Graduate Student and PDF Opportunities in Novel Remediation of Contaminated Sediments in the Great Lakes

Project Description.

Sediments in the Great Lakes are widely contaminated with polybrominated diphenyl ethers (PBDEs), polycyclic aromatic hydrocarbons (PAHs), among other persistent contaminants. In this project, we will evaluate a promising new advanced technology for *in situ* remediation of contaminated sites. The technology will be tested with sediments from three Areas of Concern: Hamilton Harbour and Bay of Quinte in Lake Ontario, and the St. Mary's River. Experiments will be conducted in a state-of-the-art outdoor aquatic science facility at the Queen's University Biological Station. This project will demonstrate the feasibility of the novel remediation system for reducing the mobility and bioavailability of PBDEs and PAHs in freshwater sediments and will inform federal and binational sediment management strategies. This project is funded by the Canadian Water Agency, in partnership with with Algoma University and the Ontario Ministry of the Environment, Conservation and Parks.

Position Details.

The successful candidates will be appointed (PDF) or enrolled in a graduate program (Master's or PhD) in Environmental Studies or Smith Engineering at Queen's University in Kingston, Ontario, Canada, where they will work with Dr. Diane Orihel (Associate Professor, Director of QE3 Research Group), Dr. Brian Amsden (Professor, Director of Advanced Biomaterials Laboratory), and Dr. Xiaying Xin (Assistant Professor, Civil Engineering). Preferred start date of Jan 2027 or May 2027.

Desired Qualifications.

- University degree in Environmental Sciences, Engineering, Environmental Chemistry, Biology, or related field.
- BSc-Honors (for MSc Position), research-based Master's (for PhD Position), or PhD (for PDF Position)
- Theoretical knowledge of limnology, environmental chemistry, and/or chemical engineering.
- Practical experience in limnological field sampling and analyses of chemicals in environmental samples, including instrumentation such as GC-MS/LC-MS-MS.
- Proficiency in data analysis and scientific writing.
- Team-oriented and committed to promoting equity, diversity, and inclusion.

To apply, please email an application package to QE3recruitment@gmail.com (with the subject **"CWA26")** containing the following:

i) One-page cover letter explaining: your interest in the project, what position you are eligible for (Master's, PhD, or PDF), how you meet the desired qualifications, and indicating your citizenship status.

ii) University transcripts;

iii) A writing sample (e.g., thesis or published paper); and

iv) Contact information (name, position, affiliation, work email) for 3 references.

Application deadline is November 1, 2026, but early applications are encouraged.

Position is open to Canadian citizens and permanent residents. *Applications from Indigenous, Black, LGBQT+, and persons from other underrepresented groups are welcomed.*

QE3 Queen's Experimental Ecotoxicology for Environmental Policy — www.qe3research.ca

ABiL Amsden Group Advanced Biomaterials Laboratory — https://amsdenlab.ca/

Xin Lab Water Innovation

Queen's University · Algoma University · Government of Canada · Gouvernement du Canada · Ontario