

# MICHAEL J. SIELER JR.

## Summary

- Microbiome scientist with 5+ years of experience developing molecular, computational, and statistical research methods
- Research how multiple environmental factors interact with the gut microbiome to influence host health
- Robust data analytic skills in multivariate statistics and machine learning to drive research experiments forward
- Demonstrated abilities to collaborate and take leadership in cross-laboratory experiments
- 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  
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2020
- **B.Sc. Bioresource Research, options in Bioinformatics and Genomics**  
Oregon State University Corvallis, Oregon

## PROFESSIONAL EXPERIENCE

- May 2022  
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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 Used: *C#, Unity, Python, SQL*
- Sep. 2020  
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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.  
  
Projects: *Impacts of diet & infection, temperature & infection, and chronic antibiotic exposure on gut microbiome. MicrobialBioinformaticsHub*  
  
Tools Used: *R, Python, DADA2, Phyloseq, multivariant statistics, machine learning, Unix/Linux, zebrafish husbandry*
- Nov. 2018  
|  
Sep. 2020
- **Undergraduate Research Student**  
Sharpton Lab (Oregon State University) Corvallis, Oregon  
Developed novel gnotobiotic microbiome methods using zebrafish.  
  
Projects: *Benzo[a]pyrene effect on zebrafish gut microbiome*  
  
Tools Used: *R, DADA2, Phyloseq, Zebrafish husbandry*
- Nov. 2017  
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Nov. 2018
- **Undergraduate Research Student**  
Mahmud Laboratory (Oregon State University) Corvallis, Oregon  
Assist PhD students and Post-docs with research projects.  
  
Projects: *Discovering novel antibiotics*  
  
Tools Used: *Bacterial culturing, DNA extraction, PCR, Gel Electrophoresis,*



## CONTACT INFO

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## SKILLS

Programming: R, Python, C#/Unity, Git, bash/shell, SQL, HTML, CSS, Markdown, C++ and LaTeX

Analysis: Advanced applied statistics, Multivariate linear regression, Machine learning and Model building and selection

Bioinformatics: 16S sequencing, Phyloseq, DADA2, Metagenomics, Mothur, HMMER and FastTree

Lab: zebrafish husbandry, Bacterial culturing, DNA extraction, PCR amplification and Gel electrophoresis

Other: Microsoft Office Suite, Adobe Photoshop and Illustrator and Blender

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

## MORE INFO

- 📖 Publications
- ☰ Projects

*Last updated on 2022-08-09.*