

## **Postdoctoral Fellow Position on Essential Biodiversity Variables**

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Research project: Réseau d'observation de la biodiversité du Québec (BD-QC)

Location : Faculty of Science, Université de Sherbrooke

Supervisor : Professor Dominique Gravel

### **Background**

The Réseau d'observation de la biodiversité du Québec (BD-QC) is developing an IT infrastructure that will be used to document in real time the state of biodiversity and its changes. The BD-QC Network participates in the collection of new data in the field and integrates the observations of its various partners. Based on advanced data processing techniques such as statistical modelling and artificial intelligence, the visualization tools provide a unique synthesis of the major changes occurring in Quebec's ecosystems.

The BD-QC Network is funded through NSERC's Alliance program and numerous partnerships with government, museums, citizen science, environmental consultants, natural resource industries and conservation organizations.

### **Working environment**

The direction of the BD-QC Network is located in the Faculty of Science at the Université de Sherbrooke and the supervision is carried out by Professor Dominique Gravel of the Department of Biology. The project is conducted in collaboration with researchers from Université de Montréal and McGill, and researchers from the Government of Quebec at Ministère des Forêts, de la Faune et des Parcs and Ministère de l'Environnement et de la Lutte contre les changements climatiques.

### **Tasks and Responsibilities**

The postdoctoral fellow will be in charge of developing and deploying a protocol for the creation of Essential Biodiversity Variables based on BD-QC Network observation data. These Variables will be used to document biodiversity changes for Quebec. Specific tasks include:

- Evaluation of methodologies for imputation of observation data
- Development of species distribution models
- Programming pipelines for automatic data analysis
- Assessing the sensitivity of biodiversity change indicators to different imputation methods
- Uncertainty analysis
- Participate in the activities of the Network for the development of biodiversity monitoring protocols

### **Qualifications required**

- PhD in Biology, Computer Science or Geomatic Sciences
- Experience in quantitative methods applied to biodiversity data

## **Other Requirements**

The evaluation of candidates will be based on qualifications and experience on the following areas:

- Advanced knowledge of modelling using Bayesian statistics and/or artificial intelligence
- Technical skills for data processing with SQL
- Ability to develop R packages
- Knowledge of Biodiversity Science
- Be familiar with the standards of reproducibility and interoperability in the management of scientific data.
- Demonstrate work ethics in a collaborative and diverse team.

## **Working conditions**

Full-time position

Duration: 3 years with the possibility of renewal

Start date: as soon as possible.

## **Apply**

Send to [dominique.gravel@usherbrooke.ca](mailto:dominique.gravel@usherbrooke.ca) a single pdf document containing a CV and cover letter. The evaluation will begin on December 1, 2020, and will continue until the position is filled. Canadian citizens and permanent residents will be prioritized.