



## Biogeography of the mine footprint: relative vulnerability of bryophytes and their phytobiome PhD in forest ecology and management

### Background

This PhD project will study the biogeography of mining impacts, including the relative vulnerability of bryophytes and their phytobiome to mining dust in two biogeoclimatic domains. This topic is highly interdisciplinary and draws on several fields of study: bryology, microbial ecology and environmental monitoring. We examine in more detail the marked differences in detected metal levels between sites in the south (on the Cadillac fault) and those located further north (off the fault). While geological features distinguish these two regions, climatic and ecological characteristics also differ (e.g., mixed vs. coniferous boreal forest). In addition, the intensity of human development along the Cadillac fault line may contribute to the overall level of pollution in the region. The research will also allow an initial assessment of the biogeography of the bryophyte phytobiome, by comparing their composition and function between two biogeographic zones. A scholarship of 24 000\$ per year for 4 years is available for this project. Co-supervised by Nicole Fenton at UQAT and Christine Martineau at the Canadian Forest Service this project offers the opportunity to balance field and lab methods and time in Rouyn-Noranda and Québec City. Contact Nicole Fenton ([nicole.fenton@uqat.ca](mailto:nicole.fenton@uqat.ca)) or Christine Martineau ([christine.martineau@nrcan-rncan.gc.ca](mailto:christine.martineau@nrcan-rncan.gc.ca)) to express your interest.



**Start date:** Fall 2024 – Summer 2025

**Location and directorate:** The student will be based at the Institut de recherche sur les forêts (IRF) in the Rouyn-Noranda campus of the Université du Québec en Abitibi-Témiscamingue à Rouyn-Noranda (UQAT), with a possible semester in Québec city, at the Canadian Forest Service (Natural Resources Canada). The student will be a member of the Center for forest research (CFR). While UQAT is a small university our strong graduate programmes in forest ecology generate a 200 strong student community and a dynamic environment. Rouyn-Noranda city is a culturally active town and offers a good quality of life, through its touristic attractions, its closeness to nature and its numerous outdoor activities. The student will be supervised by Nicole Fenton (UQAT) and Christine Martineau (Canadian Forest Service, Natural Resources Canada).

**Financial support:** A scholarship of 24 000 \$ by year for 4 years is provided.

**Required profile:** A good or excellent academic record, field work and lab work experience (or strong interest), teamwork capacity, interest or experience in bryophytes.

**To apply:** Send an email including a curriculum vitae, a cover letter, an academic transcript and the names of two referees to [Nicole Fenton](#) and [Christine Martineau](#).





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