Engineering Education Researcher

3 Positions for Tenure Track or Tenured Faculty
Contents

3 Introduction
4 About York University
6 About Lassonde School of Engineering
8 Position Description
12 How to Apply
13 The City of Toronto
Introduction

The Lassonde School of Engineering invites applications for three Professorial Stream tenure-track or tenured appointments in Engineering or Science Education Research at the Assistant, Associate or Full Professor level, to commence as early as January 1, 2020, to continue our ground-breaking work in developing The Renaissance Engineer™. This is a different kind of learning experience supported by a $115M new building and is gaining the attention of the world. We are recognized as one of the top 10 emerging leaders and noted as a ‘place to watch’ in a Massachusetts Institute of Technology’s report on ‘The global state of the art in engineering education’.

Lassonde is a crucial part of York University, which is the 3rd largest in Canada, and known for its commitment to the public good. York is ranked 26th globally and 5th in Canada in the 2019 University Impact Ranking by the Times Higher Education, that assesses universities against the UN’s Sustainable Development Goals.

Our mission is to create a culture that hums with curiosity, welcomes ambiguity and is always hungry for learning. We embrace taking risks and making change and are growing a critical mass engaged in engineering and science education that is committed to reimagining engineers and scientists of tomorrow – we champion these as the Renaissance Engineer and Scientist.

In terms of engineering education, we appreciate the challenges ahead:

• the need for learning resilience and agility/responsiveness
• the number of disciplines in technology for society is exploding and the speed of adoption of new technologies is accelerating, beyond our ability to keep up
• the need for a reformulation of higher education focused on inter- and trans-disciplinarity, focused on development of lifelong learners, and supporting development of student awareness of social responsibility and knowledge transfer

Joining the Lassonde team you will have an opportunity to tackle these challenges and help create a leading-edge approach to how we educate the next generation of engineers.
About York University

Mission

The mission of York University is the pursuit, preservation, and dissemination of knowledge. We promise excellence in research and teaching in pure, applied and professional fields. We test the boundaries and structures of knowledge. We cultivate the critical intellect.

York University is part of Toronto: we are dynamic, metropolitan and multi-cultural. York University is part of Canada: we encourage bilingual study, we value diversity. York University is open to the world: we explore global concerns.

A community of faculty, students, staff, alumni and volunteers committed to academic freedom, social justice, accessible education, and collegial self-governance, York University makes innovation its tradition.

Tentanda Via: The way must be tried.

Campuses

Founded in 1959 and located on several campuses, York is Canada’s third largest university with over 52,000 students, 7,000 faculty and staff, more than 300,000 alumni, and a budget in excess of one billion dollars per annum. York’s primary campus, the Keele Campus, is located in the heart of the Greater Toronto Area.

It is the largest post-secondary campus in Canada with most of the University’s Faculties residing there. Glendon College, Southern Ontario’s only bilingual university campus, is a liberal arts Faculty located in the midtown Toronto neighbourhood of Lawrence Park. York also has two locations in downtown Toronto: the Miles S. Nadal Centre and the Osgoode Professional Development Centre, as well as international locations in India and Costa Rica.
Student Experience

York offers over 200 degree programs at the undergraduate and graduate levels. Its partnerships with international universities provide opportunities for study abroad, exchanges, research collaborations and community engagement. Among the finest anywhere, York’s Faculties include: Liberal Arts and Professional Studies; Science; Health; the Lassonde School of Engineering; Education; Arts, Media, Performance & Design; Environmental Studies; the Schulich School of Business; Osgoode Hall Law School; Glendon College; and Graduate Studies.

The University’s objective is to introduce students to a broad perspective on the world that results in original thought and theory.

The flexible interdisciplinary approach provides students with an outstanding variety of academic opportunities where learning and debate are not only valued; they are encouraged.

Research Strength

As a globally recognized research institution, York is fully engaged in the critical discussions that lead to innovative solutions to the most pressing local and global social challenges. Over the past ten years, research at York has flourished, with a near doubling of research income accompanied by one of the highest rates of growth in the intensity of research publications, leading to the University being ranked 11th among all research universities Canada-wide for publication impact.

York’s 11 Faculties and 25 research centres are thinking bigger, broader and more globally. York has established its reputation worldwide with over 280 partnerships with international universities, attracting international students with roots tracing back to over 170 countries.

York’s distinctive and collaborative approach to research brings fresh insights and solutions to local and global challenges.

To learn more about York University visit the following link:
www.yorku.ca/web/index.htm

The President and Vice-Chancellor of York University is President Rhonda Lenton: http://president.yorku.ca/about-us/bio/
The Lassonde School of Engineering at York University is located in Toronto, Canada - the fastest growing tech hub in North America.

Since its first group of 985 undergraduate students in September 2013, Lassonde has grown to be the home of 3,837 undergraduates, 331 graduate students, 115 full-time faculty, 75 full-time administrative staff, 11 programs and four academic departments.

The School was launched on November 1, 2011, backed by a $25-million donation from gold mining entrepreneur and philanthropist Pierre Lassonde.

Why?
Between now and 2050 we face great challenges: climate change, clean water, energy, cyber security, to name a few. The opportunities are even greater: big data, driverless cars, 3D printing, artificial intelligence and many more.

Employers too are increasingly seeking graduates with more than just theoretical knowledge. At the same time, students are facing unpredictable career pathways and will need to develop breadth and depth of knowledge that sets them apart in the global talent market.

The world needs a different kind of scientist and engineer and employers want a different kind of graduate. Students expect a different kind of education to prepare them for the next 50 years.

The School is creating a different kind of learning experience built on four founding principles:

1. **RENAISSANCE ENGINEERS™**
   Engineering +
   Educating students to become graduates able to grapple with complex global issues.

2. **ACTIVE LEARNING**
   $115 million home with zero lecture halls
   Lassonde is flipping the classroom so that students can learn in creative spaces, watch lectures online anywhere, anytime and come to class to solve problems together.

3. **EQUITY, DIVERSITY + INCLUSIVITY**
   50:50 CHALLENGE
   Achieving balance
   A commitment to fostering a community that is diverse, equal and inclusive – just like the city we call home. Our goal is to be a thought leader in this area within STEM fields firmly rooting diversity, equity and inclusivity in the academic sphere.

4. **COLLABORATORIUM**
   Building a connected network
   We are building a global network of curriculum and diversity experts and industry partnerships, enabling our community to impact globally through innovative learning programs and transdisciplinary research. Our goal is to make the connection between our research, education and initiatives and how our efforts impact the broader community.
About Lassonde

What is a Renaissance Engineer?

At Lassonde we incorporate the concept of Renaissance Engineering into our learning experience for students through co-operative education and industry partnerships, entrepreneurship and leadership opportunities and global learning.

The nature of the engineering profession is changing and will continue to change. We need to educate engineers to keep up with the demand and to evolve with rapidly changing industries.

"At the Lassonde School of Engineering our students have technical expertise but also contain a spark of creativity and passion. We provide students with diverse perspectives to enrich their learning, and this value is woven into every facet of our school, from the professors, to the classes, to the myriad of student-run clubs to the industry partnerships we develop."

- Dean Jane Goodyer
Lassonde School of Engineering

Experiential Education

Co-op + Internship

Stay local or go global, Lassonde students can choose co-op experiences in three flavours: Classical, Entrepreneurial or International.

The Lassonde Co-op/Internship program offers employers an opportunity to hire 2nd & 3rd year students for paid, full-time co-op/internship positions for durations of 4, 8, 12, or 16 months.

DEV Degree

We’ve teamed up with Shopify to bring Computer Science BSc students a blended study + work learning experience. Perks include: salary, tuition coverage, 4500+ hours of work experience, paid vacation.
About the Positions

We strive to create sustained educational innovation and establish a community of practice around excellence and scholarship in teaching and learning. We want people who are not afraid to push, bend, twist, and break apart the boundaries of engineering education. We seek applicants who will contribute to our academic programs, promote transdisciplinary teaching and research, and help the University to achieve its aspirations. You will be instrumental in helping us to become a global leader in the field.

If you are excited at the prospect of leading and creating a unique new enterprise and model for engineering education research and have expertise in engineering or science education research, ranging from pre-kindergarten through university and into engineering practice, we invite your application. You will be expected to secure external funding to support graduate students and research, cultivate research initiatives, and collaborate with scholars within the school, within the university, and across the engineering and/or science international research communities, and provide continued improvement of our programs utilizing the latest thinking.

You will be appointed to a Department(s) which most closely reflects your strengths and experience. However, depending on the team of researchers we appoint we are open to how we best organize ourselves to deliver our objectives. This could be creating a new department or a research centre.

Summary of Duties

You will be an integral member of a team supporting the development and implementation of the new Renaissance culture and curriculum. We wish to ‘transform and make a significant step change’ in how we educate – you will be instrumental in this change.

We also want to share our transformation with other engineering schools across the globe, therefore, whatever we do must be underpinned by scholarly activity, fully evaluated and transferable. Again, you will be key in doing this.

Lassonde is committed to making this transformation happen. We are currently engaged in generating a broader set of voices through local, regional and international stakeholders. We are also excited to be bringing in internationally-recognized experts on an ‘as needs basis’ that cover relevant fields such as indigeneity, equity, diversity and inclusion, sustainability, etc. It is important that you can work with scholars from other fields.

We also expect you to bring depth of knowledge around the roles and needs of engineering in society, engineering/applied science education, and experience of the challenges and best practices in implementing significant curricular change. In addition, we expect you to carry out the duties of a typical faculty team member in your discipline, specifically:

• Develop a research program that trains graduate students, produces peer-reviewed journal articles and conference proceedings papers, and supports continued growth of your research program through grants and other scholarly activities
• Teach undergraduate and graduate courses
• Develop undergraduate and graduate courses and curricula
• Participate in various service areas including department, faculty and university committees

Salary will be commensurate with qualifications and experience. All York University positions are subject to budgetary approval.
About the Positions

Required Qualifications/Skills/Knowledge/Behaviour, commensurate with the candidate’s experience and accomplishment

- Ph.D. in a STEM, education or psychology discipline; particular focus in education within the discipline is preferred
- Excellent ongoing record in conducting scholarly research and publishing in innovative areas of engineering or science education
- Demonstrated excellence in curricular and pedagogical innovation in undergraduate engineering or related programs
- Suitable for prompt appointment to the Faculty of Graduate Studies
- Experience in supervising graduate students, and post-doctoral fellows commensurate with rank
- Excellence or promise of excellence in teaching at the undergraduate and graduate levels with strong evidence of pedagogical and teaching innovations
- Excellent oral, written and presentation skills

Desired Skills/Knowledge/Behaviour, commensurate with the candidate’s experience and accomplishment

- Demonstrated leadership abilities
- Demonstrated excellence in innovation in teaching and learning, that may include integrated work learning, experiential education, technology-enhanced learning, inter-disciplinarity, and trans-disciplinarity
- Ability to contribute to an inclusive climate and to social justice efforts in engineering education
- Ability to collaborate with diverse teams of scholars across all faculty ranks in the department and within and outside the university to form new communities of engagement and scholarly research in engineering education and/or science education
- Ability to mentor junior faculty
- Experience in making connections and working with industry partners and/or non-profit organizations
- Experience in applying evidence-based pedagogical teaching techniques with attention to inclusion of multiple perspectives and demographics
- Experience in establishing new academic, professional and/or executive education programs
The deadline for receipt of completed applications is September 1, 2019, but the positions will be open until filled. Applicants should complete the on-line application process at lassonde.yorku.ca/apply

Applicants should submit a package of materials as follows:

- a cover letter expressing interest in the positions, outlining teaching and pedagogy experience and research interests, and indicating the rank for which you wish to be considered;
- an up-to-date curriculum vitae;
- a statement of contribution to teaching, and curriculum development, discussing your teaching philosophy and ideas for transforming engineering education;
- a statement of contribution to research, discussing research agenda and directions including funding possibilities;
- names and contact information (full mailing address, phone number, e-mail address) of three people who have agreed to provide reference letters.

The Lassonde School of Engineering is strongly committed to promoting diversity and inclusion in all areas of scholarship, instruction and outreach. In the cover letter, candidates must explicitly describe experiences, current interests or activities, and/or future goals that promote a climate that values diversity and inclusion in one or more of these areas.

York University has a policy on Accommodation in Employment for Persons with Disabilities and is committed to working towards a barrier-free workplace and to expanding the accessibility of the workplace to persons with disabilities. Candidates who require accommodation during the selection process are invited to contact the Chair of the Search Committee at search_chair@lassonde.yorku.ca.

York University is an Affirmative Action (AA) employer and strongly values diversity, including gender and sexual diversity, within its community. The AA Program, which applies to women, members of visible minorities (racialized groups), Aboriginal (Indigenous) people and persons with disabilities, can be found at www.yorku.ca/acadjobs or by calling the AA line at 416-736-5713. All qualified candidates are encouraged to apply; however, Canadian citizens, permanent residents and Indigenous peoples in Canada will be given priority.

Applicants wishing to self-identify can do so by downloading, completing and submitting the forms found at http://acadjobs.info.yorku.ca/. Please select the “Affirmative Action & Self-Identification forms” tab under which forms pertaining to Work Status Declaration (citizenship) and AA can be found.

You can find further information about the Lassonde School of Engineering and its programs at http://lassonde.yorku.ca/ or by contacting Dean Jane Goodyer (deanle@yorku.ca)
Toronto is Canada’s largest city and the capital of the Province of Ontario. It is located on the north shore of Lake Ontario. The city itself has a population of about 2.8 million, with its metropolitan area, known as the Greater Toronto Area (GTA), comprising some six million people. Toronto is exceptionally multicultural with estimates indicating approximately 50 per cent of the city’s residents being born outside of Canada; it is home to world-class cultural institutions, infrastructure, and Canada’s largest international airport.

Toronto is often called ‘a city of neighbourhoods’ because it is composed of many distinct, smaller areas that have their own unique culture. In Toronto, it is possible to enjoy the sights, smells, flavours and sounds of many different cultures for only the cost of a ride on transit. To learn more about Toronto’s neighbourhoods and the special events that they host, visit Tourism Toronto’s Website and The City of Toronto’s neighbourhood information page.

York Region, or the ‘Regional Municipality of York’, is the municipality that borders York University’s Keele Campus and the city of Toronto to the north. York Region is a part of the GTA, but is distinct from the city of Toronto itself. It has a population of just over 1 million, and is composed of nine cities and towns. York Region has its own public transit system, called York Region Transit (YRT/VIVA), in addition to being partially served by the provincial transit system, GO, and Toronto’s TTC. For more information, see York Region’s official website and the region’s online resources for newcomers.