

Postdoctoral Position in Metagenomics and Bioinformatics

The University of Sherbrooke is seeking a highly motivated postdoctoral researcher for a one-year position in metagenomics and bioinformatics. This position is part of a collaborative Alliance project with Environment and Climate Change Canada (ECCC).

Project Overview

This project aims to elucidate the role of fungi in aquatic microbial communities and determine how their contribution is shaped by lake characteristics and watershed land use.

Interactions between microbial communities and dissolved organic matter are fundamental to aquatic ecosystem health, influencing biogeochemical nutrient cycling, food-web dynamics, contaminant transport, and water quality. While watershed land use is known to affect dissolved organic matter composition and bacterial community structure, its effects on the broader microbial community remain poorly understood, because fungi have been largely overlooked.

The successful candidate will work with a unique, large-scale dataset developed by ECCC that encompasses more than 100 lakes across broad gradients in watershed land use. The dataset includes bacterial and fungal community profiles, lake physicochemical characteristics (e.g., pH, dissolved organic matter concentration), advanced molecular characterization of dissolved organic matter, and land-use information.

Using state-of-the-art statistical and machine-learning approaches, the postdoctoral researcher will identify the key environmental drivers of microbial community structure and function. By addressing a major knowledge gap in freshwater ecology, this research will advance our understanding of the links among microbial ecology, biogeochemistry, and carbon cycling, while generating knowledge relevant to freshwater conservation and management at local, provincial, and national scales.

Qualifications

Candidates should have:

- Strong expertise in metagenomics and bioinformatics.
- Experience with statistical analyses and/or machine-learning approaches applied to large ecological datasets.
- Excellent written and oral communication skills.

Application Process

Interested candidates should submit the following documents to j-p.bellenger@usherbrooke.ca:

- A brief letter of interest describing relevant experience and research interests.
- A curriculum vitae.
- The names and contact information of two references.

Review of applications will begin immediately and continue until the position is filled. The anticipated start date is flexible. The University of Sherbrooke is committed to equity, diversity, and inclusion and welcomes applications from all qualified candidates.