

# Investigations in ecology and evolution of microbial eukaryotes and the application of (meta) genomic tools

Science and Mathematics

Colloquium Series

Wed., April 20, 2022  
3:35 - 4:35 p.m.

Agribusiness Center Building, Room 134  
ASU Polytechnic campus  
or via Zoom: <https://asu.zoom.us/j/5894040849>

Most of life is microbial. We rely on microbes to maintain healthy and stable ecosystems, and they are intimately linked to everything from our diet to the global economy, yet they remain understudied.

Microbial eukaryotes such as myxomycete amoebae (plasmodial slime molds) are abundant and important in terrestrial ecosystems. By eating bacteria and other microbes, they aid in the cycling and storage of nutrients. Little about them is known, however, because most cannot be isolated using culture methods and they are not detected by typical sequencing surveys, due to their long, variable marker genes. To overcome this, Dr. Walker designed a myxomycete-specific pipeline for high-throughput environmental sequencing of soil samples. Her dissertation research applied this pipeline with traditional methods to investigate how the myxomycete community is affected by changes in nutrient availability in a tropical forest of Panama. In her current research she works with the cellular slime mold *Dictyostelium discoideum* using whole genome sequencing to investigate both inter- and intraspecies interactions.

**Questions?** Contact [csagers@asu.edu](mailto:csagers@asu.edu)

**ASU** College of Integrative  
Sciences and Arts  
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**Dr. Laura Walker**  
Post-Doctoral Fellow  
Washington University, St. Louis

Dr. Walker completed a master's in biology at Washington University and PhD at the University of Arkansas, Fayetteville.

Her dissertation research, focused on the ecology of Myxomycetes in the tropical forests of Panama, was funded by fellowships from the Smithsonian Tropical Research Institute and a DDIG from the NSF. Through this work, she found that Myxomycetes — like plants and numerous other groups in the tropics — appear to be limited by the availability of phosphorus.

*Dr. Walker is a candidate for a genetics position in CISA's Faculty of Science and Mathematics.*

*Faculty and practitioners discuss their current research and field projects in the Science and Mathematics Colloquium Series, held throughout the academic year at ASU's Polytechnic campus. All seminars are free and open to the public.*

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