



Environmental Engineering & Sciences

Department of Civil and Environmental Engineering
Spring '24: CEE 595AG Seminar

Friday, April 5, 2024 | 10:00 – 10:50 a.m. CST | 3310 Yeh Center

Utilizing Microbes as Biosensors of the Urban Environment

The microbes inhabiting urban environments present long-overlooked sources of information about infrastructure status, human health, and ecosystem health. Advances in NextGen DNA sequencing technology have enabled the rapid acquisition of large volumes of genomic data from urban environments, however, adequate methods for sampling, modeling, and data analysis are required to gain insights useful for engineering applications. In this presentation, we will discuss efforts utilizing microbes in sewage and drinking water to monitor public health and the water pipelines. We will also discuss efforts to explore microbiomes as resources to expand the conservation biology toolset at the boundary of built and natural environments. Taken together, these studies show that understanding generalizable and system-specific determinants of bacterial communities will create new ways for improving engineering design and urban environments.

Fangqiong Ling
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Speaker Bio

Fangqiong Ling joined the WashU faculty in August 2018. Prior to joining WashU, Ling was a postdoctoral fellow at MIT supported by the Alfred P. Sloan Foundation Microbiology of the Built Environment Postdoctoral Fellowship. She received the Powe Award for Junior Faculty Enhancement by the Oak Ridge Associated Universities (2019), the ISME/IWA Biocluster Rising Star Award (2020), and the National Science Foundation CAREER award (2021). She serves as an Associate Editor of Water Research and an editorial board member of ISME Communications.