



SCHOOL OF GRADUATE STUDIES

## Horizon Postdoctoral Fellowship at Concordia University

Concordia University in Montreal, Canada is currently accepting applications for postdoctoral fellowships valued at \$60,000 per year (plus benefits) for each of two years, in the following discipline:

Research program title:	Disaster-Proofing of Built Environment Using Proactive Simulator-Emulator Urban Simulation Framework
Supervisor(s):	Dr. Liangzhu (Leon) Wang
Program description (up to 200 words):	<p>A proactive simulation-emulator framework for achieving a disaster-proofing built environment is proposed. The targeted disasters include two major types, i.e., extreme urban weathers (e.g., heatwaves) and infectious diseases and pandemics. The functions of the framework include 1). Evaluate the current urban microclimate weather conditions by combined field measurements data of both ambient and built environment conditions, especially during extreme weather events, such as heatwaves, snowstorms, and current Pandemic; 2). Emulate proactively near future extreme events to predict the impacts based on the current status-quo of a built environment, and develop and propose mitigation strategies before the events occur. The novelty of the proposed framework is its integrated data-driven and physics-driven platform supported by field measurements data, e.g., those from the current project of Dr. Wang. The proposed framework is built upon the existing knowledge and resources with novel contributions to developing hybrid data-driven and physics-driven models. The framework novelty also includes future weather data information systems through Dr.</p>

	Wang’s involvement in the International Energy Agency (IEA) 80 – Resilient Cooling.
Academic qualifications required:	The PDF is expected to have a strong background in building simulation, extreme weather, thermal comfort/risk, data analytics, machine learning, and artificial intelligence, with also a background in urban climate and building systems. He/She will be well trained in both urban and building systems and disaster prevention and mitigations.

Eligibility requirements:

- Applicants must not currently hold a postdoctoral appointment at Concordia
- Priority will be given to postdoctoral fellows who have obtained their PhD from another university although in exceptional cases Concordia graduates may be considered
- Applicants must adhere to the postdoctoral fellow eligibility criteria outlined in Concordia University’s [Postdoctoral Policy](#)

Timeline and Application Process:

The PI may add the application deadline and the start date of the project; however, “The Horizon position is expected to be filled as soon as possible but no later than March 01, 2024”.

Submission process:

- All documents must be submitted to (Dr. Liangzhu (Leon) Wang) at [leon.wang@concordia.ca](mailto:leon.wang@concordia.ca)
- Please include the reference number with your application

Application checklist:

- ✓ One to three (1-3) page research statement demonstrating fit with the program described above
- ✓ Current curriculum vitae demonstrating research excellence and a capacity for leadership in the domain (maximum 5 pages).
- ✓ Two letters of reference from academic supervisors or current employers to be sent via e-mail directly to: (Dr. Liangzhu (Leon) Wang) at [leon.wang@concordia.ca](mailto:leon.wang@concordia.ca)

*Concordia University is a vibrant research and teaching environment, with state-of-the-art research facilities and many research centers. Concordia is located in Montreal, Canada, a diverse and creative city, often ranked as offering one of the best quality of living experiences in North America.*

*Concordia University is committed to Employment Equity and encourages applications from women, Aboriginal Peoples, visible minorities, ethnic minorities, and persons with disabilities.*