



Bee Campus USA Annual Report Pollinator Conservation & Education 2019



University of Central Florida Orlando, Florida



EDUCATION & OUTREACH



Students attending the Bee Condo Building workshop pose with their completed condos



Students working together to construct their Bee Condos



Dr. Bohlen working with a student to complete her Bee Condo



Pollinator Student, Elise de Cuba, gives a tour of the pollinator garden to attendees of the Bee Condo Building Workshop



Dr. Bohlen and students conduct a hive inspection to assess the health of the hive

Bee Condo Building Workshop and Pollinator Garden Tour June 21, 2018: Students, Staff, and Community Members joined us for a tour of the Pollinator Garden and then a Bee Condo Building workshop. Attendees constructed their own Bee Condos to take home and put in their yard!

Hive Inspection Educational Seminar February 25, 2019: Dr. Bohlen and his beekeeping students held a hive inspection discussed importance of healthy hives and how to maintain them.

Pollinator Trivia June 2019: At this event, we tabled outside of the Student Union and participants picked three questions to answer, if they got all three questions correct, they receive a native pollinator plant.

Propagation Workshop June 2019: We hosted a propagation workshop at the Arboretum where we taught attendees to take the most effective cuttings of native plants and how to care for them.

Planting of BA1 Garden and Pollinator Garden Tour September 23, 2019: Student volunteers were invited to help us plant our new garden in the Business Administration Courtyard and then given a tour of the original Pollinator Garden.

Tour of the Bug Closet at UCF July 17, 2019: High School students in the Biology Summer Field Institute attended a tour given by students in the Lawn to Wildflowers Project lab.

Tour of the Bug Closet at UCF July 2019: High School students in the Orlando Science Center Catalyst Program attended a tour given by students in the Lawn to Wildflowers Project lab.

STEM Day at UCF: K-12 students attended a tour of the bug closet for STEM Day and learned about the importance of pollinators.

Feed a Bee Pollinator Workshop Sponsored by Bayer Feb 24, 2019: Dr. Bohlen hosted a presentation for children accompanied by a demonstration hive to show children how a hive works.

Lawn to Wildflowers Pollinator Presentations Off UCF Campus:

- Conradina Chapter of the Florida Native Plant Society. Melbourne, FL, October 14.
- Sparkleberry Chapter of the Florida Native Plant Society. Branford, FL, October 8.
- Entomology Society of Central Florida booth at Science Nite. Orlando Science Center, FL, October 5.
- Serenoa Chapter of the Florida Native Plant Society. Sarasota, FL, September 16.
- Two-day field instruction on entomology and insect collecting methods, high school students in the Orlando Science Center Catalyst Program, Archbold Biological Station, FL, June.
- Lawn to Wildflowers booth at Florida Wildflower Foundation Symposium
- Disney Wilderness Preserve Family Day with Entomology Society of Central Florida, Feb.
- Lawn to Wildflowers presentation at Big Bend Chapter of the Florida Native Plant Society. Jan.

POLLINATOR HEALTH & HABITAT



A student poses with the plants selected for the Business Administration I Pollinator Garden



Pollinator Garden located adjacent to our Greenhouse



Pollinator Garden Island landscape planted adjacent to the Greenhouse



Layout of plants at the BA1 Pollinator Garden

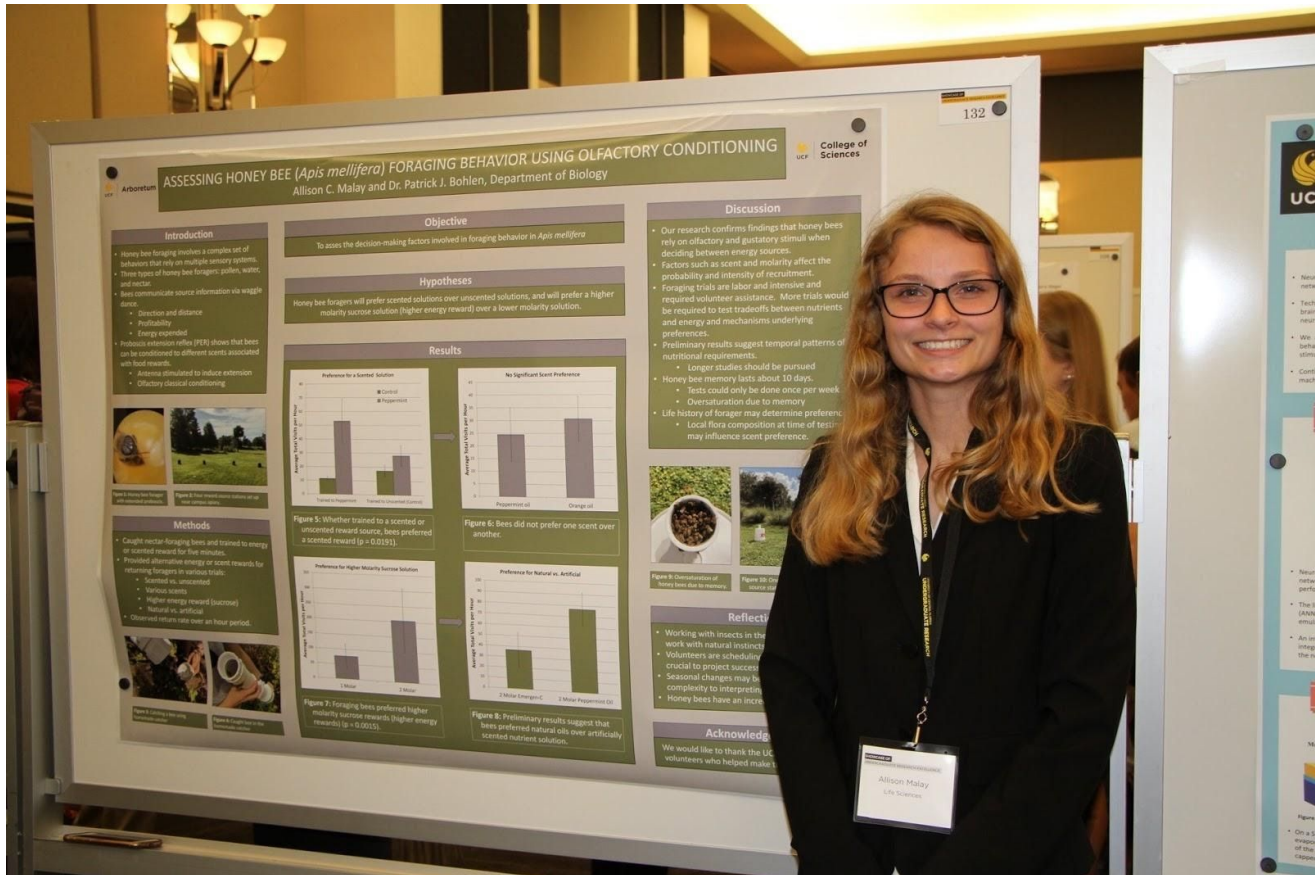


The front of the Colbourn Hall Pollinator Garden

We had two major pollinator habitat projects last year: a small garden in the courtyard of the Business Administration 1 building where we planted six species of beneficial plants and a post-graduate student's project that involves converting lawn to wildflower patches. In the courtyard garden, we planted *Calliandra haematocephala*, *Callicarpa americana*, *Rivina humilis*, *Silphium asteriscus*, *Hamelia patens*, *Lantana depressa*, and *Psychotria nervosa*. The Lawn to Wildflowers project involved constructing 30 plots with 750 various pollinator-friendly plants around the university's campus.

Additionally, the Learning by Leading Bee Campus and Pollinator Gardens Team added several plants within two large pollinator gardens to replace some that reached the end of their lifespan and create a more diverse landscape for native pollinators and honeybees.

SERVICE LEARNING



Allison Malay stands beside her research poster at the SURE Showcase

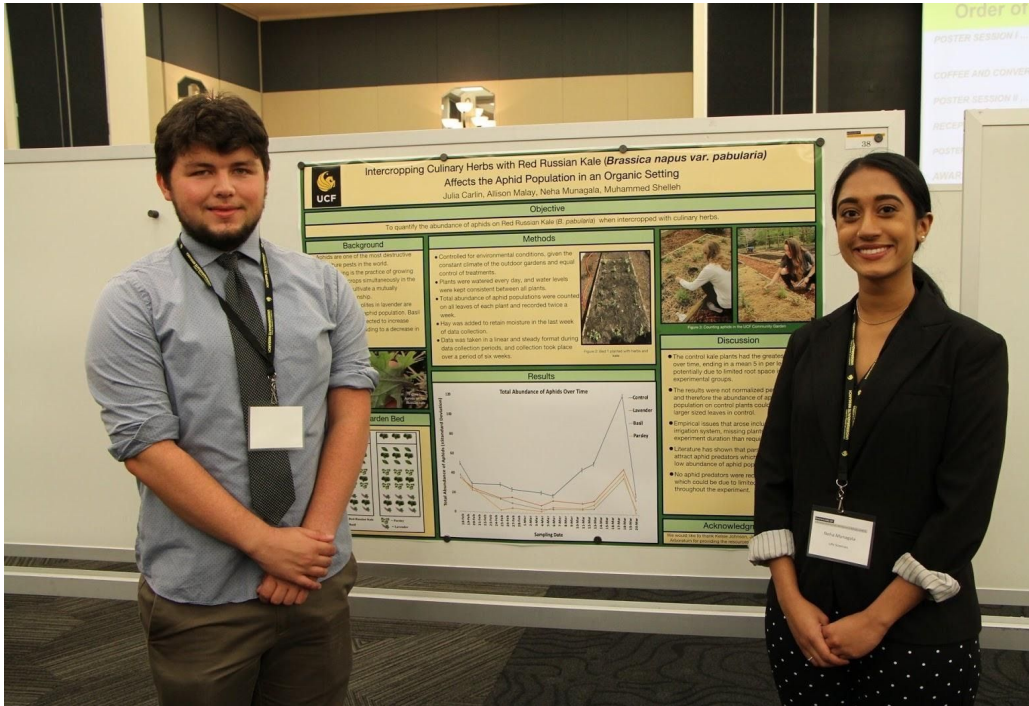
Lawn to Wildflowers Project—year-round in 2019, 3 students participating

Three students from the Lawn to Wildflowers Project participated in Service-Learning projects not as part of a related course. These students worked to plant pollinator gardens off UCF campus as part of the Lawn to Wildflowers project and have maintained data collection of these gardens. Students collect data on the abundance, diversity, and overall health of the pollinators visiting these gardens. These students also created a survey involving questions about converting regular lawns to wildflower habitat and have surveyed 3200 people from around the country thus far. These students are compiling the survey data and plan to publish a paper discussing the results.

Service-Learning Student Project: Assessing Honey Bee Foraging Behavior Using Olfactory Conditioning

One of our student's, Allison Malay, conducted a year long study assessing the decision-making factors involved in foraging behavior in *Apis mellifera*. She presented her research at the Showcase of Undergraduate Research Excellence on UCF Campus.

CURRICULUM & CONTINUING EDUCATION



UEFS students stand beside their research poster at the SURE Showcase



Dr. Bohlen's Pollinator class conducts a weekly hive inspection

For-Credit:

1. In the Urban Ecological Field Studies course, students completed a study analyzing the effects of intercropping herbs and vegetables as a natural means for deterring pests. The vegetable pests studied were aphids, and part of their study looked at whether predatory pollinators of aphids were likely to predate on the aphids based on the herbs grown around the vegetables.
2. In the Honey Bee Biology and Beekeeping course, students have a comprehensive overview of honey bee biology and a practical introduction to the art and science of beekeeping. Students practice, but are not limited to, the following: weekly hive inspections, pollinator surveys, breeding pollinators, conduct wild hive collections and surveys

We use our Arboretum Social Media Accounts as a tool for educating those who follow our page. As part of our educational outreach via social media, we posted a total of 32 educational pollinator posts. Posts varied in information from pollinator plants, individual pollinators, host plants for various stages of pollinator life, and Florida native pollinator plants. We received 3,563 likes on our social media posts.

EDUCATIONAL & INTERPRETIVE SIGNAGE

In 2019, we focused on installing new pollinator gardens on campus and this year, 2020, we will be focusing on signage for the gardens. We have a temporary "Bees at Work" sign outside the gate where our apiary is located. A larger, more informative sign will be added this year.

POLICIES & PRACTICES

All chemical use in and around the pollinator gardens has ceased. Neonicotinoid use has drastically decreased since receiving Bee Campus Certification. Plans are in place to eliminate Neonic use within the next year. Alternative organic chemicals for pest and disease management have been implemented and utilized regularly around campus. Mechanical pruning of plants being inundated with pests or disease is an alternate method being utilized, rather than spraying.

Recommended Locally Native Plant Species List —

<https://www.plantsmap.com/organizations/24666/collections/31873>; URL is to our PlantsMap list that shows all plants in our garden. Not all are local. Will create a separate list of native pollinator plants.

Regional Native Plant Supplier List — N/A

Pollinator Friendly Integrated Pest Management Plan —

<https://www.green.ucf.edu/wp-content/uploads/2015/01/IPM-Plan.pdf>

CONTACT US!

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Website — <https://arboretum.ucf.edu/programs/bee-campus-usa/>

Social Media — <https://www.facebook.com/UCFARBORETUM/>
<https://www.facebook.com/lawntowildflowers/>