

Environmental Engineering Seminar

The Astani Department of Civil & Environmental Engineering presents



Prof. David Cwiertny
Dept. of Civil & Environmental Engineering
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Date: October 5th, 2018

Time: 3 – 4 pm

Place: TBD

Beyond emerging contaminants: bioactive transformation products and what we should do about them

Environmental transformation processes, including those occurring in natural and engineered systems, do not necessarily drastically alter molecular structures of bioactive organic contaminants. While the majority of generated transformation products are likely benign, substantial conservation of structure in transformation products can imply conservation or even creation of bioactivity across multiple biological end points and thus incomplete mitigation of ecological risk. Therefore, focusing solely on parent compound removal for contaminants of higher relative risk and potency, the most common approach to fate characterization, provides no mechanistic relationship to potential biological effects and is inadequate as a comprehensive metric for reduction of ecological risks. Here, we explore these phenomena for overlooked, under-investigated, and currently unregulated pollutant classes. This talk will present examples of bioactive transformation products and related implications for fate assessment, regulatory approaches, treatment technologies and research opportunities.

About the Speaker

David Cwiertny is a Professor and Director of Graduate Studies within the Department of Civil and Environmental Engineering (CEE) at the University of Iowa (UI). A native of Southern California, he holds a B.S. in Environmental Engineering Science with a minor in Chemistry from U.C. Berkeley and a Ph.D. in Environmental Engineering from Johns Hopkins University.

David's research integrates aspects of environmental engineering with chemistry, toxicology, materials science and nanotechnology. His group has particular expertise related to the environmental fate and effects of overlooked and under-investigated pollutant classes and the development of (nano)material-based technologies for resource sustainability.

David is also passionate about the intersection of science and policy, and spent his sabbatical during the 2016 academic year working on Capitol Hill as a Congressional Fellow for the American Association for the Advancement of Science (AAAS). There, he served as Minority Staff on the Committee of Energy and Commerce in the House of Representatives, working with the subcommittees on Energy and the Environment.

Beyond his roles in CEE at UI, he also currently serves as the Director of the Center for Health Effects of Environmental Contamination at UI. He also leads the Environmental Policy Research Program at the UI Public Policy Center and is a core faculty member in the campus-wide Water Sustainability Initiative. In 2014, David became the founding Editor-in-Chief of Environmental Science: Water Research & Technology.



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