

The Department of Chemistry and Biochemistry

Seminar Series

Presents a Seminar Titled:

“Novel Water Treatment Technologies from Black to Potable Water”



Presented By

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Chemist

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The U.S. Army deals with a unique water supply and wastewater treatment scenario at contingency bases (CB) where soldiers are executing tactical or emergency relief operations in austere, unfriendly, and resource-limited environments. Logistical, economic, and operational challenges are high to sustain these soldiers with potable water, with long supply chains, lack of security and safety assurances, and diversion of manpower. This presentation will discuss our current research in advanced water treatment, high tier reuse, low energy consumption, and water quality assurance in the context of this contingency base scenario. Technologies in the following areas will be covered: 1) Advanced black water reclamation technologies that function over a range of climates, with special attention to emerging contaminants and micropollutants, to produce water sufficient to support showering, laundry, and toilet facilities; 2) Advanced potable reuse pretreatment technology that enables conversion of near-potable water to a new source of potable water that can be treated further for human consumption and medical uses; 3) Real-time operational and verification monitoring systems that can rapidly detect potential contamination breakthrough issues over the range of water types, processes, and contaminant classes; and 4) Water vapor harvesting systems that can offset water losses by recovering water vapor from CB infrastructure or the environment. Our program goal is to recover and reuse over 90% of the water supply to decrease dependence on water and wastewater carrying convoys across the CB fence.

Friday, April 1, 2016 at 3:00 p.m. in OCNPS 100