



## Two-year postdoctoral position: Phylogenetic structure of leaf spectra

The [Canadian Airborne Biodiversity Observatory](#) (CABO) seeks to understand how environmental changes are altering plant biodiversity in Canadian ecosystems, using spectranomics (spectral signatures and images of plant leaves and canopies). CABO is funded by [NSERC's Discovery Frontiers Program](#) and involves a team of multidisciplinary researchers from four Canadian universities.

### Background

A fundamental assumption of the spectranomics approach is that foliar spectral signatures vary more among than within species, allowing species discrimination with spectra. Exactly how evolutionary history and environmental factors structure patterns of similarity among species' spectra across Canadian ecosystems remains to be assessed. Determining the extent to which spectral variation in Canadian plant species is phylogenetically structured is important to facilitate remote sensing of plant taxonomic and functional biodiversity using imaging spectroscopy.

### Project summary

Using leaf-level spectral and functional trait measurements collected in 2018 and 2019 by the CABO team on a wide range of canopy plant species representative of the taxonomic diversity of Canadian ecosystems, the candidate will pursue a wide range of questions in phylogenetics and biodiversity science in collaboration with CABO PIs and students.

The project will be centred on 1) evaluating the relative contribution of phylogeny versus environment on leaf spectral variation and how to best take this into account for discriminating plant species across Canadian ecosystems; 2) examining the phylogenetic structure of leaf foliar spectra and associated functional traits, and their interactions across space and time.

### Qualifications

- Strong background in phylogenetic reconstruction and comparative methods
- Experience in managing and manipulating large datasets
- High-level quantitative skills working with phylogenetic and trait data
- Excellent writing skills, demonstrated by publication record

### Details

The candidate will be based at the Université de Montréal's [Biodiversity Centre](#), under the supervision of [Anne Bruneau](#) and [Etienne Laliberté](#). Applicants should send a letter of motivation referencing relevant skills, their CV and the names of three references to [caboscience@gmail.com](mailto:caboscience@gmail.com). The **deadline for applications is May 30th 2020**. The **expected start date is September 2020**, with some flexibility. Candidates wanting more information about the project can contact Anne Bruneau ([anne.bruneau@umontreal.ca](mailto:anne.bruneau@umontreal.ca)).