

**DEPARTMENT OF CHEMISTRY AND ENVIRONMENTAL SCIENCE**  
**SEMINAR SERIES**  
**FALL 2023**

**WEDNESDAY, SEPTEMBER 27, 2023**  
**TIERNAN HALL – LECT. HALL 1**  
**1:00PM-2:20PM**

**GUEST SPEAKER**

Dr. Paul Westerhoff, Ph.D., PE, BCEE, NAE  
Regents Professor & Fulton Chair of Environmental Engineering  
Arizona State University  
Tempe, AZ

**TOPIC**

**Wastewater effluents impact PFAS concentrations at Drinking water treatment plants:**  
*Sucralose and Predicted De facto Wastewater Reuse Levels Correlate with PFAS Levels in Surface Waters*

**ABSTRACT**

PFAS are organic pollutants with widespread distribution, persistence, bioaccumulation, and health risks, detectable in wastewater effluents. WWTP effluents impact over half of surface water intakes for DWTPs, leading to widespread occurrence of PFAS in surface waters used for drinking water. For a large watershed in Texas was studied, where 165 WWTP discharges and dozens of DWTP intakes provide drinking water to nearly 6 million people. PFAS in WWTP effluents ranged from 50 to 200 ng/L, and surface water samples found highly correlated levels of PFAS and sucralose. WWTP discharges were the primary source of PFAS to the Trinity River. Based upon this insight we predicted for the entire USA impacts of de facto wastewater reuse as a ubiquitous source of PFAS for thousands of DWTPs nationally.

**BIO**

Dr. Paul Westerhoff is a Regents Professor in the School of Sustainable Engineering and the Built Environment at Arizona State University and the Fulton Chair of Environmental Engineering. He joined ASU in 1995 and after serving as the Civil and Environmental Engineering Department Chair he was the Founding Director for the School of Sustainable Engineering and the Built Environment, plus additional administrative roles as Associate & Vice Dean of Research in Engineering and ASU Vice Provost for Academic Programming.

He is the Deputy Director of a NSF ERC for [Nanotechnology Enabled Water Treatment](#) and co-Deputy Director of the NSF Science and Technologies for Phosphorus Sustainability Center ([steps-center.org](#)). He has over 400 journal publications (H-index>100) and multiple patents on his research related to fate of nanomaterials in water, developing novel technologies for water and reuse treatment, and understanding reactions related to the fate of pollutants during treatment or in natural systems with a focus on oxo-anions, natural organic matter and micropollutants. He is the recipient of several awards including the recipient of the 2020 A.P. Black award from the American Water Works Association, 2019 NWRI Clarke Prize for excellence in the fields of water science and technology, 2017 Sustainable Nanotechnology Organization Annual Achievement Award, ASU Outstanding Doctoral Mentor for 2015, 2013 ARCADIS/AEESP

Frontier in Research Award, and 2006 Paul L. Busch Award. He was elected to the National Academy of Engineering in 2023.



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