

## **Funded PhD & MSc Students, Residential Archetypes & Stock Representation**

Building Performance Research Center

Carleton University, Ottawa, ON

We are seeking multiple MSc and PhD students for a funded international research project to develop new housing and household archetype models for building code analysis and housing stock representation. The goal is to inform future building code changes that will improve the housing stock's resiliency, sustainability, and affordability. The project is in collaboration with National Research Council Canada (NRC), Canada Mortgage and Housing Corporation (CMHC), RWTH Aachen University (Germany), and Özyeğin and Çankaya Universities (Turkey). Successful candidates as a group will conduct an analysis on various large open housing-related datasets, collect longitudinal field-scale indoor environmental quality data, conduct occupant interviews and field surveys, employ machine learning techniques to generate housing and household archetypes, and extensively use building performance simulation software to inform future design pathways.

### **Qualifications**

Ideal candidates are expected to have following attributes:

- Background in building engineering or related areas (mechanical engineering, systems and computer engineering, electrical engineering, engineering physics, civil engineering);
- Knowledge of building energy modelling techniques and HVAC systems (knowledge of EnergyPlus is an asset);
- Knowledge of programming environments such as R, Python, and Matlab;
- Familiarity with statistical analysis and modelling;
- Ability to develop new skills and explore new ideas.

### **About BPRC**

**Carleton Building Performance Research Centre** is a group of seven professors and over 50 MSc, PhD, and postdoctoral researchers specialized in building and community design and operations for low energy and greenhouse gas emissions, while improving comfort and usability.

### **About Ottawa**

Located in Ottawa, Ontario, Canada's capital city has a population of almost one million and reflects the country's bilingual and multicultural character. Carleton's location in the nation's capital provides many opportunities for research with private and public sector partners including federal research laboratories. To learn more about our university and the City of Ottawa, please visit [www.carleton.ca/about](http://www.carleton.ca/about).

### **Application instructions:**

Candidates are encouraged to highlight qualifications relevant to the areas of special interest in energy modelling, building performance analysis, programming, statistical analysis and modelling, Apply by sending your CV, contact information for two references, and a writing sample to [burak.gunay@carleton.ca](mailto:burak.gunay@carleton.ca).

date posted: 2023-02-23

closing date: until the position is filled