

# Wastewater Treatment Plant-Wide Energy and Operational Optimization



Program and Schedule	
7:45 – 8:15 am	Registration & Breakfast
8:15 – 8:30	Welcome
8:30 – 9:10	<b>Treatment Optimization – Energy, Capacity, Compliance   Harpreet Rai, PhD, P.Eng. (RV Anderson Associates Limited)</b> Optimization strategies for energy consumption capacity and compliance challenges. Discussion on successful case optimization studies for energy saving, additional capacity, and improving treatment efficiency.
9:10 – 9:50	<b>Successes and challenges of promoting wastewater treatment optimization in Ontario   Aaron Law, PhD, PEng. Ministry of the Environment, Conservation and Parks, Ontario.</b> Overview of what the ministry is doing to promote optimization, and lessons learned from a program and an individual plant perspective
9:50 – 10:20	Coffee Break
10:20 – 11:00	<b>Total Mass Control for Liquid Train Optimization   Hank Andres, P. Eng. Ontario Clean Water Agency.</b> SRT and total mass control strategies in liquid and biosolids trains of activated sludge facilities, and its impacts; whole-plant process models to support decision making during the optimization and implementation phases of the projects
11:00 – 11:40	<b>Ammonia based aeration control and SRT optimization   Oliver Schraa, M. Eng. P.Eng. InCtrl Solutions.</b> Ammonia-based aeration control (ABAC) to minimize energy consumption in nitrifying plants. Discussion on ABAC-SRT control strategy for aligning the goals of ABAC and SRT control and reduce aeration energy consumption.
11:40 – 12:40	Lunch
12:40 – 13:20	<b>Improve the operation of wastewater treatment plants thorough watershed-based wastewater optimization program   Mark Anderson, P. Eng., Grand River Conservation Authority.</b> GRCA's Watershed-wide Wastewater Optimization Program for optimization of WWTP performance using data-based decision making. Discussion on the key program components including climate change adaptation, and successes and challenges of the program.
13:20 – 14:00	<b>Resource recovery through anaerobic digestion   George Nakhla, PhD, P.Eng. Western University, London.</b> Recovery of biohydrogen, biomethane, and readily biodegradable organics from organic wastes and WWTP biosolids via a two-stage anaerobic process, and a thermal alkaline hydrolysis process for enhancement of anaerobic digestion and biological nutrient removal.
14:00 – 14:30	Coffee Break
14:30 – 15:10	<b>Anaerobic co-digestion – Potential, viability, considerations, future   Wayne Parker, PhD.</b> Potential benefits of co-digestion of offsite organics at municipal WWTPs ; Issues to be considered when implementing co-digestion; and examples of successful full scale implementations of co-digestion will be highlighted.
15:10 – 15:50	<b>Curbing Greenhouse Gas Emissions through Co-Digestion   Indra Mahajan (OCWA), Mike Theodoulou, Suez.</b> Implementation of co-digestion of sewage sludge and food waste at the City's WWTP; benefits of GHG emission reduction, renewable natural gas, waste diversion, and the business model of the City/OCWA/Suez partnership
15:50 – 16:00	Closing Remarks & Adjournment