

# Christopher Gaulke

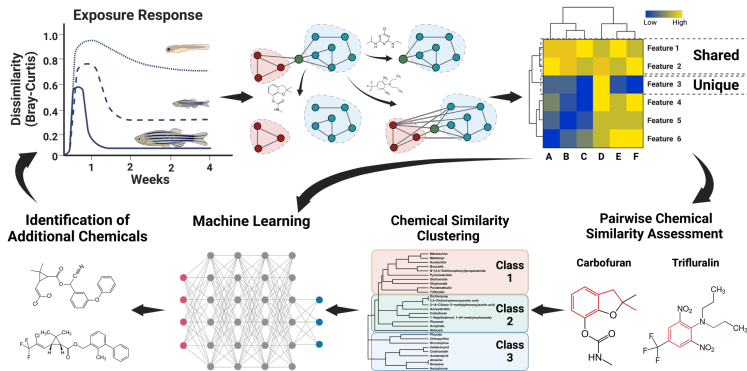
Assistant Professor

Department of Pathobiology  
[Affiliate Research Page](#)

Email: [cgaulke@illinois.edu](mailto:cgaulke@illinois.edu)

Created: Jan2024

Humans are constantly bombarded by myriad nutritional, chemical, and biological exposures, each of which have the potential to modulate host health. My lab integrates genomic, metabolic, and transcriptomic data from microbes and their hosts to identify the microbial pathways that shape responses to these exposures with the ultimate aim of using this knowledge to engineer microbial consortia that mitigate exposure impacts on human health.



## Research Interests

- Functional dynamics of microbial communities across lifespan
- The role of the gastrointestinal microbiome in exposure toxicity
- Computational prediction of exposure impacts on microbe and host
- Gastrointestinal carcinogenesis

## Current Projects

- Prediction of microbial resistance and resilience to pesticides
- Defining early microbial succession during gastrointestinal cancers
- Impacts of fiber and microbial metabolism on chemical exposure outcomes

## Interest Areas for Collaboration/Future Work

Dr. Gaulke is interested in working with food scientists, nutrition experts, data scientists, and statisticians to better model how dietary modulation effects microbial interactions with environmental perturbations and how these effects interact with host health.

## Keywords

Cancer, gut, microbiome, metagenomics, metatranscriptomics, pesticides, cancer, zebrafish