

Stanford



Emma Guiberson

Postdoctoral Scholar, Microbiology and Immunology

Bio

INSTITUTE AFFILIATIONS

- Member, Maternal & Child Health Research Institute (MCHRI)

HONORS AND AWARDS

- ASMS Career Development Award, American Society of Mass Spectrometry (June 2023)
- Richard Armstrong Prize for Research Excellence in Chemical Biology, Vanderbilt University (August 2022)
- Outstanding Independent Research Proposal, Vanderbilt University (May 2022)
- Outstanding Chemistry Forum Presentation, Vanderbilt University (May 2021)
- Department of Chemistry and Biochemistry Leadership Award, University of Notre Dame (May 2018)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Vanderbilt University (2022)
- Bachelor of Science, University of Notre Dame (2018)
- Ph.D., Vanderbilt University, Chemistry (2022)
- B.S., University of Notre Dame, Chemistry, Philosophy (2018)

STANFORD ADVISORS

- Justin Sonnenburg, Postdoctoral Faculty Sponsor

Teaching

COURSES

2023-24

- Development and reporting of robust and reproducible LC-MS/MS assays: BIOS 223 (Aut, Win)

Publications

PUBLICATIONS

- **Clostridioides difficile infection induces a rapid influx of bile acids into the gut during colonization of the host** *CELL REPORTS*
Wexler, A. G., Guiberson, E. R., Beavers, W. N., Shupe, J. A., Washington, M., Lacy, D., Caprioli, R. M., Spraggins, J. M., Skaar, E. P.
2021; 36 (10): 109683
- **High-throughput identification of gut microbiome-dependent metabolites.** *Nature protocols*
Han, S., Guiberson, E. R., Li, Y., Sonnenburg, J. L.

2024

- **Randomly barcoded transposon mutant libraries for gut commensals II: Applying libraries for functional genetics.** *Cell reports*
Voogdt, C. G., Tripathi, S., Bassler, S. O., McKeithen-Mead, S. A., Guiberson, E. R., Koumoutsis, A., Bravo, A. M., Buie, C., Zimmermann, M., Sonnenburg, J. L., Typas, A., Deutschbauer, A. M., Shiver, et al
2023; 43 (1): 113519
- **A mutant fitness compendium in Bifidobacteria reveals molecular determinants of colonization and host-microbe interactions.** *bioRxiv : the preprint server for biology*
Shiver, A. L., Sun, J., Culver, R., Violette, A., Wynter, C., Nieckarz, M., Mattiello, S. P., Sekhon, P. K., Friess, L., Carlson, H. K., Wong, D., Higginbottom, S., Weglarz, et al
2023
- **Rapid Multivariate Analysis Approach to Explore Differential Spatial Protein Profiles in Tissue** *JOURNAL OF PROTEOME RESEARCH*
Sharman, K., Patterson, N., Weiss, A., Neumann, E. K., Guiberson, E. R., Ryan, D. J., Gutierrez, D. B., Spraggins, J. M., Van de Plas, R., Skaar, E. P., Caprioli, R. M.
2022
- **Multimodal Imaging Mass Spectrometry of Murine Gastrointestinal Tract with Retained Luminal Content** *JOURNAL OF THE AMERICAN SOCIETY FOR MASS SPECTROMETRY*
Guiberson, E. R., Good, C. J., Wexler, A. G., Skaar, E. P., Caprioli, R. M., Spraggins, J. M.
2022; 33 (6): 1073-1076
- **Spatially Targeted Proteomics of the Host-Pathogen Interface during Staphylococcal Abscess Formation** *ACS INFECTIOUS DISEASES*
Guiberson, E. R., Weiss, A., Ryan, D. J., Monteith, A. J., Sharman, K., Gutierrez, D. B., Perry, W. J., Caprioli, R. M., Skaar, E. P., Spraggins, J. M.
2021; 7 (1): 101-113
- **Fundamentals of Mass Spectrometry-Based Metabolomics** *Toxic Chemical and Biological Agents*
Rivera, E. S., Jones, M. A., Guiberson, E. R., Norris, J. L.
Springer Dordrecht.2020: 61-81