Contaminants of Emerging Concern

Research Excellence Network

Scientific Director: Dr. Pascale Champagne

About Us

The Contaminants of Emerging Concern-Research Excellence Network (CEC-REN) at Queen's University, is an interdisciplinary research & innovation initiative. CEC-REN is focused on the detection & treatment of emerging contaminants in the natural and built environment, that pose environmental & human health risk. Currently, our affiliated research programs have received ~$20 million in funding, which is a substantial investment in environmental research which address the UN Sustainable Development Goals.

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Research Excellence Network

6 CLEAN WATER AND SANITATION

15 LIFE ON LAND

Research

Our Research aligns to the United Nations' Sustainable Development Goals (SDGs), specifically SDG 6 (Clean Water & Sanitation), 9 (Industry, Innovation & Infrastructure), & 15 (Life on Land). We do this through fostering national & international research collaborations related to emerging contaminants in the natural and built environment.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Major Affiliated Research Programs

Canadian Algae Research & Technology Network (CART)

CART encourages research partnerships with academia, industry and policy makers across Canada. Our research focuses on scientific advancement in the utilization of algae biomass for water treatment management, and for the production of sustainable fuels and fine chemical products. Our goal is to benchmark the status of algae resources, research, technologies, commercialization, training and knowledge transfer. Our network consists of globally recognized researchers and seven academic institutions across Canada.

Drinking Water Quality Group

The Drinking Water Quality Group at Queen's University is focused on examining the factors and mechanisms that lead to poor water quality in drinking water systems and on developing innovative technologies and best practices to protect drinking water in Canadian systems. Led by Drs **Yves Filion** and **Sarah Jane Payne**, the group has a number of active research topics including: Metals accumulation and release in drinking water distribution systems, impact of antibiotics and metals in developing resistance in drinking water biofilms, and more.

Open Plastic

In an effort to reach zero plastic waste in Canada by 2030, the Open Plastic program will focus on the development of novel microbiological technology to support breakdown of plastic waste into marketable recycled products. This will support diversion of plastics away from landfills, saving Canada over $500 million/year and will create 40,000 jobs in the clean technology industry. The major impact will be the reduction of greenhouse gas emissions globally. This Program is led by Drs **Laurence Yang**, **James McLellan**, **David Zechel** & **George diCenzo.**

Enhanced Training Program

The CEC-REN offers enhanced interdisciplinary training opportunities for highly qualified professionals (HQPs). These opportunities are offered through our affiliated programs which include:

NSERC CREATE

- Leaders in Water and Watershed Sustainability (The LEADERS Program) - Led by **Dr. Stephen Brown (Queen's)**
- Persistent, Emerging and Organic Pollution in the Environment (The PEOPLE Network) - Led by **Dr. Bing Chen (Memorial)**
- Training in Applied Biotechnology for Environmental Sustainability (TABES) - Led by **Dr. Satinder Kaur Brar (York)**

Fonds de recherche du Québec – Nature et technologies (FRQNT)

- EcotoQ led by Dr. Patrice Couture (INRS) provides research and training opportunities to document the presence, flow and effects of contaminants in the environment

EcotoQ | Quebec Centre for Research in Ecotoxicology | Centre de recherche en écotoxicologie du Québec

LEADERS CREATE

PEOPLE Network
Persistent, Emerging and Organic PoLlution in the Environment

TABES

NSERC CRSNG

Our Collaborators

Contact Us

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