



BRACE CENTRE FOR WATER RESOURCES MANAGEMENT

SEMINAR

NUTRIENT REMOVAL AND RECOVERY FROM WASTEWATER FOR SUSTAINABLE WATER RESOURCES

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Traditionally, municipal wastewater is treated in an aerobic biological process before releasing it to the environment. However, this process is resource intensive and generates huge amounts of residues. Sometimes, it does not produce the best quality of treated water, negatively affecting the receiving water. Overall, the widely practiced conventional aerobic biological process seems to be unsustainable. Therefore, environmental engineers and scientists are critically examining this technology and posing serious questions about the validity of the practice under the current circumstances. One of the strategies to prevent further deterioration of aquatic ecosystems is to design and build combined nutrient removal and recovery wastewater treatment processes. These processes generate superior quality of treated water, recover nutrients and byproducts, while reducing the resources consumed for operation. Such systems produce lower amounts of residues since some of the material is diverted to making value-added products. The objective of this presentation is to discuss the potential role of nutrient removal and recovery processes in achieving sustainable water resources. As part of the discussion, examples of wastewater treatment technologies that lead to reduction in energy consumption, emissions, and residues, and recovery of resources will be presented. The incorporation of nutrient recovery option, which is made possible by biological nutrient removal (BNR) processes, is essential for conservation of resources. A wider implementation of technologies discussed in this presentation can lead to sustainable water resources in the future.

Venkatram Mahendraker is a Senior Scientist in the Sustainability and Environment Program at the Pulp and Paper Research Institute of Canada. Dr. Mahendraker possesses 14 years of experience in design, project engineering, and research and development of environmental technologies. He received his Ph.D. in Environmental Engineering from the University of British Columbia.

Wednesday, March 22nd, 2006

Macdonald Campus, Raymond Building, Room R2-045

4:00 - 5:00 pm

EVERYONE WELCOME

