

# EntNem

## July - August 2022 Newsletter

UF/IFAS Entomology and  
Nematology Department

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## Letter From the Interim Chair



Welcome to the Fall 2022 semester! I hope you all had a chance to rest and recharge over the summer and are ready to bring your energy and talents to a new academic year. What a time of anticipation! Will this finally be the semester that we return to “normal” where we put COVID in our rear-view mirror and re-engage and reconnect after a very long two and a half years? Look for opportunities in the fall to socialize over Friday morning coffee outdoors, engage in post-seminar conversations, and enjoy monthly meetups.

Who will be selected to become the next permanent department chair? There will be ample opportunity to meet candidates, live and on Zoom, so plan to participate energetically in this important process and

showcase our outstanding department. We are so happy to welcome our new students, graduate students, postdoctoral scientists, and faculty, and are excited to get to know you. This fall, we all look northwest in anticipation of our annual society meetings where we will share our science, make new colleagues, and greet old friends. Our nematologists will travel to Anchorage, Alaska (Sept. 26-29) and our entomologists will meet in Vancouver, Canada (Nov. 13-16). Both destinations sound so enticing at this time of year as we enter the humid peak hurricane season in Florida!

Happy fall everyone and Go UFBugs (and Worms)!

**Dr. Heather McAuslane**

Professor and Interim Department Chair

## Insect ID



Plant bugs (family Miridae) feed by sucking sap from plants, and in high numbers can cause stippling damage on leaves. This attractive mirid is *Opistheurista clandestina*, and its host is bean. These were found in a vegetable garden in Gainesville, and you can see the stippling damage on the leaf in the adult photo. The other photo shows a last instar nymph.



# Please welcome our *Newest* faculty members!

Associate Professor Dr. Daniel Swale has joined the Entomology and Nematology Department, jointly appointed with the Emerging Pathogens Institute. His research interests are insecticide and drug modes of action; insecticide discovery and development; ion channel physiology; membrane physiology; pollinator health and protection.

Dr. Matthew Thomas has joined the Entomology and Nematology Department as a Professor and Director of a proposed multidisciplinary invasion science research institute. Dr. Thomas is originally from the United Kingdom and has served as a director of the Ecology Institute at Penn State and is a Fellow of the American Association for the Advancement of Science.

Dr. Bianca Kojin has joined the Florida Medical Entomology Laboratory (FMEL) as an Assistant Professor in Mosquito Arbovirus Systems. She hails from Texas A&M University and received her education from the University of São Paulo (USP), Brazil.



**Dr. Daniel Swale,**  
Associate Professor



**Dr. Matthew Thomas,**  
Professor and Director



**Dr. Bianca Kojin,**  
Assistant Professor





As experts on the weapons of insects (and other animals), **Dr. Christine Miller**, associate professor and Dr. Ummat Somjee, former graduate student in the department. They contributed to a recent article in The Atlantic magazine, **“Antlers Do What No Other Bones Can”** by Katherine Wu.

**Dr. Andrea Lucky** instructed PhD student Leo Ohyama and others for two weeks in Vietnam this August for Ant Course. The class is the premiere training event for myrmecologists (ant researchers) internationally, and this year was held in the lush rainforest of Cúc Phương National Park, Vietnam’s oldest national park. Highlights from the course included finding new ant genera not previously known from Vietnam, collecting undescribed species of ants, and updating the list of invasive ants known from this reserve.

Below you can see the sweaty, happy, Ant Course crew after a day of collecting. Leo is in the back row on the left; Dr. Lucky is in the middle row, 5th from the left.



**Dr. Marc Branham** received a North American Colleges and Teachers Agriculture Educator (NACTA) Award! NACTA seeks to recognize and honor the best individuals in teaching agriculture, environmental, natural or life sciences.



***Bravo Marc Branham!***



## Lab News

Please welcome Dr. Emilie Demard back to the department! Emilie is a recent graduate, having completed her PhD at the Indian River Research and Education Center. She started her position as a postdoctoral researcher in the **Diepenbrock lab** at the Citrus Research and Education Center (CREC) on August 22.

Dr. Kristin Dunn, former graduate student in the Branham Lab, who received her doctoral degree in Spring 2022, has accepted a position as a Visiting Assistant Professor of Biology at Roanoke College, Salem, VA. Congratulations Dr. Dunn!

**Dr. Phil Hahn** and some of the members of his lab have visited Montreal, Quebec, Canada for the 2022 Annual Meeting of the Ecological Society of America held at the Palais des Congrès de Montréal from August 12th – 19th. Drs. Phil Hahn and Eduardo Soares, Robert Grosdidier, and Rebecca Molina presented their studies of ecology and evolution of plant-herbivore interactions.

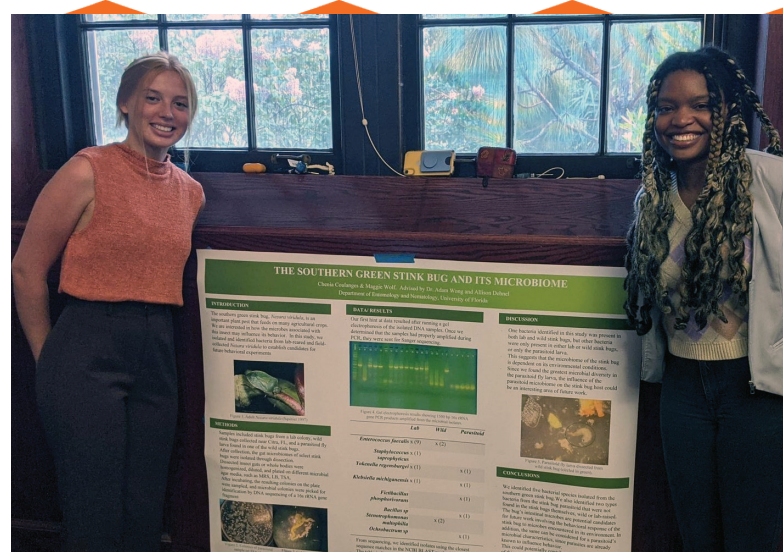
The **Wong lab** welcomes two NSF REU students, Alessa Mendoza and Olivia Norenberg. They will participate in the CAMTech project investigating microbial impacts on insect behavior and insecticide resistance.

Undergraduates Chenia Coulanges and Margaret Wolf completed their Active Learning Program (ALP) summer internship in the Wong lab and presented their first research poster at the ALP symposium!

The **Dale Lab** welcomed two new graduate students this fall semester, Jacqueline Buenrostro and Vashti Tatman. Jacqueline is pursuing a PhD and is joining us from Colorado State University. Vashti is pursuing a MS degree and is joining us from The Ohio State University. Welcome!



Rebecca Molina, Dr. Hahn, Robert Grosdidier, and Dr. Soares



Margaret Wolf and Chenia Coulanges



## Student News

Kendall Stacey passed her thesis defense and oral exam on June 17th. Her graduate committee members are **Dr. Phil Hahn** (UF/IFAS Entomology and Nematology Department), Dr. Glynn Tillman (USDA, ARS, Tifton, Georgia) and **Dr. Norm Leppla**, committee chair (UF/IFAS Entomology and Nematology Department). The title of her thesis is “Rearing and Parasitism of *Trichopoda pennipes* (Diptera: Tachinidae) on *Nezara viridula* (Hemiptera: Pentatomidae) for Augmentation Biological Control.” *Nezara viridula*, the southern green stink bug, is a highly polyphagous pest of many economically important crops that has proven difficult to control for both conventional and organic growers. *Trichopoda pennipes* is an endoparasitoid fly that primarily parasitizes *N. viridula* adults. Many researchers have sought to implement an augmentative biological control program against *N. viridula* using *T. pennipes*, but the rearing of this parasitoid is challenging. Optimal rearing procedures for these species as a system is ascertained.



Two students from the Dale Lab, J. Louis Pinkney IV and Casey Carroll, both successfully defended their M.S. theses this summer. Casey is starting a PhD program at the University of Colorado, Boulder this fall, where she will continue to study insect ecology. Louis will be heading to São Paulo, Brazil to teach biology and entomology to K-8 youth.

Jacqueline Buenrostro, a new PhD student in the Dale Lab, was selected to receive the 2022 P-IE Master's Student Achievement in Entomology Award from the Entomological Society of America in recognition of her work during her MS degree at Colorado State University. Jacqueline will be presented with this award at the upcoming ESA meeting in Vancouver, BC, Canada in November.





## Student News



Entomology PhD student, Clebson Tavares received the 2022 Pauline O. Lawrence Scholarship in Physiology, Biochemistry and Toxicology in recognition of his research accomplishments. Clebson developed a novel, long-term bioassay method for Asian citrus psyllid nymphs and recently **published** on the psyllid gut surface proteome.

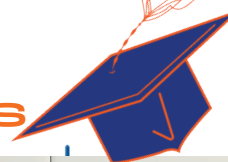
Jessica Griesheimer from **Dr. Xavier Martini's** lab obtained a \$12,921 Southern SARE (Sustainable Agriculture Research and Education) Graduate Student Grant to work on the optimization of biological control of air potato using attractants.



Joshua Botti-Anderson successfully defended his MS thesis on the pollination ecology of Brazilian peppertree and its impacts on wild plant-pollinator communities. He will be sticking around for the fall semester in the **Mallinger Lab** as a research technician before beginning a PhD at Australian National University in winter of 2023! We wish Josh the very best in his new adventures and look forward to seeing the amazing science he is sure to do in the future!



# Congratulations Graduates



Dr. Nathan Burkett-Cadena, Dr. Kristin Sloyer



Dr. Erick Rodriguez and Dr. Marc Branham,



Dr. Joseph Velenovsky Dr. Norm Leppla and Dr. Clayton



Dr. Joseph Velenovsky and Dr. Heather McAuslane



Dr. Lauren Diepenbrock and Dr. Kelly Carruthers



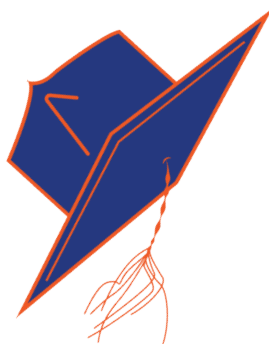
Dr. Laurel Lietzenmayer and Dr. Lisa Taylor

## Undergraduate

- Noah Barguez-Arias
- Amanda Bertine
- Lucia Salvatierra

## Graduates

- Kelly Carruthers
- Joseph Velenovsky IV
- Kristin Sloyer
- Erick Rodriguez



- Laurel Lietzenmayer
- Esnai Munthali
- Rachel Shepherd
- Joshua Botti-Anderson
- Kendall Stacey
- Christian Kammerer
- Brynn Johnson
- Luke Brendel
- Melody Bloch
- Casey Carroll
- Louis Pinkney



# EDUCATION & OUTREACH:

**Dr. Billy Crow** was in Jamaica for two weeks in June providing hands-on nematology training as part of the Farmer to Farmer program. The nematology training was conducted at the Bodles Research Center, but also included extension visits to banana and ginger farms.



Students in Jamaica learning how to identify nematodes.



Dr. Crow visits a Jamaican farm.



In August, FMEL faculty and staff participated in the International Course on Ecological Determinants of the Dynamics of Vector-borne Diseases (DETVETORES) coordinated by the Instituto Oswaldo Cruz, Rio de Janeiro, Brazil. Faculty representing FMEL were: Director **Dr. Jorge Rey**, **Dr. Nathan Burkett-Cadena**, **Dr. Lindsay Campbell**, and **Dr. Lawrence Reeves**, all of whom presented to students and colleagues on their research topics. Dr. Kristin Sloyer participated as a student in the course, along with other students from multiple Brazilian institutions. Tanise Stenn (FMEL) led interactive activities with the students and spearheaded logistics. Distinguished UF Professor Emeritus Dr. Phil Lounibos presented via Zoom.

The course aimed to expand theoretical and practical knowledge about the main determinants of the spatial and temporal variation of vector-borne diseases, such as biological, ecological, social, or environmental factors. In addition to lectures, students participated in practical lessons in the laboratory and fieldwork experience. They all developed small research projects in groups including vector sampling, identification, and oral presentations of their results.

DETVETORES was coordinated by Dr. Nildimar Honório (Fiocruz), who has a long and close relationship with FMEL. This third international edition of the course took place on August 8th -12th, 2022 at the Guapiaçu Ecological Reserve (REGUA), in Cachoeiras de Macacu, Rio de Janeiro, Brazil.

Researchers from several institutions participated in DETVETORES, including:

- Dr. Daniel Câmara (Fiocruz)
- Dr. Bruno Carvalho (Barcelona Institute for Global Health)
- Dr. Izabel Reis (WHO)
- Dr. Tania Ayllon (Universidad Afonso X El Sabio, Spain)
- Prof. Alex Pauvolid (Federal University of Viçosa)
- Prof. Maria Lucia Lorini (Federal University of Rio de Janeiro State)
- Prof. Helena Bergallo (State University of Rio de Janeiro)





Bee College in the Panhandle was held in Panama City, FL at the FSU Panama City Campus on Friday, August 12th and Saturday, August 13th. We had 100 participants in attendance, six vendors, and instructors from around the state attended. Participants included individuals from Ontario, New York, Barbados, Jamaica, the Bahamas, and more.

Our next event will be held on March 17th & 18th, 2023 in Gainesville, FL. Registration is open: [t.ly/1-05](https://t.ly/1-05)



On July 19th and 20th **Dr. Hugh Smith** gave a workshop on the management and identification of thrips in Quetzaltenango, Guatemala, to agronomists from the Instituto de Ciencia y Tecnología Agrícolas (ICTA) and agronomy students and employees of private companies. Thirty-five people participated in the morning management session in person, and over 90 people from around the country participated via Zoom. The afternoon of the 19th was spent collecting thrips at the ICTA station in Olinstepeque. The morning of the 20th, eleven participants practiced mounting and identifying important thrips species. Dr. Smith offered a condensed version of the training July 23rd to students in the MS program for Crop Protection in International Commerce at Rafael Lanivar University in Guatemala City. Thrip diagnostic training material was developed in collaboration with Tom Skarlinsky (USDA-APHIS Miami) and Felipe Soto-Adames (Division of Plant Industry, Gainesville).







# Instructor Highlights

This past summer, **Drs. Anthony Auletta** and **Roberto Pereira** traveled to Florence, Italy to teach a six week study abroad course as part of the UF in Florence: Global Perspectives program. Their course, Feast or Famine in Florence, encourages students to explore the complex intersection between science, history, and culture – and what better place to do that than the birthplace of the Renaissance!

Nine students joined Drs. Auletta and Pereira in Florence this year, and together they discovered some of the unexpected ways in which insects (and other little creatures) shaped the course of human history. From silk moths that opened global trade to an unprecedented degree, to the fleas that brought the Black Death to Europe (and, with it, the end of Medieval Society and the emergence of the Renaissance), to historical and current pests of wine grapes, olives, and more... there was so much to explore! To explore these topics the class toured local Tuscan vineyards and olive groves (and sampled their delicious products, naturally), visited many museums and thousand-year-old churches (some of which used to be plague hospitals), and even walked among ancient Etruscan and Roman ruins. All in all, the course was a great success, and Dr. Auletta hopes to offer it once again next summer (in 2023)!



Above: The 2022 Feast or Famine students in the cloister of the historic Basilica di Santa Croce in Florence, Italy. Inside this centuries-old church are tombs and monuments to some of the most famous scholars and artists of the Renaissance, including Galileo, Michelangelo, and Dante.

## Publications

- Bahder BW, Barrantes EA, Echavarria MAZ, Helmick EE & Bartlett CR (2022) A New Species of Planthopper in the Genus *Anchimototho* (Hemiptera: Auchenorrhyncha: Derbidae) on Palms from Costa Rica. *Zootaxa* 5169: [doi:10.11646/zootaxa.5169.4.5](https://doi.org/10.11646/zootaxa.5169.4.5).
- Campbell LP, Guralnick RP, Giordano BV, Sallam MF, Bauer AM, Tavares Y, Allen JM, Efstathion C, Bartlett S, Wishard R, Xue RD, Allen B, Tressler M, Qualls W & Burkett-Cadena ND (2022) Spatiotemporal Modeling of Zoonotic Arbovirus Transmission in Northeastern Florida Using Sentinel Chicken Surveillance and Earth Observation Data. *Remote Sensing* 14. [doi:10.3390/rs14143388](https://doi.org/10.3390/rs14143388).
- Desaegeer JA & Bui HX (2022) Root-knot Nematode Damage to a Cucurbit Double Crop is Increased by Chloropicrin Fumigation on the Previous Tomato Crop. *Pest Management Science*. [doi:10.1002/ps.7026](https://doi.org/10.1002/ps.7026).
- Fard SZ, Hemmati SA, Shishehbor P & Stelinski LL (2022) Growth, Consumption and Digestive Enzyme Activities of *Spodoptera littoralis* (Boisd) on Various Mung Bean Cultivars Reveal Potential Tolerance Traits. *Journal of Applied Entomology*. [doi:10.1111/jen.13055](https://doi.org/10.1111/jen.13055).
- Grabau ZJ, Liu C, Sandoval-Ruiz R & Mussoline W (2022) *Belonolaimus longicaudatus* Host Status and Pathogenicity on Sweetpotato. *Journal of Nematology* 54. [doi:10.2478/jofnem-2022-0019](https://doi.org/10.2478/jofnem-2022-0019).
- Hemmati SA, Shishehbor P & Stelinski LL (2022) Life Table Parameters and Digestive Enzyme Activity of *Spodoptera littoralis* (Boisd) (Lepidoptera: Noctuidae) on Selected Legume Cultivars. *Insects* 13. [doi:10.3390/insects13070661](https://doi.org/10.3390/insects13070661).
- Nasir S, Walters KFA, Pereira RM, Waris M, Chatha AA, Hayat M & Batool M (2022) Larvicidal Activity of Acetone Extract and Green Synthesized Silver Nanoparticles from *Allium sativum* L. (Amaryllidaceae) Against the Dengue Vector *Aedes aegypti* L. (Diptera: Culicidae). *Journal of Asia-Pacific Entomology* 25. [doi:10.1016/j.aspen.2022.101937](https://doi.org/10.1016/j.aspen.2022.101937).
- Polesel MGI, Valle NG, Cave RD & Damborsky MP (2022) Descriptions of the Larva and Pupa of *Gymnetis pudibunda* Burmeister, 1866 (Coleoptera: Scarabaeidae: Cetoniinae: Gymnetini), with Notes on Natural History and a Key to the Known Larvae of New World Gymnetini. *Journal of Natural History* 56: 969-987. [doi:10.1080/00222933.2022.2080607](https://doi.org/10.1080/00222933.2022.2080607).
- Romero P, Ibarra-Juarez LA, Carrillo D, Guerrero-Analco JA, Kendra PE, Kiel-Martinez AL & Guillen L (2022) Electroantennographic Responses of Wild and Laboratory-Reared Females of *Xyleborus affinis* Eichhoff and *Xyleborus ferrugineus* (Fabricius) (Coleoptera: Curculionidae: Scolytinae) to Ethanol and Bark Volatiles of Three Host-Plant Species. *Insects* 13. [doi:10.3390/insects13070655](https://doi.org/10.3390/insects13070655).

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



## Grants



**Drs. Adam Dale**, Jaret Daniels, and Bernie Mach were awarded a \$130,000 two-year grant from the US EPA's Pesticide Environmental Stewardship Program titled, "Integrated Pest and Pollinator Management for Ornamental Plant Production."



**Dr. Christine W. Miller** has received an award of \$1,214,000 from the National Science Foundation for the project "Dynamic environments and the biomechanics of animal weapons." Dr. Miller will work with collaborators in Germany and the United Kingdom to better understand the growth, development, and biomechanics of the insect cuticle and how they impact sexual selection. The first year of this four-year award partially funds Dr. Miller's year-long sabbatical at the University of Cambridge, UK.



**Dr. Peter DiGennaro**, along with the collaborators Dr. Dahlia Nielsen and Dr. Colleen Doherty at North Carolina State University, were awarded \$2.3 million from NSF Plant Genomes and USDA AFRI Plant Biotic Interactions Programs for their project titled "QTL Analyses Identify Genetic Components Regulating the Interactions Between Plants, Pathogens and the Environment in the Face of Climate Change." This four-year project will evaluate a recombinant inbred tomato line under various nematode and temperature pressures to identify the genetic regulators that control these plant stress responses.