



Posting Date: 28 July 2017

Department of Civil Engineering
Faculty of Applied Science and Engineering
University of Toronto

JOB POSTING – POSTDOCTORAL FELLOW

Areas of Research: sustainability, building science, building performance monitoring, thermal comfort, energy modeling, energy sub-metering

Overview of the position:

Applications are invited for a Postdoctoral position in the Sustainable Built Environment Performance Assessment (SBEPA) Network at the University of Toronto. The position is available immediately.

The SBEPA Network has recently been established to consider how the university campus can be a ‘living lab’ for testing enhanced approaches to evaluating the broad concept of sustainability, and the built environment of UofT in particular. Faculty members within four Faculties (Arts and Science, Applied Science and Engineering, John H. Daniels Faculty of Architecture Landscape and Design, and the Dalla Lana School of Public Health) along with members of the Facilities and Services team at the University are participating in the Network. The goal of this interdisciplinary Network is to create a new standard for the design of sustainable buildings and infrastructure that have mutually supportive and net positive human and environmental benefits. The SBEPA Network of faculty members and staff from across the university are working together to address the multi-disciplinary challenge of creating and applying a framework to go beyond the traditional energy use metrics to assess aspects of built environment performance. This framework includes exploration of three performance gaps:

1. Predicted versus actual resource use (e.g. modelled and measured energy, water consumption);
2. Expected versus actual lived experience (e.g. Pre- and post-occupancy evaluations);
3. Measured versus perceived environmental conditions (e.g. thermal comfort measurements and survey results).

One Postdoctoral Fellow, who trained as an architect and has a PhD in Sustainable Building Renovation brings interdisciplinary expertise in environments for health and wellbeing, sustainable architecture, and daylight design and simulation has already joined the Network.

We are seeking a second Postdoctoral Fellow who is an expert in building energy and environmental performance monitoring to work as part of a team in developing and

applying this framework and associated research activities. The candidate will be a lead contributor to peer reviewed publications, technical reports, conference proceedings, and participate in meetings with academic, industrial and government partners.

Description of duties:

The candidate, working collaboratively with the architectural Postdoctoral Fellow, will be responsible for:

- Conducting an extensive literature review on the relationships between energy, water, and air quality in building systems and existence of and reasons for the performance gap in buildings resulting in a review paper.
- Analyzing the qualitative and quantitative data collected to determine best practices for surveying and monitoring as well as retrofit approaches that promote energy-efficient, healthy, productive, comfortable spaces.
- Designing and executing a monitoring plan to gather building performance data at multiple sites across the University for comparison with the qualitative occupant wellbeing findings gathered by the architectural postdoc.
- Assisting with the supervision of PhD and Master's candidates working with the SBEPANetwork
- Assisting in preparing funding applications to support the work of the SBEPANetwork

Salary: \$40,000/ year

Please note that should the minimum rates stipulated in the collective agreement be higher than rates stated in this posting, the minimum rates stated in the collective agreement shall prevail.

Required qualifications:

- PhD degree in engineering, or related field awarded within the past 5 years;
- Experience in building energy and environmental monitoring, energy modeling, programming and statistical analysis;
- Demonstrated expertise in occupant survey development;
- Proficiency with EnergyPlus, TRNSYS or other research-appropriate energy modeling software;
- Experience managing large datasets containing confidential data;
- Excellent verbal and written communication skills in English;
- Demonstrated ability to work independently and as part of a team and a drive to create their own novel research direction.

Application instructions

All individuals interested in this position must submit a single electronic file consisting of a cover letter, detailed CV, a one page statement of research interests, and the names and addresses of three references to Terri Peters, Project Manager of SBEPANetwork terri.peters@daniels.utoronto.ca by the closing date. Please use **Application for SBEPANetwork Postdoctoral Position** as the email subject.

Closing date: Positions will be reviewed immediately and the search will continue until the position is filled. The call will not close until at least ten days after it has been posted.

Supervisor: Marianne Touchie and Heather MacLean

Expected start date: Immediately

Term: 1 year with potential for renewal

FTE: 1

Employment as a Postdoctoral Fellow at the University of Toronto is covered by the terms of the CUPE 3902 Unit 5 Collective Agreement.

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The normal hours of work are 40 hours per week for a full-time postdoctoral fellow (pro-rated for those holding a partial appointment) recognizing that the needs of the employee's research and training and the needs of the supervisor's research program may require flexibility in the performance of the employee's duties and hours of work.

The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from racialized persons / persons of colour, women, Indigenous / Aboriginal People of North America, persons with disabilities, LGBTQ persons, and others who may contribute to the further diversification of ideas.