

Education

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. Under Review. Preprint available, doi:

[10.21203/rs.3.rs-2050406/v1](#)

Neugebauer KA, Okros M, Guzor DV, Feiner J, Rzepka M, Chargo N, Schillmiller A, O'Reilly S, Jones AD, Watson VE, Luyendyk JP, McCabe L, Quinn RA. 2021. 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.* Preprint available: <https://doi.org/10.1101/2022.04.10.487642>

Ghuneim L-AJ, Raghuvanshi R, Neugebauer KA, Guzor 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](#)

Wurster JI, Peterson RL, Brown CE, Penumutthu S, Guzor 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](#)

Sosinski LM, Martin H C, Neugebauer KA, Ghuneim LAJ, Guzor 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](#)

Guzior DV, Quinn RA. 2021. Review: microbial transformations of human bile acids. *Microbiome* **9**:140. doi: [10.1186/s40168-021-01101-1](#)

Pesttrak MJ, Gupta TT, Dusane DH, Guzor 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](#)

Conference Presentations

Talks (*Upcoming)

Guzior DV, Quinn RA. 2022. Diversity, Phylogeny, and Antimicrobial Nature of Bile Acid Conjugation within the *Lachnospiraceae*. Anaerobe 2022; July 2022; Seattle, WA, USA.

Posters (*Upcoming)

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

Guzior DV, Quinn RA. 2021. 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, USA.

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, USA.

Awards

2022 Philipp and Vera Gerhardt Award, Department of Microbiology and Molecular Genetics, Michigan State University

Skills

Research

- Microbiology and Molecular Biology: Aerobic and anaerobic bacterial culture, biofilm culture, bacterial transformation, primer design, polymerase chain reaction (PCR), gram staining, media preparation, 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.
- Immunohistochemistry: DAPI staining, hematoxylin and eosin staining, paraffin wax-embedded tissue sectioning, frozen tissue sectioning (Leica CM3050S, CryoStar NX50).
- Mass spectrometry: QExactive Hybrid Quadrupole Orbitrap (tandem mass spectrometry, LC-MS/MS), MZmine, Global Natural Products Social Molecular Networking (UCSD), Laser Ablation-Inductively Coupled Plasma-Time of Flight-Mass Spectrometry (LA-ICP-TOF-MS).
- Flow cytometry (fluorescence activated cell sorting, FACS).
- Experienced with 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 a graduate level microbial genetics course.

Information Technology

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

Professional Memberships, Leadership, and Service

Scientific Societies

2021-Present Member, American Society for Microbiology

2020-Present Member, Metabolomics Association of North America

Leadership

2022-2023 Graduate Committee Representative, Department of Microbiology and Molecular Genetics

2014 Eagle Scout, Boy Scouts of America

Volunteer Organizations

2015-Present Annual Fundraiser and Shavee, St. Baldrick's Foundation

2020-2022 Volunteer, Science Debate - MSU Chapter

2020 Donor, Be The Match