



Graduate Seminar

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December 9, 2024 (4:00 pm - 5:30 pm), Kupfrian Hall - Room 205

[Zoom Link: Click Here](#) Meeting ID: 994 3917 6432 Passcode: 058807

Expanding the Horizons of Wastewater-Based Surveillance: Innovations, Global Initiatives, and Future Directions in Public Health

Abstract

Global wastewater-based surveillance (WBS) infrastructure, developed rapidly during the COVID-19 pandemic, is poised for significant growth as the field expands to integrate complementary services and broaden its scope. Beyond established practices, innovations include expanding WBS to rural and disadvantaged communities, leveraging aircraft for international monitoring, combining environmental and clinical surveillance, and advancing multidimensional health analysis. This talk will highlight Eurofins-driven programs, including the Tempe Wastewater Biointel Program, high-risk substance monitoring in Boston, and global initiatives like Malawi's WBS expansion and the CDC's Traveler's Genomic Surveillance Program, showcasing innovations and challenges. Looking forward, we'll explore emerging applications such as isotope resolution mass spectrometry, PFAS monitoring, and the "Trinity of Wastewater," which aligns WBS with energy generation and resource recovery, offering sustainable, value-driven solutions for public health management.

About the Speaker

Dr. Adam Gushgari began his career in land development engineering but shifted to wastewater-based epidemiology (WBE) after losing a friend to an opioid overdose. While pursuing his doctorate at Arizona State University's Biodesign Center for Environmental Health Engineering, he led groundbreaking projects using LC-MS/MS to analyze opioid consumption in wastewater and develop innovative WBE analytics. His work helped launch Tempe's WBE opioid initiative, aiding first responders in drug hotspot identification. In 2019, he co-founded AquaVitas LLC, playing a key role in commercializing WBE and leading the first nationwide SARS-CoV-2 wastewater monitoring campaign in collaboration with federal agencies. Now Director of Wastewater Surveillance at Eurofins and Portfolio Manager at ASU, Gushgari leverages his expertise to advance emerging environmental business sectors and federal surveillance initiatives.

