



Distinguished Lecture Series



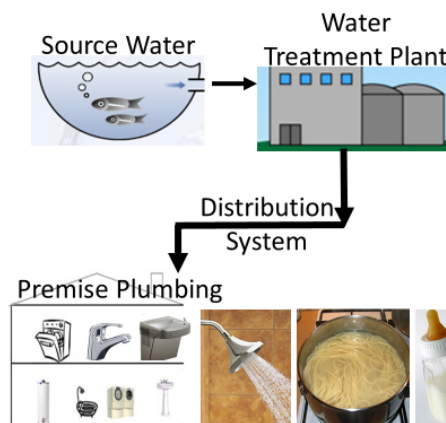
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Drinking Water Quality Challenges in Buildings

Drinking water quality problems in buildings may include microbiological contamination (e.g., pathogen growth in the bulk water or in biofilms attached to pipes, showerheads, faucets) and inorganic contamination (e.g., lead release due to corrosion of old lead pipes/brass/solder or arsenic desorption from previous pipe accumulations due to untreated source water). Water sampling at various buildings can help understand these problems, by providing a direct measure of contaminant release at points of drinking water consumption.

Aside from residences, hospitals are of particular interest. This is because corrosion/metallic contamination, inability to maintain sufficient disinfectant residual and resultant pathogen growth have the potential to cause infections or other illnesses to sensitive patients (e.g., Legionnaire's disease due to *Legionella* bacteria). Case studies of drinking water sampling in hospitals and in residences will highlight some of these challenges.



What is the drinking water quality after the treatment plant?



Examples:

- Arsenic
- Lead
- Pathogens (*Legionella*)

Dr. **Simoni Triantafyllidou** is an environmental engineer at the U.S. EPA's Office of Research and Development in Cincinnati, OH. Her research interests include aquatic chemistry, corrosion science, drinking water quality/treatment, sustainable drinking water infrastructure and public health. She has authored 30 publications on various scientific aspects of these issues, earning Best Paper Awards from the journals *Environmental Science and Technology* & *Journal AWWA* and the Publications Award from AWWA's *Opflow* periodical. Simoni earned her MS and PhD degrees in Environmental Engineering at Virginia Tech. She was awarded First Place, MS Thesis, by the Association of Environmental Engineering and Science Professors (AEESP) and by the American Water Works Association (AWWA), as well as Outstanding PhD Dissertation by AEESP.