GRADUATE PROGRAMS IN

Civil Engineering

LASSONDE SCHOOL OF ENGINEERING | YORK UNIVERSITÉ UNIVERSITY

Discover Civil Engineering at Lassonde.

The Graduate Program in Civil Engineering offers advanced training, leading to Master of Applied Science and Doctor of Philosophy degrees. Three main research themes distinguish the program: **infrastructure, resilience and sustainability** through the established sub-disciplines of Environmental and Geo-Environmental, Geotechnical, Structures, Transportation and Water Resources Engineering.

Cutting-edge research is being carried out in our state-of-the-art facilities, which are located in the Bergeron Centre for Engineering Excellence. The facilities include 750m^2 of dedicated laboratory space, including the High-Bay Laboratory and additional research laboratories and computational facilities for Geo-Environmental, Geotechnical, Construction Materials, Transportation and Water Resources sub-disciplines.

Fast Facts:

481
Graduate Students at Lassonde

100
Graduate Students in Civil Engineering

21
Civil Engineering Faculty Members

Program Information

MASc in Civil Engineering

Length:
Full-time: 2 years Part-time: 4 years

Components:
Coursework & Thesis

Admissions Requirements:

- Completion of a 4-year bachelor's degree in Civil Engineering or a closely related discipline.
- Minimum GPA of (B) in the final two years of the bachelor's degree.

PhD in Civil Engineering

Length:
Full-time: 4 years Part-time: 6 years

Components:
Coursework & Dissertation

Admissions Requirements:

- Completion of a 4-year bachelor's degree in Civil Engineering or a closely related discipline.
- Completion of a master's degree in Civil Engineering or a closely related discipline.
- Minimum GPA of (B) in the coursework for the master's degree program.

Direct entry into the PhD degree program after completing a Bachelor's degree in Civil Engineering (or a closely related discipline) is possible after initial registration into the MASc program.

Professor Stephanie Gora's journey from academia to industry and back again.

Stephanie Gora is an assistant professor of Civil Engineering at Lassonde. Learn about her career path and how she went from a high school student with an interest in biology, to a renowned researcher with a focus on drinking water management in small and Arctic communities and the development and evaluation of light-based technologies for water purification.

Listen now:

Research Areas/Strengths

You will have the opportunity to conduct research in the areas of:

- Above ground (bridges, buildings, etc.) and buried infrastructure (water distribution networks, commuter tunnels, etc.)
- Performance of civil infrastructure during extreme loading events, including the influence of climate change
- Development of novel materials and construction technologies that improve the resilience of civil infrastructure
- Innovative site remediation technologies
- Development of technologies for construction using recycled and renewable materials
- Smart wastewater technologies
- Construction over marginal-quality land (closed municipal landfills) and degrading permafrost
- Advanced transportation research including transportation safety, security, freight and intelligent transportation systems
- Develop novel machine learning and data-driven methods to analyze and design resilient water resource systems
- Fire resilience of structures
- Pedestrian planning for emergency evacuation of infrastructure and communities

Driving Sustainable Change: Exploring Electric Vehicles and Zero-Waste Living with Adonai Garcia

Adonai Garcia, a Master's of Civil Engineering student at Lassonde, is dedicated to promoting safe, accessible and eco-friendly transportation. Hear all about his involvement in research projects centred around electric vehicles, including electric cargo bikes and the SARIT. Adonai recounts his impactful journey biking across the Dominican Republic to raise awareness about the environmental consequences of single-use plastics.

Listen now:

Organized Research Units

At York University, Organized Research Units (ORUs) have a strong history of collaborative, innovative and interdisciplinary research. Lassonde's ORUs provide a home for research development beyond traditional academic units. ORUs serve as synergistic hubs for participatory research programs that bring together expertise from across disciplines.

- Centre for Research in Earth and Space Science
- Centre for Innovation in Computing @ Lassonde
- The Mobility Innovation Centre
- Manufacturing, Technology, and Entrepreneurship Centre
- Centre for Artificial Intelligence & Society
- York Centre for Vision Research
- One WATER

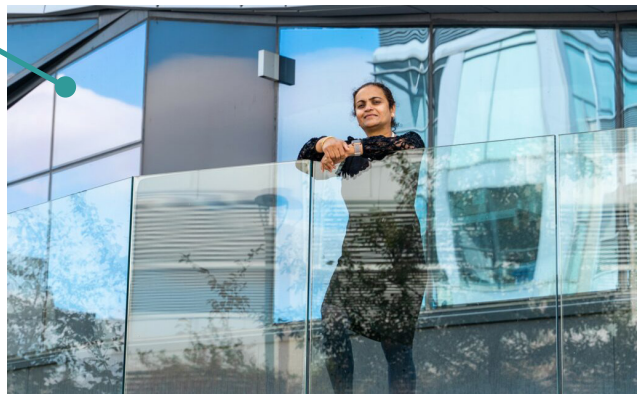
Learn more:

Discover One WATER

Led by Lassonde Professor Satinder Brar, One WATER is dedicated to furthering research on water-related issues and finding solutions to water challenges faced by communities in Canada and beyond.

The research unit is designed to delve deeper into issues surrounding water than any single researcher ever could. One WATER will engage experts in Water management, Artificial intelligence, Technologies, Education and sustainability, and Resource recovery and reuse. The issues being addressed include water sustainability, water governance, environmental justice and much more.

Learn more:



Discover Connected Minds

York and 40 of our Lassonde faculty are now contributing to a $318.4M first-of-its-kind inclusive next-gen technology research initiative to bring equity and inclusion to the murky waters of AI.

Learn more:

Graduate Funding

The Lassonde School of Engineering provides a competitive, guaranteed funding package to help meet the financial needs of our graduate students in order to promote excellence in research and teaching. Last year our graduate students took home **$17,000 to $18,000** after paying tuition*. Additional funding is also available through scholarships and awards.

In addition to our already impressive funding packages, the Lassonde School of Engineering offers top-ranked applicants the York Graduate Scholarship in recognition of academic excellence. The York Graduate Scholarship is awarded in Year 1 and is non-renewable. No special application is necessary for this scholarship and all eligible applicants are automatically considered.

*Amounts are subject to change in future years.

Discover the Climate-Data-Driven Design (CD3) Facility for Built Infrastructure

Opened in 2023, Lassonde's CD3 Facility aims to become Canada's leading field-testing laboratory, focusing on studying the effects of climate variability on the behaviour of materials used in infrastructure systems. By better understanding how various climate conditions impact infrastructure materials, we aim to ensure the creation of more resilient and reliable infrastructure in the future.

Read more:

Alumni Spotlight

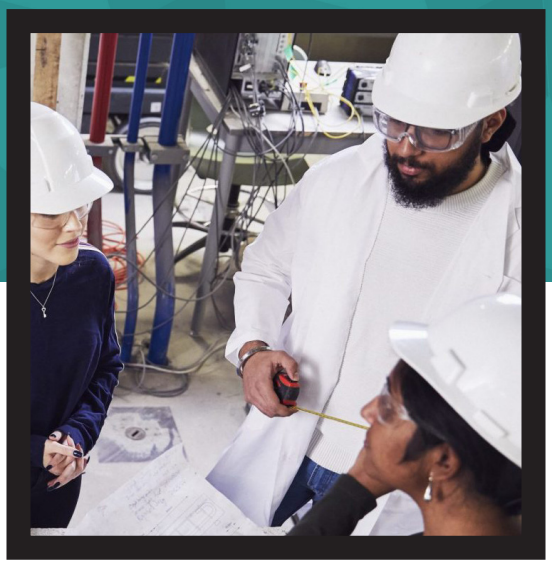
Josephine Morgenroth

PhD in Civil Engineering from Lassonde

“When I visited Lassonde for the first time the word that immediately came to mind was ‘momentum’ – everyone I met seemed to be so motivated, so enthusiastic and – most importantly to me – so open to collaboration!

I could see myself thriving here as a researcher and as a professional, and I wanted in. This first impression has definitely held true since I began my PhD studies in Civil Engineering. I’m working on Artificial Intelligence and machine learning applications for tunnels and underground excavations, and I’ve already had the pleasure of collaborating with people who have very different backgrounds than myself. I even acquired a second supervisor!

We’re working in a field that is at the cutting edge of the science, which is very exciting. I’m proud to be a part of the Lassonde family, and am looking forward to growing as a researcher.”



Connect with us!

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