MICHAEL J. SIELER JR.

Summary

· Microbiome scientist with 5+ years of experience developing and applying high-throughput molecular, computational, and statistical research methods to analyze 1000's of zebrafish gut microbiome samples

· Research how multiple environmental factors interact with the gut microbiome to influence host health

· Robust data analytic skills in multivariate statistics and machine learning propel research experiments forward and gain data-driven insights

· Demonstrated abilities to collaborate and take leadership in cross-laboratory experiments and extra-curricular projects

· Experienced in written, oral and visual communication across scientific and public audiences

EDUCATION

2020 | estimated 2025

Ph.D. Microbiology, minor in Biological Data Sciences
Oregon State University — Corvallis, Oregon

2017 | 2020

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

PROFESSIONAL EXPERIENCE

May 2022 | Present

Owner
MJSieler Consulting — Corvallis, Oregon

· Designed, developed, and deployed educational video game software for clients to fulfill grant requirements for communicating scientific research

Projects: Virtual Fish

Tools: C#, Unity, Python, SQL

Sep. 2020 | Present

Graduate Research Student
Sharpton Lab (Oregon State University) — Corvallis, Oregon

· Investigate how environmental factors (diet, pollutants, pathogens, etc.) interact with the gut microbiome to influence host health using the zebrafish model organism · Developed multivariate statistical and bioinformatic pipelines for analyzing 100's of microbiome samples using R, Python and Command Line Tools · Led cross-laboratory scientific experiments from planning, design, implementation and analysis stages using 100's of zebrafish across an array of treatments · Co-authored 3 scientific articles · Co-taught 70+ student microbiology labs

Projects: Impacts of diet & infection, temperature & infection, and chronic antibiotic exposure on gut microbiome. Microbial Bioinformatics Hub

Tools: R, Python, Microbial bioinformatics, multivariant statistics, machine learning, Unix/Linux, zebrafish husbandry

Nov. 2017 | Sep. 2020

Undergraduate Research Student
Sharpton & Mahmud Labs (Oregon State University) — Corvallis, Oregon

· Developed and implemented novel, high-throughput gnotobiotic microbiome methods to simultaneously process +1000 zebrafish embryos for microbiome and toxicological research · Identified dozens of putative antibiotic compound from streptomyces bacteria

Projects: Benzo[a]pyrene effect on zebrafish gut microbiome

Tools: R, Microbial bioinformatics, Zebrafish husbandry, molecular wet lab techniques

CONTACT INFO

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SKILLS

Programming: R, Python (OOP, Numpy, SciKit, TensorFlow), C# (Unity), Git, bash/shell, SQL, HTML/CSS, Markdown/LaTeX and C++

Analysis: Hypothesis testing, Big data querying, Advanced applied statistics, Multivariate linear regression, Machine learning and Model building and selection

Bioinformatics: 16S sequencing, Metagenomics and Transcriptomics

Lab: Zebrafish husbandry and Bacterial culturing, extraction and amplification

Other: Microsoft Office Suite and Adobe Suite

Language: English, German (C1) and Spanish (A2)

MORE INFO

Publications
Projects