

Water for Life

ADDRESSING A 21ST CENTURY CRISIS

Michael J. Plewa, Water for Life Program Coordinator

et Interdisciplinary
Environmental
Toxicology Program

Nitrogenous Byproducts of Drinking Water Disinfection and Carbon Sequestration: Formation, Control, Precursors, and Prediction of Byproducts of the Future



William Mitch

Department of Chemical and Environmental Engineering
Yale University

Efforts by the US EPA to reduce the concentrations of regulated disinfection byproducts in finished drinking waters have caused utilities to experiment with new combinations of disinfectants. Concurrently, utilities are exploiting source waters impaired by wastewater effluents and algal blooms to meet growing water demands. These waters tend to feature higher concentrations of organic nitrogen. The combination of novel disinfectants with impaired waters may foster the formation of nitrogenous disinfection byproducts (N-DBPs) that are orders of magnitude more toxic than the traditional regulated byproducts. The talk will highlight some mechanisms of formation, discuss adjustments to disinfection methods to minimize their formation, highlight some precursors, and discuss ways of predicting byproducts likely to form in high concentrations. The talk will also introduce new research regarding the potential formation of some of these same byproducts during carbon sequestration, and associated impacts to drinking water supplies.

Friday, November 12, 2010

Seminar 12:00–1:00 p.m.

Discussion 1:00–2:00 p.m.

149 National Soybean Research Laboratory

1101 West Peabody Drive, Urbana

For more information contact:

Ann Hart, *Research Assistant*, at 244-6006 or amhart@illinois.edu

Brian Pianfetti, *HDR and Managing Director Water CAMPWS*, at 333-2633 or bpianfet@illinois.edu or visit the Website www.watercampws.org/waterforlife/ for streaming live video and archived presentations.

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