**Research Interests and Philosophy**

My graduate work took me into the fields of biogeochemistry, mycology, metagenomics, and community ecology. The work was supported by an NSF grant that had been awarded before I began. The Free-air CO2 Enrichment (FACE) Wood Decomposition Experiment was a long-term project that aimed to understand how coarse-woody debris decomposes and how the carbon from that wood moves and is stored in the ecosystem. Within that goal, I was able to formulate my own specific hypotheses and statistical analysis when studying the movement of 13C into soil samples. Additionally, I was able to design and execute a portion of my research dedicated to understanding the fungal communities present in decaying logs and their activity levels. With no background in genetics, I threw myself into learning all I could about real-time PCR and metabarcoding. The results of this work are in preparation for publication. This project helped me grow my skills in experimental design, adjusting to setbacks, overcoming challenges on my own, and seeking input from others when needed. In the course of my work, I independently applied for and received a research grant and several travel grants that allowed me to expand the original project and present my findings at national conferences.

My plan for future research embraces the flexibility and openness I learned as a Ph.D. student. My interests are broad and varied, and I look for opportunities to bring together varying fields. I hope in the future to study insects, plants, and/or fungi in the broader contexts of their ecosystems, both natural and manmade. In agriculture, forestry, prairie restoration, wetland conservation, and urban ecology, the smallest organisms are integral and often overlooked components. I’m interested in studying uses of native predatory insects as part of integrated pest management (IPM), and in encouraging native pollinators for increased agricultural yields. I’m also interested in habitat restoration, forest management for biodiversity, and agroecology. In the current uncertain scientific climate, research with immediate clear benefits to agriculture, public health, and commercial forestry may be more supported. Finding and emphasizing smaller grants over larger federal grants is more practical at this time.

Just as biodiversity makes stronger ecosystems, diversity of people and backgrounds makes stronger lab groups. I want to recruit undergraduates to work in my lab, particularly those who are not in a financial position to accept unpaid summer internships. Oberlin’s student research program is an excellent way to match students with faculty, and I believe projects like those featured on the biology department website are integral for students’ development as scientists. I am enthusiastic about training first-generation college students to work in my lab regardless of their previous experience with laboratory or field work, and in recruiting students from historically underserved populations.