CFAES

SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES

GRADUATE EXIT SEMINAR

CRISTIAN LOPEZ

Correlations between Aquatic Macroinvertebrate and Microbial Diversity Influenced by Wastewater Treatment Plants: Implications for Antibiotic-resistant Bacteria in Stream Ecosystems

Antibiotic resistance is a serious problem caused by the overuse of antibiotics. Wastewater treatment plants (WWTPs) release antibiotic-resistant genes (ARGs) and antibiotic-resistant bacteria (ARB) into the environment, which further worsens the situation. Understanding the characteristics and impacts of ARB and ARGs in aquatic environments is essential to develop effective management strategies. However, directly measuring ARB and ARGs in water is challenging and expensive. Therefore, alternative, cost-effective methods are required to evaluate water quality parameters. One proposed method involves investigating microbial communities in aquatic environments, as they play a crucial role in biogeochemical cycles, nutrient transformations, and pollutant degradation. Additionally, aquatic macroinvertebrates, which are bioindicators for assessing freshwater ecosystem health, may have the potential to track ARB and ARGs. This study aims to determine the relationship between the diversity of macroinvertebrate and microbial communities in multiuse rivers and the occurrence and prevalence of ARB.

Advisor: Dr. Steven W. Lyon

Thursday, November 16, 2023
10:00 A.M.

Join the seminar via Zoom:
https://osu.zoom.us/j/91204848866?pwd=eDVHbXlXQnhSR21nWG8wcWFENUYvdz09
Meeting ID: 912 0484 8866 Password: 822143