Michael J. Sieler Jr.

Microbiome Scientist | Data Enthusiast | PhD Student at OSU
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SUMMARY

- Microbiome data scientist with 5 years of experience developing molecular, computational and statistical approaches to elucidate the underlying mechanisms of the gut microbiome and how they influence host health
- Robust data analytic skills in advanced applied statistics to drive research experiments (R, Python)
- Demonstrated abilities to collaborate and take leadership in multi-laboratory experiments
- Experienced in written and oral communication across various audiences from academics and students to members of the public

EDUCATION

Oregon State University
Ph.D. in Microbiology, minor in Biological Data Science* Expected 2025

Oregon State University
B.Sc. in Bioresource Research, options in Bioinformatics and Genomics 2020

WORK EXPERIENCE

MJSieler Consulting - Owner May 2022-Present
- Designed, developed, and deployed educational video game software for clients
- Educational software used to fulfill grant requirements for communicating scientific research
- Tools used: C#, Unity

RESEARCH EXPERIENCE

Developed high-throughput molecular biological and computational pipelines to interrogate gut microbiome
- Designed and implemented procedures to process 1,000+ zebrafish embryos to analyze their microbiomes
- Tools used: DADA2 (16S processing), R (data cleaning, statistical analysis, visualization)

Measure resilience of gut microbiome to chronic exposure of antibiotics
- Exposed 140 adult zebrafish to varying combinations of antibiotics and controls
- Tools used: DADA2 (16S processing), R (data cleaning, statistical analysis, visualization)

Investigate the joint interaction effects of pathogen exposure and diet on gut microbiome succession
- Fed 180 zebrafish three commonly used laboratory diets and exposed half to a common pathogen
- Tools used: DADA2 (16S processing), R (data cleaning, statistical analysis, visualization)

Meta-analysis of zebrafish gut microbiomes phylogeny
- Identified relevant studies and datasets to include in meta-analysis
- Tools used: Python (data cleaning)

Built and maintain Microbial Bioinformatics Hub to collaboratively share microbiome bioinformatic resources
- Open-source, collaborative space for researchers and students to find, learn and share knowledge, methods and tools related to analyzing microbiological data
- Tools used: GitLab (version control), Sphinx and Read the Docs (web hosting, documentation)

For a full list of my publications, please see michaelsieler.com/en/latest/Publications/publications.html