



INVITATION TO LECTURE

Prof. Bryan W. Brooks

Baylor University, Department of Environmental Science, Waco, Texas, USA

Perspectives on Urbanization and Contaminants of Emerging Concern

Date: 19. 09. 2017, 9:00

Venue: lecture room RCX1 (A29/252), 2nd floor, RECETOX, Kamenice 5, Brno

Syllabus of lecture:

More people now live in cities than ever before. Historically, human populations thrived near rivers and their mouths at coastlines, but with urban expansion the footprints of metropolitan areas extend throughout watersheds and ultimately encompass smaller order tributaries. Such population densities dictate the need for new water supplies and reclamation infrastructure, which results in effluent discharges to these headwater streams and other tributaries, dramatically modifying instream hydrology, particularly in regions where ephemeral streams are normative. When effluent-dominated and dependent instream flows become critical arteries for beneficial water reuse, as increasingly is observed in areas experiencing climate changes and rapid population growth, an urban water cycle is realized. In fact, in addition to concentrating resource use in urban regions, increasing access to, consumption of and concentration of chemical use is occurring faster than environmental systems or treatment technologies are implemented in developing countries. Here I briefly review some scientific lessons learned from our study of down the drain chemicals, including ionizable pharmaceuticals and other contaminants, in urban aquatic systems. Though many questions remain unanswered, studies of biologically active ionizables have provided, and will continue to develop, an advanced understanding of environmental hazards and risks in urbanizing aquatic systems.

About the lecturer:



Bryan W. Brooks is Distinguished Professor in the Department of Environmental Science and Institute of Biomedical Studies, and Director of Environmental Health Science at Baylor University, Waco, Texas, USA. He received a B.S. and M.S. in biological sciences from the University of Mississippi (Oxford, Mississippi, USA) and a Ph.D. in environmental science from the University of North Texas (Denton, Texas, USA). Dr. Brooks' research, which focuses on environmental, aquatic and comparative toxicology and pharmacology, sustainable molecular design, developing approaches to define water quality and risks of contaminants of historical and emerging concern, water quality and reuse, and the ecology and toxicology of harmful algae blooms, is ongoing on 6 continents. He is the author of over 150 refereed journal articles, editorials and book chapters, Editor-in-Chief of *Environmental Management* (Springer Nature), editor of aquatic toxicology for *Environmental Toxicology and Chemistry* (Wiley/SETAC) and

Associate Editor of environmental management for *Integrated Environmental Assessment and Management* (Wiley/SETAC), and serves on the editorial boards of *Science of the Total Environment* (Elsevier) and *Toxicion* (Elsevier). Dr. Brooks received 2009 and 2013 Scientific and Technological Achievement Awards from the U.S. Environmental Protection Agency, and is a past fellow of the Center for Disease Control and Prevention's Environmental Public Health Leadership Institute. In 2014, he served as the Fulbright Visiting Research Chair in Water and the Environment at the University of Lethbridge in Alberta, Canada, and as a Visiting Erskine Fellow at the University of Canterbury in Christchurch, New Zealand.