Funded Ph.D. project: Dispersal and metacommunity dynamics of boreal bryophytes

We are looking for a Ph.D. student with an interest in community ecology, bryology and ecological statistics for a funded research project at the Université du Québec en Abitibi-Témiscamingue (UQAT). The student would be co-advised by Nicole Fenton (https://www.researchgate.net/profile/Nicole_Fenton2) and Philippe Marchand (https://www.researchgate.net/profile/Philippe_Marchand3).

Project description

Bryophytes constitute a major part of the plant biodiversity in boreal forests and provide key ecosystem services such as nitrogen fixation (via symbiotic associations with cyanobacteria), soil moisture regulation, as well as food and shelter for invertebrates and small mammals. Despite their ecological importance, we know relatively little about the metapopulation and metacommunity dynamics of bryophytes at the landscape scale; such knowledge would be needed to set habitat retention size and connectivity targets for forest management. This is especially true of epixylic (deadwood-inhabiting) species that face high habitat turnover.

Photo : Marion Noualhaguet

Using an existing bryophyte community database collected by the UQAT bryology lab (hundreds of plots distributed across a 73 000 km² forested area in north-western Québec), the Ph.D. student will apply novel modelling approaches to determine the importance of habitat availability, species interactions and dispersal limitations in determining the range of different groups of epixylic bryophytes. By combining the bryophyte community data with historical data on forest disturbances (fire, harvest) in the study area, they will also estimate metapopulation characteristics (colonization and extinction rates) of key species based on their dispersal and reproductive traits.

Desired start date: Winter 2021 (Fall 2020 start date possible for Canadian applicants)

Location: The student will be based at the Rouyn-Noranda campus of UQAT, as part of the Forest Research Institute (FRI, http://www.uqat.ca/etudes/irf/), and the Centre for Forest Research (http://www.cef-cfr.ca/). The FRI team is dynamic and offers a good environment for students (student association, activities, etc.). Rouyn is a cultural and interesting city with an excellent quality of life (hiking, canoeing, swimming, films, music, festivals, restaurants). http://www.ville.rouyn-noranda.qc.ca/

Financing: Stipend of 21 000$/year for 3 years (with possibility of extension for a 4th year).

To submit your application, send a letter of motivation describing your interests, skills and experience relevant to this project, your résumé, and the names of two references to Nicole Fenton (nicole.fenton@uqat.ca) and Philippe Marchand (philippe.marchand@uqat.ca). We will start reviewing applications on **June 19th, 2020**.