

Education

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|-----------|---|---|
| 2019- | Ph.D. Microbiology and Molecular Genetics
<i>Dissertation:</i> Elucidating the mechanisms behind microbial bile acid conjugation and its impacts on host microbiota and physiology
Mentor: Dr. Robert A. Quinn | Michigan State University
East Lansing, MI, USA |
| 2015-2019 | B.S. Microbiology , cum laude
<i>Thesis:</i> Determining the impact of host-synovial fluid factors on <i>Staphylococcus aureus</i> aggregation
Mentors: Dr. Paul Stoodley and Dr. Sashwati Roy | The Ohio State University
Columbus, OH, USA |

Publications

- Guzior DV**, Okros M, Martin H C, Shivel M, Armwald B, Hausinger RP, Quinn RA. 2022. Bile salt hydrolase/ aminoacyltransferase shapes the microbiome. In review. Preprint available, doi: [10.21203/rs.3.rs-2050406/v1](https://doi.org/10.21203/rs.3.rs-2050406/v1)
- Neugebauer KA, Okros M, **Guzior DV**, Feiner J, Rzepka M, Chargo N, Schillmiller A, O'Reilly S, Jones AD, Watson VE, Luyendyk JP, McCabe L, Quinn RA. 2022. Bile acid-CoA:amino acid N-acyltransferase gene knockout alters early life development, the gut microbiome and reveals unusual bile acid conjugates in mice. *J. Lipid Res.* doi: [10.1016/j.jlcr.2022.100297](https://doi.org/10.1016/j.jlcr.2022.100297)
- Ghuneim L-AJ, Raghuvanshi R, Neugebauer KA, **Guzior DV**, Christian MH, Schena B, Feiner JM, Castillo-Bahena A, Mielke J, McClelland M, Conrad D, Klapper I, Zhang T, Quinn RA. 2022. Complex and unexpected outcomes of antibiotic therapy against a polymicrobial infection. *ISME J* **16**:2065–2075. doi: [10.1038/s41396-022-01252-5](https://doi.org/10.1038/s41396-022-01252-5)
- Wurster JJ, Peterson RL, Brown CE, Penumutthu S, **Guzior DV**, Neugebauer KA, Sano WH, Sebastian MM, Quinn RA, Belenky P. 2021. Streptozotocin-induced hyperglycemia alters the cecal metabolome and exacerbates antibiotic-induced dysbiosis. *Cell Rep* **37**:110113. doi: [10.1016/j.celrep.2021.110113](https://doi.org/10.1016/j.celrep.2021.110113)
- Sosinski LM, Martin H C, Neugebauer KA, Ghuneim LAJ, **Guzior DV**, Castillo-Bahena A, Mielke J, Thomas R, McClelland M, Conrad D, Quinn RA. 2021. A restructuring of microbiome niche space is associated with Elexacaftor-Tezacaftor-Ivacaftor therapy in the cystic fibrosis lung. *J Cyst Fibros.* doi: [10.1016/j.jcf.2021.11.003](https://doi.org/10.1016/j.jcf.2021.11.003)
- Guzior DV**, Quinn RA. 2021. Review: microbial transformations of human bile acids. *Microbiome* **9**:140. doi: [10.1186/s40168-021-01101-1](https://doi.org/10.1186/s40168-021-01101-1)
- Pesttrak MJ, Gupta TT, Dusane DH, **Guzior DV**, Staats A, Harro J, Horswill A, Stoodley P. 2020. Investigation of synovial fluid induced *Staphylococcus aureus* aggregate development and its impact on surface attachment and biofilm formation. *PLoS ONE* **15**(4): e0231791. doi: [10.1371/journal.pone.0231791](https://doi.org/10.1371/journal.pone.0231791)

Conference Presentations

Talks (†Upcoming)

- Guzior DV**, Quinn RA. Reversing Dogma: Bile Salt Hydrolase. Anaerobe 2022 Congress; July 2022; Seattle, WA.

Posters (‡Upcoming)

Guzior DV, Quinn RA. Diversity and phylogenetic relationships of bile acid conjugation within the *Lachnospiraceae*. Poster presented at ASM Microbe; June 2022; Washington, D.C.

Guzior DV, Quinn RA. Analyzing the diversity of *in vitro* microbially conjugated bile acid products. Poster presented at: The 3rd Annual Metabolomics Association of North America Conference; October 2021; Virtual.

Guzior DV, Das A, Roy S, Sen CK. Non-invasive preclinical porcine maxillofacial model to study excessive scarring of the face following burn injury. Poster presented at OSUMC Research Day; April 2019; Columbus, OH.

Guzior DV, Das A, Roy S, Sen CK. Non-invasive preclinical porcine maxillofacial model to study excessive scarring of the face following burn injury. Poster presented at the Denman Undergraduate Research Forum; April 2019; Columbus, OH.

Awards

2022	Outstanding Scholar Fellowship, The Graduate School, Michigan State University
2021	Philipp and Vera Gerhardt Award, Department of Microbiology and Molecular Genetics, Michigan State University

Professional Memberships, Leadership, and Service

Scientific Societies

2021-Present	Member, American Society for Microbiology
2020-2021	Member, Metabolomics Association of North America

Leadership

2022-2023	Graduate Committee Representative, Department of Microbiology and Molecular Genetics, Michigan State University
2014	Eagle Scout, Boy Scouts of America

Volunteer Organizations

2015-2022	Annual Fundraiser and Shavee, St. Baldrick's Foundation
2022	Graduate Student Mentor, Graduate Recruitment Initiative Team, Michigan State University
2020	Volunteer, Science Debate - MSU Chapter
2020	Donor, Be The Match

Skills

Research

- Microbiology and Molecular Biology: Aerobic and anaerobic bacterial culture, biofilm culture, bacterial transformation and heterologous gene expression, primer design, polymerase chain reaction (PCR), Gibson assembly, cell competency and cloning (*E. coli*), media preparation and autoclave sterilization, buffer creation, BSL1 and BSL2 microorganisms.
- Microscopy and Imaging: General light microscopy, confocal microscopy, ZEN slide imaging (Zeiss Axio Scan Z1), wound harmonic ultrasound imaging, laser speckle microperfusion imaging, general photography, digital planimetry.

- Histology: DAPI staining, hematoxylin and eosin staining, paraffin wax-embedded tissue sectioning, frozen tissue sectioning (Leica CM3050S, CryoStar NX50), immunohistochemistry.
- Mass spectrometry: Q Exactive Hybrid Quadrupole Orbitrap (tandem mass spectrometry, LC-MS/MS), MZmine (ver. 2 and 3), Global Natural Products Social Molecular Networking (UCSD), Laser Ablation-Inductively Coupled Plasma-Time of Flight-Mass Spectrometry (LA-ICP-TOF-MS).
- Experienced in maintaining and working in vinyl anaerobic chambers (Coy Laboratory).
- Successfully and routinely published in peer-reviewed journals.

Teaching

- Assisted teaching general microbiology laboratory course, routinely answered student questions, taught weekly lecture reviews, and graded assignments. Received excellent student reviews upon completion of the semester.
- Assisted teaching general microbiology lecture course; graded weekly assignments and exams, actively participated in assignment design, and attended weekly staff meetings.
- Privately tutored graduate level microbial genetics.

Information Technology

- Imaging Software: ZEN slide imaging, Image J.
- Statistical Programs: R programming language, R Studio, QIIME2, QIITA.