



PhD in Forest Management and Ecology

Modeling Future Forest Management Scenarios in the Context of Climate Change

Background

The boreal forest is the second largest terrestrial biome on the planet, stretching across a belt of 14 million km² and representing about 25% of the world's forest area. Two-thirds of this forest biome is managed and supplies 37% of global wood production. These forests also provide a wide range of natural resources and essential ecosystem services for humanity. However, climate change is altering species distribution, natural disturbance regimes, and the structure and functioning of forest ecosystems.

Therefore, modeling future climate change scenarios is essential in order to adapt forest management to upcoming challenges. The objective of the project is to model different management strategies and natural disturbance regimes under projected climate conditions, in order to evaluate their impact on forest dynamics, carbon sequestration, and biodiversity in a boreal landscape. We are using the LANDIS-II forest landscape disturbance and succession model to run the simulations.

Start date: September 2025

Location:

The student will be based at GREMA (<https://www.uqat.ca/recherche/grema/>) at the Forest Research Institute (IRF; <https://www.uqat.ca/programmes/irf/>) on the Amos campus of the Université du Québec en Abitibi-Témiscamingue (Quebec, Canada). The IRF is dynamic, multicultural and international research group that provides a high-quality environment for students to develop their research, with 12 professors and more than 60 graduate students working on a wide range of topics such as forest dynamics, silviculture, genetics, biodiversity, aquatic ecology, ecophysiology and sustainable forest management. IRF students also benefit from professional development resources and opportunities (scholarships, participation in conferences, workshops) offered by the Centre for Forest Research (www.cef-cfr.ca). In addition, the student will be a member of the cold forest- international research group (<https://forets-froides.org/>). As part of this project, the student will also have the option of completing an international internship funded in Europe.

Supervision and collaborators:

The student will be supervised by Miguel Montoro Girona (UQAT) and co-supervised by Xavier Cavard. International collaborators will be involved in this project: Anouschka Hof (WUR).

Financial support: A scholarship of 24 000 \$ by year for 3 years is provided.

**Required profile:**

- Education: A good or excellent academic record. Master's degree in ecology, biology, environment or forestry with an interest in natural disturbances and silviculture effects in a context of sustainable forest management in the face of climate change.

- Requirements: A valid driver's license, the ability to work in a multidisciplinary team and the willingness to conduct fieldwork in remote locations. Teamwork capacity. Skills in statistical analysis and scientific communication will be considered in the selection process. We are looking for a dynamic, autonomous, responsible and motivated person. The applicant must be systematic and accurate, in combination with a curious and critical mindset, be good at cooperation yet also be capable of working independently.

- EDI's principles: Priority will be given to candidates from under-represented groups (Aboriginals, ethnic and visible minorities, LGTBI, women).

To apply: Send an email including a curriculum vitae, a cover letter, an academic transcript and the names of two referees to miguel.montoro@uqat.ca

Interested candidates must send their application before August 6th 2025





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