Presented By:
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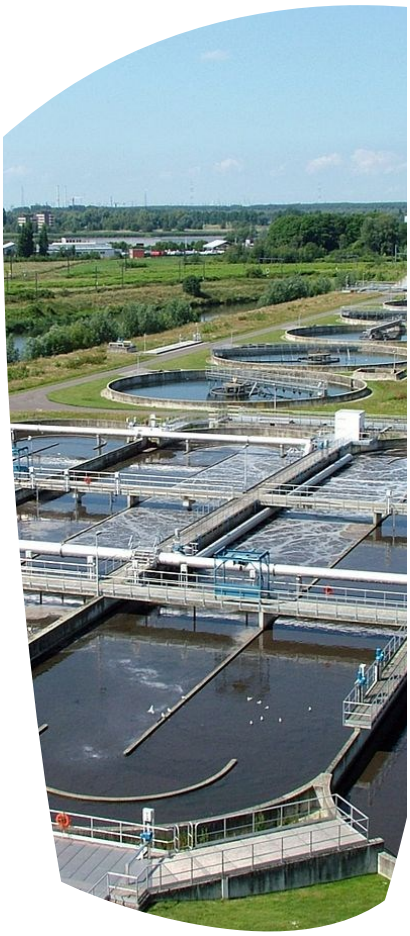
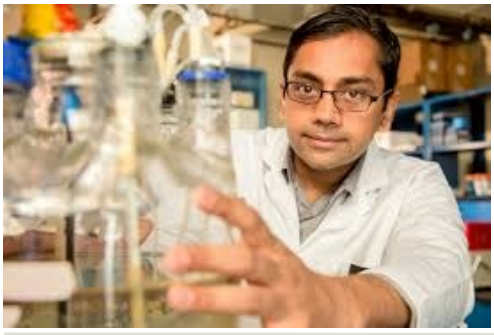
Environmental Engineering Seminar

Friday, March 3rd, 2017
McDonnell Douglas Engineering Auditorium (MDEA)
1:30PM - 2:30PM

Microbial Ecology & Metabolic Pathways Of The Re-Engineering Nitrogen Cycle



Engineered wastewater treatment systems can provide an interesting framework to pose and answer questions relating to the structure and metabolic function of the microbes involved in the nitrogen cycle. While the traditional approach to wastewater treatment has involved nitrification and denitrification using wastewater organic carbon, increasingly stringent effluent limits coupled with the need for energy efficiency have given rise to approaches such as partial nitrification and nitritation followed by either denitrification using external organic electron donors or even autotrophic nitrogen removal via anaerobic ammonia oxidation. These developments have resulted in a drastically different version of the engineered N-cycle in advanced wastewater treatment systems, with increased acknowledgment of both *aqueous* and *gaseous* nitrogenous discharges. In this presentation, some recent findings related to the impact of engineering strategies on the microbial ecology, metabolic pathways and community genomics of nitrification, denitrification and anammox based wastewater treatment systems are presented.



Dr. Kartik Chandran is Professor and Director of the Wastewater Treatment and Climate Change Program and the CUBES Program at Columbia University. The main focus of Dr. Chandran's work is on the microbial N-cycle and its links to the water, energy and carbon cycles. More details on Dr. Chandran's work can be found at www.columbia.edu/~kc2288

Questions? - cee@uci.edu - (949) 824-5333