

# Michael J. Sieler Jr.

Department of Microbiology  
Oregon State University  
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## EDUCATION

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<b>Oregon State University, Corvallis, OR</b> <i>Ph.D. Microbiology, minor: Biological Data Sciences. GPA: 3.95</i>	Expected June 2025
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<b>Oregon State University, Corvallis, OR</b> <i>B.S. Bioresource Research, options: Bioinformatics and Genomics. GPA: 3.82</i>	June 2020
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## RESEARCH APPOINTMENTS

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<b>Graduate Student Researcher</b> , Mentor: Thomas J. Sharpton Research focus in zebrafish gut microbiome ecology and bioinformatics Department of Microbiology, Oregon State University	2020-Present
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<b>Phd Intern</b> , Mentor: Lisa Bramer and Kelly Stratton Research focus in metabolomic data science and bioinformatics Pacific Northwest National Laboratory	2023-2024
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<b>Undergraduate Student Researcher</b> , Mentor: Thomas J. Sharpton Research focus in zebrafish microbiome ecology and bioinformatics Department of Microbiology, Oregon State University	2018-2020
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<b>Undergraduate Student Researcher</b> , Mentor: Taifo Mahmud Research focus in identifying novel antibiotic compounds Department of Pharmacy, Oregon State University	2017-2018
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## TEACHING APPOINTMENTS

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<b>Graduate Teaching Assistant</b> General Microbiology Lab (MB 303, Spring)	2022-2023
Human Microbiome (MB 436, Spring)	2021
Introduction to Microbiology (MB 230, Spring)	2021

## FELLOWSHIPS & AWARDS

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<b>OSU Scholarly Presentation Award (\$600)</b> <i>Oregon State University</i> Competitive funding to support graduate students presenting their research at professional conferences.	2024
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<b>NMDC Ambassador (\$1,000)</b> <i>National Microbiome Data Collaborative</i> Recognized and received training for early career contributions for promoting and leading workshops on findable, accessible, interoperable and reusable microbiome research data and workflows.	2024 – Present
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<b>ODFW Fish Health Graduate Research Fellowship (\$56,000)</b> <i>Oregon Department of Fish and Wildlife</i> Recognized for research in Microbiology at Oregon State University, focusing on fish health issues to benefit Oregon's fish populations	2023 – 2025
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## Science Communication Fellow

Oregon Museum of Science and Industry

2020 – Present

Received certified training in informal science education and engagement with public audiences

## ARCS Scholar (\$18,000)

ARCS Foundation

2020 – 2023

Recognized for early significant contributions to scientific research

## SCIENTIFIC PUBLICATIONS

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Keaton Stagaman, Alexandra Alexiev, **Michael J. Sieler Jr.**, Austin Hammer, Kristin D. Kasschau, Lisa Truong, Robyn L. Tanguay & Thomas J. Sharpton (2024). "The zebrafish gut microbiome influences benzo[a]pyrene developmental neurobehavioral toxicity". *Sci Rep*.

- Collected zebrafish embryos, exposed them to treatments (including germ-free derivation) and plated them; dissected intestines and prepared intestines for DNA extraction; and contributed to the writing and editing of the manuscript.

Austin Hammer, Christopher Gaulke, Manuel Garcia-Jaramillo, Connor Leong, **Michael J. Sieler Jr.**, Jeff Morré, Yuan Jiang, Claudia Maier, Michael Kent, Thomas Sharpton, and Jan Fred Stevens (2024). "Gut microbiota metabolically mediate intestinal helminth infection in Zebrafish". *mSystems*.

- Designed figure displaying experimental design schematic.

Damon T. Leach, **Michael J. Sieler Jr.**, Kelly G. Stratton, Rachel E. Richardson, Jennifer E. Kyle, Young-Mo Kim, Josie G. Eder, Kristin M. Engbrecht, Athena A. Schepmoes, Bobbie-Jo M. Webb-Robertson, Lisa Bramer (2024). "Analyzing batch effect correction algorithms for small molecule data using ground truth from a designed experiment." *In review*.

- Contributed to statistical analyses, writing and editing the main manuscript text.

**Michael J. Sieler Jr.**, Colleen E Al-Samarrie, Kristin D Kasschau, Zoltan M Varga, Michael L Kent, Thomas J Sharpton (2023). "Disentangling the link between zebrafish diet, the gut microbiome succession and *Mycobacterium chelonae* infection." *Anim. Microbiome*.

- Conducted gut microbiome analyses; contributed to the preparation and editing of the manuscript; and prepared the figures.

Joseph A Szule, Lawrence R Curtis, Thomas J Sharpton, Christiane V Löhr, Susanne M Brander, Stacey L Harper, Jamie M Pennington, Sara J Hutton, **Michael J. Sieler Jr.**, Kristin D Kasschau (2022). "Early Enteric and Hepatic Responses to Ingestion of Polystyrene Nanospheres from Water in C57BL/6 Mice." *Front. Water*.

- Performed the gut microbiome and integrated analyses; contributed to the preparation and editing of the manuscript; and prepared the figures.

Maude M David, Christine Tataru, Quintin Pope, Lydia J Baker, Mary K English, Hannah E Epstein, Austin Hammer, Michael Kent, **Michael J. Sieler Jr.**, Ryan S Mueller, Thomas J Sharpton, Fiona Tomas, Rebecca Vega Thurber, Xiaoli Z Fern (2022). "Revealing General Patterns of Microbiomes That Transcend Systems: Potential and Challenges of Deep Transfer Learning." *Msystems*.

- Contributed to writing and editing the main manuscript text.

Thomas J. Sharpton, Keaton Stagaman, **Michael J. Sieler Jr.**, Holly K. Arnold, Edward W. Davis II (2021). "Phylogenetic integration reveals the zebrafish core microbiome and its sensitivity to environmental exposures." *Toxics*.

- Contributed to data curation, writing and editing the main manuscript text.

## PRESENTATIONS

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### 9<sup>th</sup> Conference on Beneficial Microbes

University of Wisconsin

2024

Madison, Wisconsin

"Modelling the Gut Microbiome's Resistance and Resilience to Climate Change and Infection in Zebrafish"

### 5<sup>th</sup> Annual MANA Conference

2023

"Choice of batch correction method is an important factor in small molecule study"

### Zebrafish Husbandry Workshop

*Aquaculture*

"Effects of diet on growth and the microbiome"

2022

San Diego, CA (virtual)

### 3rd International Fish Microbiota Workshop

*Chinese Academy of Agriculture Sciences*

"Zebrafish laboratory diets differentially alter gut microbiota composition"

2021

Beijing, China (virtual)

## PANELS

### 9th Conference on Beneficial Microbes

*University of Wisconsin*

"The Importance of Inclusive Practices in Microbiome Science"

2024

Madison, Wisconsin

## POSTERS

### 80th Annual OPHA Conference

*Oregon Public Health Association*

"The Human Gut Microbiome at the Intersection of Public Health and Social Equity"

2024

Corvallis, OR

### ARCS Annual Scholar Event

*ARCS Foundation*

"How do external environmental factors impact the gut microbiome to influence host health?"

2022

Portland, OR

### 2nd International Fish Microbiota Workshop

*University of Oregon*

"The gut microbiome drives Benzo(a)pyrene's impact on zebrafish behavioral development"

2019

Eugene, OR

### College of Agriculture Science Showcase

*Oregon State University*

"The gut microbiome drives Benzo(a)pyrene's impact on zebrafish behavioral development"

2019

Corvallis, OR

## ADDITIONAL SKILLS & TRAINING

- **Programming Languages:** R, Python, C# (Unity), Git, HTML, CSS, C++, UNIX/LINUX
- **Statistics and Data Analytics:** multivariate regression, Bayesian modeling, model building and selection, data visualization
- **Bioinformatics:** 16S sequencing, transcriptomics, batch effect correction algorithms, DADA2, Phyloseq, Mothur, HMMER, FastTree
- **Molecular Biology:** zebrafish husbandry, DNA extraction, PCR, gel electrophoresis
- **Other:** Microsoft Office Suite, Adobe Photoshop and Illustrator

## PROFESSIONAL AFFILIATION & SERVICE

### Pernot Microbiology Summer Camp - Camp Mentor

2022, 2024

*Department of Microbiology, Oregon State University*

Supervised 20 high school students from historically underrepresented backgrounds in learning laboratory techniques.

### Food and Nutrition Special Interest Group

2023-Present

Member

*Oregon Public Health Association*

Portland, OR

### Microbes and Social Equity Working Group

2022-Present

Member

**Microbiology Graduate Student Association**

President

*Oregon State University*

2022 – 2023

*Corvallis, OR*