

Meghan Jerke

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Education

Bachelor of Science in Insect Biology

Spring 2024

Minor in Natural Resources and Environmental Science

Purdue University, West Lafayette, IN

GPA: 3.95

Master of Science in Entomology

In progress

The Ohio State University, Wooster, OH

Research Interests

Improving understanding of arthropod diversity and interactions in high disturbance urban, soil, and forest ecosystems.

Research Experience

Forest Entomology Technician

May 2023-May 2024

Department of Entomology, Purdue University

- Set up and maintained drought and fungal inoculation studies in walnut trees.
- Led project analyzing how phenolic extracts from black walnut trees will affect the growth of *Geosmithia morbida* on augmented PDA plates.
- Assisted in the monitoring and collection of field site traps.
- Identified genera of ambrosia beetles.

Soil Arthropod Ecology Researcher

May-July 2022

Department of Entomology, Cornell AgriTech

- Designed and executed an independent project observing the impacts of turf seed treatment additives on insect mortality.
- Performed microbial techniques to assess fungal spore uptake and movement by collembola.
- Analyzed data to create a visual representation of research in the form of a poster presentation.

Specialty Crop IPM Technician

January 2021-May 2022

Department of Entomology, Purdue University

- Designed and performed bioassays that monitored the behavior of carrot weevil oviposition at different levels of pesticide application.
- Consulted with growers to test new insecticides in field and laboratory settings.
- Identified species of fruit flies as well as families of common crop pests.

Soil and Turfgrass Ecology Technician

September-December 2020

Department of Entomology, Purdue University

- Identified turf dwelling beetle larvae in both a field and lab setting to quantify pesticide toxicity.
- Analyzed soil aggregate size and composition to determine the quality of the soil as a larval habitat.
- Collected and measured plant material to assess root feeding damage.

Internships

Bug Bowl Event Coordinator

February-May 2022, 2023, 2024

Department of Entomology, Purdue University

- Communicated with sponsors and volunteers to secure event resources.
- Designed educational activities and posters for all ages.

- Organized and judged K-12 insect art contest with 1,000+ entries.
- Collected, entered, and managed survey data to assess statewide community engagement following IRB protocols, resulting in publication.

Teaching

K-12 Tutor

November 2022-Present

PLEXUSS Unlimited Tutoring

- Tutored K-12 students in subject areas including math, English, science, and history.
- Advised high school students on college preparedness, applications, and SAT testing.

Presentations

Poster Presentations

Jerke, M., Swoboda, M., Wickings, K. (July 2022). Assessment of seed treatment additives for biocontrol of turf pests. Poster presented at Cornell Agritech Summer Scholar session, Geneva, NY.

Volunteering and Leadership

Thomas Say Entomological Society

Treasurer

August 2021-May 2022

- Managed student organization funds.
- Designed and implemented new fundraising events.

Secretary

August 2022-May 2023

- Planned and communicated club events.
- Facilitated connections between undergraduate students and faculty.

President

August 2023- Present

- Expanded membership with the goal of diversity, equity, and inclusion.
- Collaborated with other insect-related student organizations.

Prospective Student Tours

August 2021-Present

- Led tour groups for prospective insect biology students.
- Answered questions about college and provided relevant resources.

Discover Insect Biology Day

April 2022

- Hosted a panel regarding undergraduate life in the Entomology Department

Indianapolis Bug Fest

August 2022

- Ran a booth educating event attendees on invasive species.

Whiting Public Library Firefly Program

July 2021

- Assisted with outreach event focused on firefly biology and habitats.

Honors and Awards

Presidential Scholarship

2020-Present

C.C. Alexander Memorial Scholarship

2020-2021

J.T. Eaton and Company Inc. Award

2021-2022

William Brehm Entomology Scholarship

2021-2022, 2023-2024

R and W Rhodes Family Scholarship

2022-2023

Oser Family Scholarship

2022-2023

University Fellowship

2024-2025

References

Dr. Kayla Perry

Assistant professor of forest entomology

Department of entomology, Ohio State University

Perry.1864@osu.edu

Dr. Matthew Ginzel

Professor of forest entomology

Department of Entomology, Purdue University

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Dr. Kyle Wickings

Associate professor of soil arthropod ecology

Department of Entomology, Cornell University

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Dr. Gwen Pearson

Science writer and educator

Department of Entomology, Purdue University

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Dr. Christopher Wirth

Manager of Purdue Entomological Research Collection

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Dr. Emily Justus

Outreach coordinator

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