

Post-doctoral position with the McGill Sustainability Sciences Initiative

Montreal Living Lab: Developing an interactive, open platform for urban sustainability research, engagement and policy

We seek a post-doctoral researcher to help develop the Montreal Living Lab (MLL), a platform for integrating sustainability knowledge at the regional scale to improve research, policy making and public engagement. The project will build on the ‘Adapting Urban Environments for the Future’ theme of the McGill Sustainable Systems Initiative (MSSI). Adapting Urban Environments for the Future is “an integrative program of research on urban sustainability that will generate and mobilize the knowledge required to make cities more socially inclusive and less environmentally impactful, while improving the well-being of residents.”

The post-doctoral researcher will take a leading role in developing and implementing the MLL. The researcher will jointly supervised by Andy Gonzalez (Biology), Kevin Manaugh (Geography and School of Environment), and David Wachsmuth (School of Urban Planning).

The Living Lab Concept

Building on existing research in Montreal, McGill researchers will work together to develop solutions oriented platform for urban sustainability. The MLL will draw upon a broad array of datasets and present indicators of the city’s state and dynamics. These indicators, co-designed with our partners, will chart progress towards sustainability and will be made open and publically accessible via an online dashboard. McGill has capacity and expertise to look at local issues related to carbon emissions, health, food, waste management, transport, extreme weather, governance, ecosystems and biodiversity, land use changes and development patterns and equity.

Montreal is an important international hub linking francophone and anglophone cultures in North America, Europe and Africa. The city is home to 60 international organizations (several, such as Future Earth, with urban sustainability as a core agenda), and is also the first Canadian member of 100 Resilient Cities, an international network funded by the Rockefeller Foundation. As a midsize city with 4 million inhabitants, it is typical of the majority of the world’s cities. Like many midsize cities it is also experiencing population growth and faces the challenges of urban sprawl (driven by migration from the city) and inner city densification.

Responsibilities

We are seeking an exceptional individual with the expertise to spearhead the development of the MLL platform. Tasks will include the gathering of data and knowledge production via mapping and analysis that will be the core functions of the MLL. The successful candidate’s main task

will be the visualization of datasets provided by various industries and public entities, including but not limited to environment, telecommunications, healthcare, transportation, and urban or municipal planning. Appropriate candidates may come from a variety of academic backgrounds and experiences.

We envisage the researcher working in a collaborative, multidisciplinary setting, to best utilize the diverse expertise and knowledge of the team members. We expect the researcher to work with our partners in the city of Montreal, and other regional municipalities, and be able to discuss his/her work with a diverse audience, including scientists from diverse fields, government officials, NGOs, and local stakeholders.

Responsibilities include working with Montreal Living Lab researchers, collaborators and sponsors to:

- Collaborate with data scientists to identify research questions and aggregate data in an actionable way.
- Design data visualization tools or platform for a variety of research projects.
- Prototype these tools (both the front and back end) through an iterative approach.
- Evaluate the usability and the usefulness of these tools with potential users.
- Create animations and videos based on data provided from research projects.

The ideal candidate will have:

- A PhD in in a relevant field of sustainability science (e.g., geography, urban planning, urban ecology, computer science). Candidates with experience in visual design or media are welcome.
- Expertise in at least one of the following research areas:
 - GIS spatial analysis and mapping
 - Ecological modeling
 - Programming experience in SQL, Matlab, and Python. (C++, Java, Hadoop, MapReduce and other relevant technologies would also be an asset.)
- Expertise in handling large datasets, as well as overcoming limited data.
- Excellent communication and organizational skills, self-motivated work ethic.
- Experience working on large multi-disciplinary projects involving multiple stakeholders.
- A strong research publication record in the applicant's relevant field.
- Multi-disciplinary expertise and French language proficiency are assets.

The position is for a full-time post-doctoral researcher beginning May 1, and offers full funding for 2 years. We offer a competitive remuneration package, and additional benefits such as

networking and training opportunities with the Trottier Institute of Sustainability in Engineering and Design (TISED) and the Quebec Center of Biodiversity Sciences (QCBS).

How to apply

Applications should be sent to mssi@mcgill.ca as a single pdf document, with the subject line: “Living lab post-doc”, by March 31, 2018. The pdf should include:

1. A one-page cover letter, introducing yourself and highlighting your interest in and fit for the position
2. Curriculum Vitae
3. Full-text attachments of 1-3 key relevant publications
4. Names and contact information of 3 referees.

We will begin evaluating applications on March 31, for a May 1 start date.

