Stanford

Emily Woods

Postdoctoral Scholar, Pathology

Bio

BIO

I am a physician scientist, currently training as a postdoctoral researcher in the Bogyo lab. Broadly, my research interest is focused on the urgent problem of antimicrobial resistance. Diagnostics are an important tool for addressing antimicrobial resistance, because rapid identification of the causative pathogen can help decrease the use of overly broad-spectrum antibiotics. My current work is on the development of in vivo imaging techniques for diagnosis of Staphylococcus aureus infections. My prior work (completed during my PhD in the McBride lab at Emory University) focused on genetic mechanisms of resistance to antimicrobial peptides in Clostridioides difficile. I also received my MD from Emory University and completed residency in internal medicine at Stanford. My clinical interests include hospital medicine, social determinants of health, and health advocacy.

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Emory University (2017)
- Bachelor of Science, Rhodes College (2012)
- Doctor of Medicine, Emory University (2020)
- Residency, Stanford University , Internal Medicine (2023)
- MD, Emory University (2020)
- PhD, Emory University , Microbiology and Molecular Genetics (2017)
- BS, Rhodes College (2012)

STANFORD ADVISORS

- Matthew Bogyo, Postdoctoral Faculty Sponsor

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Broadly, my research interest is focused on the urgent problem of antimicrobial resistance. Diagnostics are an important tool for addressing antimicrobial resistance, because rapid identification of the causative pathogen can help decrease the use of overly broad-spectrum antibiotics. My current work is on the development of in vivo imaging techniques using activity-based probes for diagnosis of Staphylococcus aureus infections.

LAB AFFILIATIONS

- Matthew Bogyo, Bogyo Lab (7/24/2023)

Publications

PUBLICATIONS

- **Development of Oxadiazolone Activity-Based Probes Targeting FphE for Specific Detection of Staphylococcus aureus Infections.** *Journal of the American Chemical Society*
  Jo, J., Upadhyay, T., Woods, E. C., Park, K. W., Pedowitz, N. J., Jaworek-Korjakowska, J., Wang, S., Valdez, T. A., Fellner, M., Bogyo, M.
  2024

- **Development of Oxadiazolone Activity-Based Probes Targeting FphE for Specific Detection of S. aureus Infections.** *bioRxiv : the preprint server for biology*
  Jo, J., Upadhyay, T., Woods, E. C., Park, K. W., Pedowitz, N. J., Jaworek-Korjakowska, J., Wang, S., Valdez, T. A., Fellner, M., Bogyo, M.
  2023

- **Clinical reasoning for performance of transesophageal echocardiography in veterans with Staphylococcus aureus bacteremia.** *Antimicrobial stewardship & healthcare epidemiology : ASHE*
  Woods, E. C., Nakasone, T. S., Renault, C. A.
  2023; 3 (1): e221

- **Comparison of Antibody Class-Specific SARS-CoV-2 Serologies for the Diagnosis of Acute COVID-19.** *Journal of clinical microbiology*
  Verkerke, H., Horwath, M., Saeedi, B., Boyer, D., Allen, J. W., Owens, J., Arthur, C. M., Nakahara, H., Rha, J., Patel, K., Wu, S. C., Paul, A., Yasin, et al
  2021; 59 (4)

- **Cationic Homopolymers Inhibit Spore and Vegetative Cell Growth of Clostridioides difficile.** *ACS infectious diseases*
  Jones, J. B., Liu, L., Rank, L. A., Wetzel, D., Woods, E. C., Biok, N., Anderson, S. E., Lee, M., Liu, R., Huth, S., Sandhu, B. K., Gellman, S. H., McBride, et al
  2021

- **Regulation and Anaerobic Function of the Clostridioides difficile beta-Lactamase** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY*
  Sandhu, B. K., Edwards, A. N., Anderson, S. E., Woods, E. C., McBride, S. M.
  2020; 64 (1)

- **Examination of the Clostridioides (Clostridium) difficile VanZ ortholog, CD1240**
  Woods, E. C., Wetzel, D., Mukerjee, M., McBride, S. M.
  ELSEVIER SCI LTD.2018: 108–15

- **The C. difficile clnRAB operon initiates adaptations to the host environment in response to LL-37** *PLOS PATHOGENS*
  Woods, E. C., Edwards, A. N., Childress, K. O., Jones, J. B., McBride, S. M.
  2018; 14 (8): e1007153

- **Ethanolamine is a valuable nutrient source that impacts Clostridium difficile pathogenesis** *ENVIRONMENTAL MICROBIOLOGY*
  Nawrocki, K. L., Wetzel, D., Jones, J. B., Woods, E. C., McBride, S. M.
  2018; 20 (4): 1419–35

- **Regulation of antimicrobial resistance by extracytoplasmic function (ECF) sigma factors.** *Microbes and infection*
  Woods, E. C., McBride, S. M.
  2017; 19 (4-5): 238-248

- **The Phosphotransfer Protein CD1492 Represses Sporulation Initiation in Clostridium difficile** *INFECTION AND IMMUNITY*
  Childress, K. O., Edwards, A. N., Nawrocki, K. L., Anderson, S. E., Woods, E. C., McBride, S. M.
  2016; 84 (12): 3434–44

- **The Clostridium difficile Dlt Pathway Is Controlled by the Extracytoplasmic Function Sigma Factor #V in Response to Lysozyme.** *Infection and immunity*
  Woods, E. C., Nawrocki, K. L., Suárez, J. M., McBride, S. M.
  2016; 84 (6): 1902-1916

- **An alkaline phosphatase reporter for use in Clostridium difficile** *ANAEROBE*
  Edwards, A. N., Pascual, R. A., Childress, K. O., Nawrocki, K. L., Woods, E. C., McBride, S. M.
  2015; 32: 98–104