

Statement of Professional Goals, Michael Blazanin, Interdepartmental Graduate Program in Ecology, Evolutionary Biology and Behavior

In my graduate studies, I am open to many different areas of research, although my interests are strongly centered on experimental and microbial evolution, in particular bacteria and phage evolution. Studying microbial evolution provides a biological model system in which we can investigate, and reveal, fundamental evolutionary paradigms. At the same time, a greater understanding of evolution at the microbial scale can improve our understanding of natural forces and inform applications in everything from human health to biotechnology. These two motivations underlie my personal interest in microbial evolution. Some particular topics I am interested in pursuing include parasite-host antagonistic coevolution as well as the evolution of cooperation, while I am interested in combining experimental evolution and bioinformatics approaches in my work.

After I receive my Ph.D., I intend to continue a career in academic teaching and research, with the eventual goal of becoming a faculty member. I envision myself teaching courses as well as directing a laboratory and leading research. In particular, I envision a research agenda focused on microbial evolution, possibly with phage, and how we can better understand it in order to improve human welfare. The Integrative Biology Program at Michigan State University is ideal for me because of strong faculty research in my areas of interest and outstanding available resources. The Lenski, Waters and Shade laboratories all investigate microbial evolution experimentally, although in distinct ways. Each would provide an opportunity to pursue fascinating research, expanding my technical and research skills while also supporting immense intellectual growth. Finally, involvement with the EEBC and BEACON programs is an unrivaled opportunity to engage with other researchers asking similar questions in different systems, and which provide even greater access to resources and ideas.