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DEPARTMENT OF CIVIL AND ENVIRONMENTAL ENGINEERING
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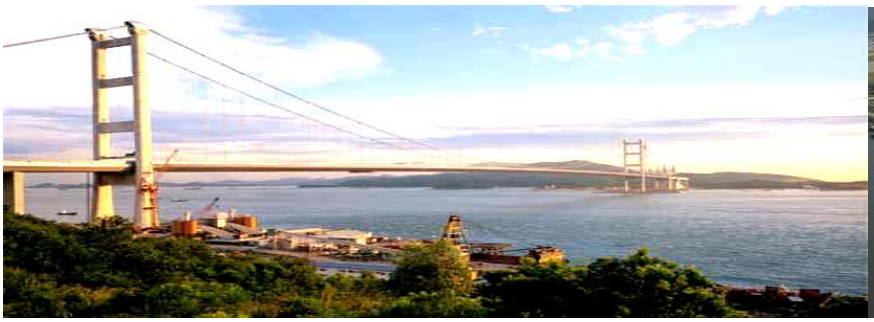

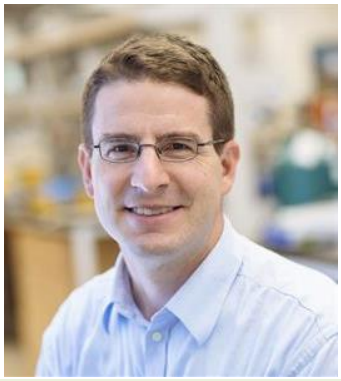

Lead in Drinking Water: The Role of Water Chemistry and Reactions at the Pipe Scale-water Interface

Prof. Daniel Giammar

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Washington University in St. Louis, USA

ABSTRACT

Lead concentrations in tap water are influenced by reactions between lead pipes and the water in the distribution system. Of particularly interest are oxidation-reduction reactions and reactions with phosphate added as a corrosion inhibitor. Addition of orthophosphate can control lead concentrations in tap water by promoting the formation of low-solubility lead phosphate solids. The ultimate effectiveness of orthophosphate addition for control of lead concentrations can depend on the composition, rates, and mechanisms of lead phosphate formation. Sodium silicates are also being explored as means of controlling lead release from lead pipes from lead-containing solder used for connections of copper plumbing. The presentation will include data from laboratory-scale dissolution-precipitation experiments and bench-scale pipe loop tests.

Date: **12 December 2018 (Wednesday)**

Time: **11:00 a.m. – 12:00 noon**

Venue: **Room Z407, 4/F, Block Z,**
The Hong Kong Polytechnic University,
181 Chatham Road South,
Hunghom, Kowloon, Hong Kong

SPEAKER'S BIOGRAPHY

Prof. Giammar is the Walter E. Browne Professor of Environmental Engineering in the Department of Energy, Environmental and Chemical Engineering at Washington University in St. Louis. Professor Giammar's research focuses on chemical reactions that affect the fate and transport of heavy metals, radionuclides, and other inorganic constituents in natural and engineered aquatic systems. Recent projects have investigated the removal of arsenic and chromium from drinking water, control of the corrosion of lead pipes, geologic carbon sequestration, and biogeochemical processes for remediation of uranium-contaminated sites. Professor Giammar is currently an Associate Editor of *Environmental Science & Technology*. He completed his B.S. at Carnegie Mellon University, M.S. and Ph.D. at Caltech, and postdoctoral training at Princeton University before joining Washington University in St. Louis in 2002. He has enjoyed international research collaborations with colleagues in China, India, Austria, and Switzerland, and he is currently the McDonnell Academy Ambassador to the Hong Kong University of Science and Technology.

***** All Interested Are Welcome *****
For further information, please contact Prof. X.D. Li at Tel. 2766-6041 or xiang-dong.li@polyu.edu.hk.
Certificates of attendance will be provided to participants if they attend the whole lecture.