

KYLIE WEIS

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EDUCATION

Auburn University | Auburn, AL

Ph.D. Plant Pathology | August 2023 – Present

Presidential Graduate Research Fellow

Area of study: *Xanthomonas* Type 6 Secretion System

Auburn University | Auburn, AL

Bachelor of Science | Major in Applied Biotechnology | Minor in Philosophy | May 2023

GPA: 4.0/4.0 | Dean's List 2019-2023

Relevant coursework: Genetics, Microbiology, Plant Pathology, Biochemistry, Omics

PUBLICATIONS

“A Brief Evaluation of Copper Resistance Mobile Genetic Island in the Bacterial Leaf Spot Pathogen, *Xanthomonas perforans*” | Co-first author | Phytopathology April 25, 2023.

DOI: 10.1094/PHYTO-02-23-0077-SC

“Genetic and functional diversity to explain generalist and specialist lifestyles in the genus *Xanthomonas*” | Pena et al. | Genome Biol Evol. | April 2024 | DOI: 10.1093/gbe/evae074

Extraction of DNA from Honeybee, *Apis mellifera*, Beeswax for Genetic Analysis of the Microbiome | First author | Auburn University Journal of Undergraduate Scholarship | 2022

Investigation of the Function of the Putative Type VI Secretion System Effectors of the Plant Pathogen *Xanthomonas* | First author | Auburn University Journal of Undergraduate Scholarship | 2021

PRESENTATIONS

ICPPB & Biocontrol | Contributing talk “Disruption to the Cell Wall of the Plant Pathogen *Xanthomonas euvesicatoria* pv. *perforans* triggers assembly of the Type 6 Secretion System” | July 7, 2024 | NSF Travel Awardee

Auburn University Plants, Insects and Microbes Symposium | Poster “What’s the Damage Done? Affect on Yield from *Xanthomonas perforans* Inoculation of Flowers” | May 17, 2024

International Congress of Plant Pathology | Poster “Diversity of Mobile Genetic Elements and Associated Fitness Factors to Elucidate the Evolution of *Xanthomonas*” | August 2023

George & Helen Kohut Symposium | Presentation “To Be or Not to Bee? Using Pollinators to Induce Soybean Hybrid Vigor” | August 4, 2022

Auburn University Student Symposium | Poster “Assessing the Microbiome of Honeybee (*Apis mellifera*) Beeswax Using Genetic Analysis” | March 28, 2022

Graduate Research Poster Showcase | Auburn University College of Agriculture | 1st place undergraduate division | Oct 2020

AWARDS

ICPPB & Biocontrol Travel Award | NSF | July 2024

Auburn College of Agriculture Graduate Research Poster Showcase Winner | Oct 2023

Presidential Graduate Research Fellowship | Auburn University | 2023

Comer Medal of Excellence in Agricultural Sciences | Auburn University | March 2023

Department of Defense SMART award semifinalist | February 2023

Outstanding Undergraduate Researcher – Plant Pathology | May 2021

EXPERIENCE

Presidential Graduate Research Fellow | Auburn University | August 2023-Present

Department of Entomology and Plant Pathology | Dr. Neha Potnis Lab

- Discovering the molecular mechanisms required for *Xanthomonas* to colonize seed through floral transmission
- Investigating the role of Type 6 Secretion System in seed colonization and host cell targeting
- Fungi subculturing and bacterial and fungal competition assays
- Flow Cytometry

Research Assistant - Auburn University | Department of Plant Pathology and Entomology

Dr. Neha Potnis Lab | February 2020 – May 2023

- Investigated the type VI secretion system effectors of *Xanthomonas* computationally and through prokaryotic and eukaryotic inducible toxin assays (AUJUS, 2021)
- Computationally investigated nonpathogenic strains of *Xanthomonas* acting as reservoirs of virulence and fitness factors through the carrier genes of mobile genetic elements
- Investigated the genetic mobility and integration of a copper resistance operon
- Completed RCR, biosafety, lab safety, managing regulated waste, & NIH recombinant DNA training courses

NSF REU - BTI & Cornell University | Plant Biology Research Program

Dr. Margaret Frank Lab | June 1, 2022 – August 4, 2022

- Assessed pollinator attraction to transgenic soybean lines to increase cross-pollination
- Experience with experimental design, genotyping & phenotyping flowers, and statistical analysis
- Completion of BTI's bioinformatics course and WPS greenhouse training

Undergraduate Research Fellow - Auburn University | Office of Undergraduate Research

Dr. Geoffrey Williams Lab | August 1, 2021 – May 1, 2022

- Independently led study of the honeybee hive microbiome
- Optimized protocol for DNA extraction from beeswax (AUJUS, 2022)

INVOLVMENT & OUTREACH

STEAM Job Fair Smiths Station Junior High School | May 2, 2024

Board of Directors Auburn Alumni Band | September 2023- Present

-Membership and Activities Committee Co-Chair

Sigma Alpha Professional Agriculture Sorority | August 2020 – May 2023

- Scholarship Chair | August 2021 – May 2022
- Fundraising Chair | January 2022 – May 2022
- Promoted women in agriculture and conducted outreach and Ag education at local elementary schools

Auburn Biotechnology Society | April 2021 - Present

Auburn University Marching Band | Piccolo | August 2019 – November 2022

- New member mentor | August 2020 - November 2022