



SOUTHERN ONTARIO WATER CONSORTIUM

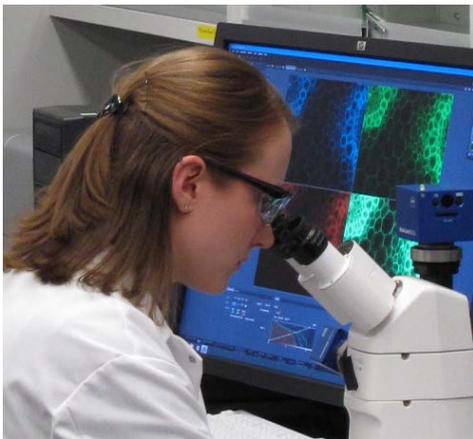
LE CONSORTIUM POUR L'EAU
DU SUD DE L'ONTARIO

A PLATFORM FOR RESEARCH,
DEVELOPMENT, TESTING &
DEMONSTRATION OF WATER
TECHNOLOGIES AND SERVICES



OVERVIEW OF DRINKING WATER FACILITIES

FOR RESEARCH AND DEMONSTRATION OF DRINKING WATER TECHNOLOGIES



➤ Potential for collaborations with researchers and industry in the:

- Control of disinfection by-products
- Evaluation of new membrane technologies and optimization of operational protocols to minimize membrane fouling and extend membrane life
- Inactivation of emerging pathogens
- Optimization of disinfection and filtration
- Impact of secondary disinfection on biofilm and corrosion
- Synergy of multiple disinfectants
- Disinfection for reuse water
- Online monitoring, control and information technology applications

- On-site technical support included for all subnode locations including University of Toronto, University of Waterloo and Wilfrid Laurier University

Advanced Oxidation Process (AOP) Platform

➤ Led by the Drinking Water Research Group at the University of Toronto

- Skid mounted equipment for transportation to field sites or in-lab assessment of AOPs that can include:
 - Pilot-scale Rayox system
 - Collimated UV beam (MP, LP)
 - SolSim solar simulator
 - Photo-Cat UV-titanium dioxide system
 - Ozone pilot plant

➤ SCADA system for equipment automation

Equipment supporting platform includes:

- Fluorescence spectrophotometer
- UVT online analyzer
- Spectrum analyzer
- Bench scale scanning diode ray spectrophotometer
- Total organic halide (TOX) analyzer
- ICS-5000 ion chromatograph
- GC/MS 240 series ion trap
- LC/MS 6400 series triple quadrupole

Mobile Membrane Pilot Plant

- Led by the NSERC Industrial Research Chair in Water Treatment at the University of Waterloo
- Three types of automated membrane pilot plants, including microfiltration, ultrafiltration, and nanofiltration
- Pilot-scale two train conventional drinking water treatment with biological filters
- All pilot plants skid mounted for transportation to field sites

Equipment supporting platform includes:

- Total organic carbon (TOC) analyzer
- UV VIS spectrophotometer
- Fluorescent spectrophotometer
- LC-OCD
- Biological monitoring equipment

Platform for Pathogen Resilience Characterization

- Led by Wilfrid Laurier University
- Platform focuses on enhanced characterization of resilient pathogens to physiological stress imposed by various treatment strategies
- Investigation of pathogen response under conditions, which include both chemical and biophysical stress, can be examined from both an individual and community-driven perspective

Equipment supporting platform includes:

- Temperature-controlled Anaerobic Chamber
- Pulsed Field Gel Electrophoresis
- Spectrophotometric Readers
- Enhanced Microscopic Imaging System

For more information:

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