PURDUE UNIVERSITY | Environmental and Ecological Engineering

EEE Research Seminar

Date: March 1, 2022 at 10:30 AM
Location: via Zoom

https://purdue-edu.zoom.us/j/93103098639

Jeseth Delgado Vela, PhD

Assistant Professor
Civil & Environmental Engineering
Howard University

The promise of poop for managing the COVID-19 pandemic: towards interoperable wastewater surveillance efforts

Abstract

Wastewater monitoring for SARS-CoV-2 has rapidly become an established tool for understanding COVID-19 disease transmission. However, standardized methods for extracting, quantifying, and interpreting SARS-CoV-2 wastewater data are lacking. I will present rate of change as a method for reducing site- and method- specific impacts related to wastewater monitoring. I will show the results of a rate of change (ROC) analysis in wastewater and clinical data from 19 sewersheds across 4 major metropolitan areas from May-2020 through October-2021 with varying windows of time. Our efforts show that retrospective analysis of existing data may be useful for developing methodological insights, reducing site-specific impacts, and establishing sensitivity thresholds. I will also present efforts to standardize data reporting of wastewater monitoring efforts. The presentation underscores how field measurements can inform public health strategies during the COVID-19 pandemic.

Bio

Jeseth Delgado Vela is an Assistant Professor in the Civil and Environmental Engineering Department at Howard University. Her research applies tools in molecular biology to develop sustainable and cost-efficient urban water treatment. She is interested in understanding microbial community interactions to improve the urban water cycle. She received her PhD and master's degree the University of Michigan. She received her bachelor's degree in Civil Engineering from the University of Texas at Austin. She is a recipient of Gulf Research Program's Early-Career Research Fellowship and was previously awarded the Ford Foundation Dissertation Award (2016) and an NSF Graduate Research Fellowship (2012).