthusiastic young bug-lovers competed in a range of insect-related activities. It was amazing to see the passion these kids have for bugs!

But that's not all - we also had the pleasure of participating in the annual Florida State Fair, and we couldn't be more proud of the amazing job our labs did. A huge shout-out and thanks to all volunteers who helped make our presence at the fair memorable! From curious kids to avid bug enthusiasts, we had something for everyone, and it was a true pleasure to see the wonder and delight on people's faces as they learned about the fascinating world of insects.

Vashti Tatman.
Outreach Coordinator



Student Highlights



Joey Gonsiorek was born and raised in Crystal Lake, IL. He attended Augustana College with the expectation of studying biochemistry, but quickly found that the subject was not a good fit for him. While exploring other options, Joey found himself taking a basic entomology course with Dr. Tierney Brosius. Her passion for entomology inspired Joey and he developed an interest in entomology and began pursuing it as a career path. Joey conducted research with Dr. Brosius, investigating the effects of mesophication on ground beetle diversity. After graduating in the spring of 2018, Joey worked at Clarke Mosquito Control, where he helped to manage mosquito colonies and assisted with insecticide efficacy trials. In the fall of 2019, he found himself in Gainesville, FL, working in **Dr. Oscar Liburd's** Small Fruit and Vegetable IPM lab as an OPS. Joey loved the applied nature of the research being done in this lab and is now nearing the end of his master's program

within the same lab, over three years later. His project focused on the management of the silverleaf whitefly, *Bemisia tabaci* MEAM1, in organic squash using a behavior-based push-pull system. Recently graduated, Joey hopes to find work in extension, helping to educate growers on how to best manage their pest problems.

Fun Fact:

Joey and his wife, Caitlin, are avid cooks. At the start of 2020, they challenged themselves to cook one dish from every country in the world by the end of the decade. Some favorites to date include langouste a la vanille from Comoros, shuwa from Oman, and paella de marisco from Spain.

Publications

Roldan, E. L., L. L. Stelinski, K. S. Pelz-Stelinski. 2022. Foliar antibiotic treatment reduces *Candidatus liberibacter asiaticus* acquisition by the Asian *Citrus* psyllid, *Diaphorina citri* (Hemiptera: Liviidae), but does not reduce tree infection rate. Journal of Economic Entomology. [10.1093](#)

Manasawi, A., E. Noordyke, C. Prouty, J. D. Ellis. 2023. Western honey bee (*Apis mellifera* L.) attraction to commercial pollen substitutes and wildflower pollen in vitro. Journal of Applied Entomology. [10.1111](#)

Strzyzewski, I., J. Funderburk, X. Martini. 2023. Specificity of vectoring and non-vectoring flower thrips species to pathogen-induced plant volatiles. Journal of Pest Science. [10.1007](#)

Mayorga, L., D. Jacobs, H. X. Bui, J. A. Deseager. 2022. Nematicidal effect of sunn hemp root and shoot extracts on eggs and second-stage juveniles of *Meloidogyne javanica*. Nematropica. [2220-5608](#)

Burkett-Cadena, N. D. First records of species of the spissipes section (*Culex* (*Melanoconion*) (Diptera, Culicidae) in Guainia department, Colombia. Check List. [10.15560](#)

Scheffrahn, R. H. *Caetetermes fontesi*, a new nasutiform termite (Isoptera: Termitidae: Nasutitermitinae) from French Guiana. Zootaxa. [5219.6.6](#)

Leppla, N. C., K. J. Stacey, L. M. Rooney, K. M. Lennon, A. C. Hodges. 2022. Stink bug (Hemiptera: Pentatomidae) occurrence, reproduction, and injury to fruit in an organic tomato crop bordered by Sorghum. Journal of Economic Entomology. [10.1093](#)

Daniels, J. C., C. G. Storer, G. M. Hill, A. Markee, C. Couch, K. A. Rossetti. 2022. Deploying community scientists to conduct nondestructive genetic sampling of rare butterfly populations. Jove-Journal of Visualized Experiments. [10.3791](#)

Zhang, Y., T. Cai, M. Yuan, Z. Li, R. Jin, Z. Ren, Y. Qin, C. Yu, Y. Cai, A. C. N. Wong, H. Wan. 2023. Microbiome variation correlates with the insecticide susceptibility in different geographic strains of a significant agricultural pest, *Nilaparvata lugens*. NPJ Biofilms and Microbiomes. [10.1038](#)

Atchison, R. A., A. Lucky. 2022. Diversity and resilience of seed-removing ant species in longleaf sandhill to frequent fire. Diversity-Basel. [10.3390](#)

Kovach, B. C., L. E. Reeves, C. Domingo, S. N. L'heureux, G. V. Burger, S. D. Schermerhorn, M. T. Riles. 2022. *Aedes pertinax*, *Anopheles perplexens*, *Culex declarator*, and *Cx. interrogator*: An update of mosquito species records for Charlotte County, Florida. Journal of the American Mosquito Association. [10.2987](#)

Click here to view the full list of publications. [Link.](#)

Grants



Dr. Peter DiGennaro received a combined \$2.3 million from NSF Plant Genome Research Program and USDA Plant Biotic Interaction Program for the project 'QTL Analyses Identify Genetic Components Regulating the Interactions between plants, pathogens, and the environment in the face of climate change'.



Dr. Adam Wong received \$2 million for researching Molecular mechanisms underlying microbial modulation of host behavior.