Environmental and Water Resources Engineering Seminar Series Presents:

Thursday, January 25th, 2024, 3:30-4:30pm, CPE 2.218

TEXAS

Microbiome Stress, Resilience, and Influence on Environmental Quality

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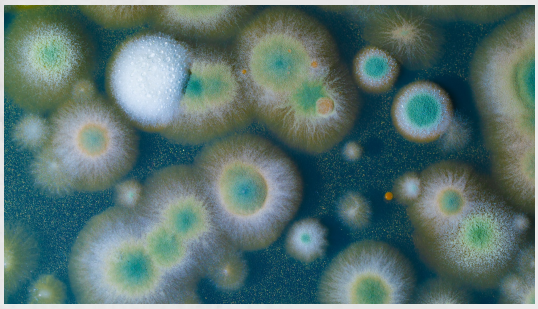
Abstract

Environmental microbiomes provide vital ecosystem services essential to the functioning of many natural and engineered systems. However, these microbiomes are often negatively impacted by biological, chemical, and environmental stressors caused by human activities. Unraveling how these stressors impact microbiome function and resilience using biotechnology tools is critical to safeguard environmental quality and predict long-term effects. In this seminar, the impact of biological contaminants on environmental microbiome health and resilience will be discussed, focusing on antibiotic resistance genes (ARGs) and RNA interference (RNAi) molecules frequently used in modern genetic biotechnology applications. This seminar will conclude with a discussion of how this research can be expanded to better inform predictive and prevent environmental microbiome dysbiosis.



Background

Dr. Courtney Gardner joined the EWRE group at the University of Texas at Austin as an Assistant Professor in January 2024. Before arriving in Austin, she was an Assistant Professor of environmental engineering at Washington State University. She holds an M.S. and Ph.D. in Civil and Environmental Engineering from Duke University, and a B.S. in Biology from Stetson University. Her research applies molecular biotechnology to assess microbial genetic adaptation to environmental stressors and develop tools to predict the dynamics that exist between microbial communities and their environments. Before welcoming her first child in 2023, she enjoyed backcountry hiking, cooking, and restoring old furniture.

EWRE Seminar Committee Members: Claire Baldus, Priyanshu Gupta, Elle Henson, Mila Otegui, Zijie Zheng
Supervising Faculty: Dr. Ben Hodges