Civil & Mineral Engineering
UNIVERSITY OF TORONTO

JOB POSTING – POSTDOCTORAL FELLOW

Areas of Research: Sustainable cities, embodied GHG, GHG budgets

Overview of the position:

Applications are invited for one postdoctoral position in the Centre for the Sustainable Built Environment (CSBE). More information on CSBE here https://civmin.utoronto.ca/build-more-pollute-less-new-academic-industry-partnership-to-balance-infrastructure-needs-with-environmental-integrity/.

The objective of this study is to establish quantitative pathways to build more infrastructure (vertical and horizontal) while reducing GHG emissions in the construction sector to meet climate commitments.

The postdoctoral fellow will have a suitable research and/or industry background and be a lead contributor to peer- reviewed publications, technical reports, conference proceedings and in-depth interactions with research partners. The postdoctoral fellow will join CSBE and will support the research and operation of the Centre. In addition to acting as a lead contributor on this research project, the fellow is expected to actively engage with other researchers in the group (e.g., regular attendance at group meetings, providing advice to graduate students).

Description of duties:

CSBE covers a range of topics for establishing pathways to low GHG construction including 1) quantitative assessment of the need for future buildings and infrastructure 2) establishing a GHG budget for the construction sector (including scope 3 emissions) 3) Urban form, structural design, and material design pathways to meet 1 within 2. There will be the opportunity for the fellow to propose and lead research sub-projects within the above.

The ideal candidate will contribute to a subset of the below in line with their skills and interests.

- Quantification of construction material use from drawings (material take off) to develop an urban MFA database
- Input output modelling for calculating the GHG budget for construction
- Urban and building form design to reduce embodied GHG
- Structural design to reduce embodied GHG
- Material design to reduce embodied GHG

Salary: **$59,000/ year + benefits**

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.

FACULTY OF APPLIED SCIENCE & ENGINEERING
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Required qualifications:

- PhD degree in engineering, construction management, architecture, industrial ecology, or related field awarded within the past 5 years
- Experience managing large datasets containing confidential data
- Excellent communication skills in English
- Desire to engage in applied research with near-term applications
- Demonstrated ability to work independently and as part of a team and a drive to create their own novel research direction

- Experience with IO is a plus
- Experience with embodied GHG assessment of LCA is a plus
- Experience with BIM is a plus

Application instructions

All individuals interested in this position should submit a single electronic file consisting of a cover letter, detailed CV, a one-page statement of research interests, and the names and email addresses of two references to Prof. Shoshanna Saxe (s.saxe@utoronto.ca). Please use the subject line **Application for CSBE postdoctoral fellowship**.

Closing date: The search will continue until the position is filled.

Supervisor: Prof. Shoshanna Saxe

Expected start date: approximately September 2023 to January 2024

Term: 1 year, renewable (CSBE is funded through December 2025)

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.