Department *of* Civil & Environmental Engineering

2016 KIRLIN LECTURE SERIES

Co-sponsored by: Howard University, Johns Hopkins University, and the University of Maryland-Baltimore County. This event is part of the 2015-16 Association of Environmental Engineering & Science Professors Distinguished Lecture Series.

At the Confluence: Nutrients, Trace Chemicals and Sustainability in the Urban Water Sector

Nancy G. Love
Professor
Department of Civil and Environmental Engineering
University of Michigan

Enhanced global urbanization coupled with the impacts of climate change on water infrastructure in cities will change how we design and operate urban water systems in the future. While climate change tends to be a discussion centered on carbon as the pollutant, the most critical decisions linked to achieving sustainable, energy efficient or net-energy neutral solutions in urban wastewater (or used water) systems tend to be driven by the need to manage nutrients (nitrogen and phosphorus). In turn, the current evolution in sustainable, energy recovering wastewater treatment or green infrastructure strategies are heavily influenced by the need to manage nitrogen and/or phosphorus, as much as if not more than carbon. Another area of tremendous focus regarding urban water infrastructure concerns the impact of trace chemical contaminants on environmental and human health.

All these issues have reached a point of confluence. Implementing innovative and energy efficient nitrogen or phosphorus management approaches involves dramatic changes to the infrastructure in place today, and in some cases results in significant changes in the composition of wastewater or the redox environments imposed during treatment. In turn, these changes influence the ultimate fate of trace chemicals present in wastewater or stormwater and, ultimately, the risks to environmental and public health in urban systems. This is particularly important for cities located in countries with emerging economies. The nature of this confluence of issues and trends will be introduced, and opportunities for solutions proposed.

Wednesday, March 23: 3:00 PM

Resnik Lecture Hall, 1202 Glenn L. Martin Hall

A light reception will follow at 4:00 p.m. in 1179 Martin Hall.

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A. James Clark School of Engineering