



## MSc Candidate Position

### Long-term effects of acid rain on organic matter quality in lakes

We are currently recruiting a MSc student to join our team at the Forest Research Institute of the Université du Québec en Abitibi-Témiscamingue (UQAT). The student will take on a research project investigating the effects of atmospheric acid deposition on organic matter in aquatic ecosystems.

During the 20<sup>th</sup> century, acid rain caused severe environmental damage across NE North America, acidifying soils and lakes. In its most severe form, this led to forest dieback and fish kills. Over time, with reductions in acidic emissions, affected ecosystems started to recover, with an often immediate chemical but delayed biological recovery. Changes in soil acidity strongly affect the transport of organic matter from the landscape to rivers and lakes. Organic matter plays a key role in ecosystem functioning, influencing water quality, algal and fish communities, as well as carbon emissions from aquatic environments to the atmosphere. Lake sediments are natural archives that allow us to reconstruct how forests and lakes have changed in the past over hundreds of years and longer. This project will use lake sediment records to assess how acid rain has altered the composition of organic matter in lakes during the 20<sup>th</sup> century.

The student will work under the supervision of Professor Carsten Meyer-Jacob (UQAT) and Dr. Erik Emilson (Natural Resources Canada, Great Lakes Forestry Centre, Sault Ste. Marie) and will gain experience in both university and federal government research facilities. This project involves lab work and will use biogeochemical and spectroscopic techniques to characterize changes in organic matter quality in lakes over time.

This is a fully funded 2-year position with an anticipated start date in Fall 2024. Further details on the MSc program at UQAT (Maîtrise en écologie et aménagement des écosystèmes forestiers) are available at <https://www.uqat.ca/etudes/irf/maitrise-en-ecologie/>.

**Start Date:** Fall 2024

**Financial Support:** Scholarship of \$21 000 per year for 2 years

#### Requirements:

- Bachelor degree or equivalent in Biology, Earth or Environmental Sciences, or related fields
- Lab work experience (or interest)
- Ability to communicate in written and spoken English
- Ability to work independently and in teams
- Motivated to learn and passionate about environmental change and solving environmental issues
- Previous experience in paleolimnology, aquatic ecology, and/or biogeochemistry are advantageous



**Application:** For enquiries or to apply, please send an email with the subject line “MSc Project: Organic Matter Quality Lakes” to Carsten Meyer-Jacob ([carsten.meyer-jacob@uqat.ca](mailto:carsten.meyer-jacob@uqat.ca)) and Erik Emilson ([erik.emilson@NRCan-RNCan.gc.ca](mailto:erik.emilson@NRCan-RNCan.gc.ca)). Applications should include a statement of interest, a CV, and a copy of transcripts (unofficial transcripts are acceptable).



HUMAN-CENTRED  
>>> CREATIVE  
AUDACIOUS

**UQAT**  
UNIVERSITÉ DU QUÉBEC  
EN ABITIBI-TÉMISCAMINGUE

## UQAT: HIGHER LEARNING ON A HUMAN SCALE

### Study in the heart of Quebec's great outdoors

Set in a region where wilderness, lakes, and forests stimulate creativity and foster talent, UQAT is different by nature.

With 22,000 lakes and endless miles of boreal forest, Abitibi-Témiscamingue is a dynamic place full of creative people, new ideas, and bold projects. [See what our students have to say!](#)

### Renowned professors with time for you

The professors at UQAT are recognized experts in their fields who typify quality teaching. And with a ratio of one professor or lecturer to every twelve students, UQAT offers a personalized educational environment where you will fit right in. Knowing you can always count on your professors to be available - now that's a real advantage.

### A world of high-calibre research

Research activities at UQAT are producing remarkable results in a range of scientific fields. According to the 2023 independent firm RESEARCH Infosource Inc., UQAT is ranked among the top 3 Canadian universities in terms of research intensity per professor, among universities mainly active in the undergraduate category (full-service universities, excluding universities with medical schools).

With more than \$24 million in research per year and state-of-the-art laboratories, UQAT is an exceptional environment for graduate students. Many of our students have achieved excellence in their chosen fields and many of our professors have been recognized for the quality of their research and their innovative spirit. [Find out more](#)

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## STUDENT FOR A DAY

One visit is enough to know that UQAT is a first-class institution. The Student for a Day program is the best way to learn more about UQAT, visit the campus that interests you, and meet professors and students.

We'll tailor the visit to your needs and interests!

[Find out more](#)

