



Multiple Stressors and Cumulative Effects in the Great Lakes:

An NSERC CREATE Program to Develop Innovative Solutions through International Training Partnerships

Project Title	Training as an Aquatic Toxicity Testing Technician
Position	BSc (Summer student position)
Institution	University of Guelph (and Ontario Ministry of Environment and Climate Change)
Department	School of Environmental Sciences
Primary Advisor(s)	Mr. David Poirier/Dr. Paul Sibley
Start	May 1 to August 31, 2016
Stipend	\$6,000

Project Description

A placement with the Biological Analysis Section at the Ontario Ministry of Environment and Climate Change (OMOECC) in Etobicoke ON will provide the opportunity to work in a government facility and learn the intricate operations of an Aquatic/Sediment toxicology laboratory involved in routine testing of industrial effluents, contaminated site assessments, method development and applied research. The OMOECC is a signature to the Canada/Ontario Agreement (COA) and has direct responsibility for monitoring and controlling pollutants in the Great Lakes watershed. Under direct supervision, the student will assist in the culturing of and toxicity testing with a wide variety of sediment dwelling invertebrate and fish species.

Duties will include (but are not restricted to):

- Carrying out laboratory maintenance and cleaning;
- Assisting with maintenance of water treatment systems;
- Maintaining healthy cultures of fish and invertebrates;
- Receiving, cataloguing, and storing effluent and sediment samples submitted for toxicity testing;
- Preparing effluents, chemical solutions and sediments for testing;
- Monitoring and recording physical and chemical conditions of culture waters and test solutions and recording data;
- Document control including database entries and filing.

Successful applicants can expect to learn:

1. Laboratory health and safety procedures
2. General laboratory maintenance
3. Water treatment system maintenance

4. Quality control procedures within an environmental testing laboratory (ISO17025)
5. Operation of specific ion meters, and wet chemistry techniques (including titrations and making chemical solutions)
6. Culturing fish (rainbow trout and fathead minnows)
7. Culturing aquatic invertebrates (mayflies, Daphnids, amphipods, worms, flies)
8. Standard and non-standard aquatic and sediment toxicity testing methods (acute, chronic and bioaccumulation methods)
9. Data management and statistical analysis of toxicity data
10. Report writing and document/literature review

Qualifications

Applicants must be enrolled in a university program in toxicology (preferred), or biological sciences.

The following skills would be an asset:

- Relevant laboratory and/or field experience,
- Basic skills to maintain and operate simple laboratory equipment such as balances, specific ion meters and temperature controllers,
- Good written and verbal skills,
- Computer software skills (spread sheet and word processing),
- Ability to multitask (workload planning and priority setting),
- Good interpersonal skills

Contact & Applications

University of Guelph	<p>Dr. Paul Sibley/Dr. Soren Brothers School of Environmental Sciences University of Guelph Guelph, ON Canada, N1G 2W1 psibley@uoguelph.ca; sbrother@uoguelph.ca 519-824-4120-52707 (Sibley)</p>
OMOECC	<p>AND</p> <p>Mr. David Poirier Ontario Ministry of Environment and Climate Change 125 Resources Road Etobicoke, ON M9P 3V6 Dave.Poirier@ontario.ca</p>