



PhD Candidate in Paleolimnology

Long-term effects of forest defoliation by insects on lake-water quality

We are currently recruiting a PhD 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 that assesses the long-term effects of spruce budworm outbreaks on lakes in the boreal forest of Quebec.

Insect outbreaks are one of the most significant natural disturbances of Canada's boreal forest, reducing tree growth and causing tree mortality. In Quebec, most forest damage is caused by spruce budworms, with outbreaks occurring every 30 to 40 years and lasting several years, thus strongly impacting the forestry industry. The most recent spruce budworm outbreak in Quebec (2006) has since affected over 13 million hectares of forest. Changes within the forest ecosystem can be tracked using lake sediment cores as lakes are strongly linked to their surrounding landscape. Lake sediments provide a natural record of how forests and lakes have changed over the past hundreds to thousands of years. The effects of forest disturbances by insects on boreal lakes are still poorly understood and this project aims to use lake sediments to study the long-term effects of spruce budworm outbreaks on water quality and carbon cycling.

The student will work under the supervision of Professors Carsten Meyer-Jacob and Mebarek Lamara at UQAT, and in close collaboration with the Canadian Forest Service (Great Lakes Forestry Centre and Atlantic Forestry Centre, Natural Resources Canada). This project involves both field work and lab work, and will use geochemical and sedimentary DNA analyses to track past spruce budworm outbreaks and identify their effects on lake ecosystems.

This is a fully funded 3-year position with an anticipated start date in Fall 2024. Further details on the PhD program at UQAT (Doctorate in Environmental Sciences) are available at <https://www.uqat.ca/etudes/irf/doctorat-en-sciences-de-environnement-secteur-forets/>.

Start Date: September 2024

Financial Support: Scholarship of \$24 000 per year for 3 years

Requirements:

- MSc degree or equivalent in Biology, Earth or Environmental Sciences, or related fields
- Field and lab work experience
- 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 "PhD Project: Forest defoliation impacts on lakes" to Carsten Meyer-Jacob (carsten.meyer-jacob@uqat.ca) and Mebarek Lamara (mebarek.lamara@uqat.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](#)

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](#)

