Madeline Topf

EDUCATION

University of Wisconsin-Madison | PhD in Microbiology | 2020 – 2025
Carleton College | B.A. 2018 Major in Biology; Minor in Neuroscience

RESEARCH

Bioinformatics fellow *Wisconsin State Laboratory of Hygiene* | September 2025 – present

- Fellowship through the Association of Public Health Laboratories

Pepperell lab *University of Wisconsin-Madison* | 2020 – 2025

- Senior data analyst on multiple computational research projects studying bacterial adaptation
- Lead lab computing system & data storage; developed and implemented data organization protocols; managed lab database and GitHub; advised improvements to Linux servers
- Wrote and edited manuscripts; presented to scientific community

Sonnenburg lab *Stanford University* | 2018 – 2020

- Analyzed microbiome datasets from dietary interventions testing the efficacy of fiber and fermented foods in modifying the microbiota and immune system

SKILLS

Programming: R, Python, Bash, Git, Markdown, Shiny
Computing: Nextflow, nf-core, Linux/Command Line, Docker, HT-Condor pipeline development, GitHub, Anaconda, Jupyter Notebook
Bioinformatics: Metagenomic data analysis, RNA sequencing data analysis, long read genomic sequencing, population genetics statistics, genome assembly, phylogenetic analysis, pangenome analysis, structural variant calling, SNP calls, pooled sequencing analysis

INVOLVEMENT

Contributor *Isthmus; Capital Times; Tone Madison* | 2021 – present
Co-President *Teaching Assistants' Association* **|** 2023 – 2025

- Lead and coordinated campaign strategy toward UW-Madison's first and only paid parental leave policy
- Won 'Pride of the Union' award for historic membership growth

Lead facilitator *Computational biology, ecology & evolution ("comBEE") learning community* **|** 2023 – 2025

- Facilitated and coordinated monthly special topics meetings: machine learning in biology, data visualization, high-throughput computing, microbiome consortia data sharing

Varsity Women's Soccer *Carleton College* | 2014 – 2017 | Team captain 2017

SELECT PUBLICATIONS

Phase variable colony variants are conserved across Gardnerella spp. and exhibit different virulence-associated phenotypes. *Msphere*, 2024. DOI: https://doi.org/10.1128/msphere.00450-24

Decoding a cryptic mechanism of metronidazole resistance among globally disseminated fluoroquinolone-resistant Clostridioides difficile. *Nature Communications*, 2023. DOI: https://doi.org/10.1038/s41467-023-39429-x

For more, visit Google Scholar Profile