



# COLLEGE OF ENGINEERING

## SEMINAR ANNOUNCEMENT

### **“Evaluation of Enhanced Biological Phosphorus Removal in Activated Sludge Processes”**

**Presenter: Tania Datta, Assistant Professor, Water Center and  
Department of Civil and Environmental Engineering**

#### **Abstract**

Biological phosphorus removal in wastewater treatment plants is accomplished through a process known as Enhanced Biological Phosphorus Removal (EBPR). This process is executed by a group of bacteria known as Polyphosphate Accumulating Organisms (PAOs), who when exposed to cyclic anaerobic and aerobic conditions, are capable of “luxury” uptake of phosphorus. Unfortunately, little is known about the true identity of PAOs involved in EBPR due to failure in isolating them, and many molecular-level investigations have suggested the involvement of a variety of phylogenetic groups in this process. From an engineering perspective, due to lack of a better microbiological understanding, EBPR processes continue to be designed based upon empirical observations that emphasize the need of expensive pre-requisites. However, there are some processes that do not maintain these pre-requisites, yet achieve efficient phosphorus removal. In this presentation, I will talk about the evaluation of implementing EBPR in unconventional process designs and discuss the identification of organisms actively participating in such processes through a structural and functional analysis.

#### **About the Speaker**

Tania Datta is an Assistant Professor in the Water Center and the Department of Civil and Environmental Engineering at Tennessee Technological University. Dr. Datta received her bachelor’s degree in Chemical Engineering from India, and M.E. and Ph.D. degrees in Civil and Environmental Engineering from University of Utah (2006 and 2010, respectively). Following her graduate work, Dr. Datta worked as an environmental consultant at CH2MHILL for three years. Her research interests include biological wastewater treatment, environmental microbiology, bioenergy production from wastes and surface water quality assessments.

**Date: November 4, 2013 - Monday**

**Time: 12 P.M. – 1 P.M.**

**Bring your own lunch; beverages and snacks to be provided.**

**Location: Prescott 225**