SMITH ENGINEERING Queen's University | Chemical Engineering

Tenure-Track Position in Advanced Energy Storage Materials/Technology

Department of Chemical Engineering
Stephen J.R. Smith Faculty of Engineering and Applied Science
Queen's University, Kingston, Canada

September 2024

Queen's University is situated on traditional Anishinaabe and Haudenosaunee Territory.

The Department of Chemical Engineering in the J.R. Smith Faculty of Engineering and Applied Science (Smith Engineering) at Queen's University invites applications for a Tenure-track faculty position at the rank of Assistant Professor, or tenured faculty position at the rank of Associate Professor, with specialization in advanced energy storage materials/technology, with a preferred starting date of July 1, 2025.

Qualifications

Candidates must have a PhD or equivalent degree completed at the start date of the appointment. The successful candidate will develop a globally recognized, externally funded, interdisciplinary research program focused on new chemistries and processes for the efficient synthesis of materials and fabrication of devices for energy storage, including but not limited to batteries, supercapacitors, redox flow batteries, and hydrogen. Applicants should be creative applied scientists/engineers with a strong commitment to research, graduate training, and promotion of equity, diversity, and inclusion in STEM.

The main criteria for selection are:

- evidence of high-quality scholarly output that demonstrates potential for independent research leading to peer assessed publications and the securing of external research funding;
- strong potential for outstanding teaching contributions at both the undergraduate and graduate levels;
- demonstrate an ongoing commitment to academic and pedagogical excellence in support of the department's programs;
- evidence of an ability to work collaboratively in an interdisciplinary and student-centred environment.
- Professional engineering licensure in Canada, or the eligibility to obtain licensure, is a requirement. Note that all forms of engineering licensure in Canada are considered acceptable (e.g., P.Eng., temporary engineering license, provisional engineering license, etc.).

The successful candidate will also be expected to make contributions through service to the department, the Faculty, the University, and/or the broader community. Salary will be commensurate with qualifications and experience.

This position is made possible by a transformative $30M investment by Bruce Mitchell (Sc'68, DSc'20). The successful candidate will receive direct research support for the first 5 years of their tenure from the Bruce Mitchell Research Program, including resources to support the recruitment of multiple postdoctoral researchers/students. Decreased teaching and administrative responsibilities will be associated with this position to enable the candidate to develop a world-class research program.

Smith Engineering has a variety of research programs dedicated to a more sustainable world and, thus, creates a stimulating environment for collaboration. Researchers in the Department of Chemical Engineering work on 2D materials for supercapacitors and batteries, electrochemical carbon conversion, sustainable electrolysis processes, and next-generation materials for energy conversion and storage. Related research in other departments includes, but is not limited to, battery recycling and critical materials (Mining Engineering), power electronics for electric vehicles and energy storage systems (Centre for Energy and Power Electronics Research, Electrical and Computer Engineering), and characterization and modeling for advanced material development (Mechanical and Materials Engineering).

Vaccination Requirements

Prior to May 1, 2022, the University required all students, faculty, staff, and visitors (including contractors) to declare their COVID-19 vaccination status and provide proof that they were fully vaccinated or had an approved accommodation to engage in in-person University activities. These requirements were suspended effective May 1, 2022, but the University may reinstate them at any point.

The Faculty and Department

Queen's University is one of Canada's leading research-intensive universities. The Chemical Engineering department is a medium-sized department with 23 faculty that provides undergraduate programs in Chemical Engineering and Engineering Chemistry with 250+ undergraduate students currently enrolled in years 2 through 4 and has typical enrolments of 80-100 graduate students. Research strengths in the department include biomedical engineering; macromolecular science and technology; process analytics, optimization and control; sustainable energy sources, process and products; and environmental remediation. The department has a strong emphasis on inter-disciplinary education through its close collaboration with the Dunin-Deshpande Queen's Innovation Centre, and links to a number of multi-disciplinary centres at Queen's, including: Centre for Health Innovation, Green Centre Canada (www.greencentrecanada.com), Innovation Park (www.innovationpark.ca), the Beaty Water Research Centre, Ingenuity Labs, and the Queen's Centre for Energy and Power Electronics Research (ePOWER) (www.queensu.ca/epower).

Our rapidly changing world presents unprecedented opportunities and significant challenges. Smith Engineering is changing the face of engineering education, so future engineers can be leaders in the face of complex and multidisciplinary global issues. This new model of engineering

education will be technically rigorous, experientially focused, socially conscious and creatively inspired. It will ensure graduates have the knowledge and tools to not only create our technology and processes but to guide their evolution, and how they integrate with society and the world. To promote on-going teaching success, there is support for course development and delivery provided by the Engineering Teaching and Learning Team, the Queen's Centre for Teaching and Learning, the Department, and Smith Engineering.

Smith Engineering delivers 10 undergraduate programs to over 3000 undergraduate students, and 5 graduate programs to over 500 graduate students. The Faculty is well known for its record of leadership in interdisciplinary engineering education, including being one of the first engineering schools in Canada to establish an Integrated Learning Centre, significant community service learning modules in First-Year instruction, an interdisciplinary "design spine" coordinated across all undergraduate programs in the Faculty, and a course in Technology Engineering and Management that draws students from engineering, business, arts and science, and law.

Among our top priorities in Smith Engineering is providing opportunities for early career academics to develop exceptional research and teaching contributions while fostering an inclusive environment where all faculty can thrive. Support for faculty to develop strong research programs includes Special Research Grant opportunities, grant writing workshops and review services, and one-to-one mentorship from experienced colleagues.

Smith Engineering understands that we need to focus on making Engineering for Everyone and is working toward a more diverse and inclusive community in an effort to make our learning and working environment better, and to advance the practice of engineering. The Faculty strives to make a difference through commitments such as the establishment of a Chair for Women in Engineering to improve the proportional representation of women in engineering, the new Engineering Strategic Plan, the dynamic outreach programs including Indigenous Futures in Engineering and Black Youth in STEM. Visit Inclusive Queen's for more information on equity, diversity and inclusion resources and initiatives.

Queen's University

Queen's University has a long history of scholarship, discovery, and innovation that shapes our collective knowledge and helps address some of the world's most pressing concerns. Home to more than 25,000 students, Queen's offers a comprehensive research-intensive environment. Diverse perspectives and a wealth of experience enrich our students and faculty while a core part of our mission is to engage in international learning and research.

In 2024, for the fourth year in a row, Queen's University has ranked in top 10 globally Times Higher Education Impact Rankings, securing the position of eighth worldwide and second in North America, the only Canadian university to achieve this milestone since the rankings launched in 2019. The rankings measured over 2,100 institutions on their work to advance the United Nations' Sustainable Development Goals (SDGs).

From Nobel Prize-winning research exploring the building blocks of the universe to cancer care and treatment to sustainable technologies, our university is tackling humanity's most pressing challenges.

A member of the U15 group of Canadian research universities, Queen's is home to a vibrant research community that includes 33 Canada Research Chairs and over 20 research institutes who work in partnership with communities, governments, and industry to advance research and innovation, making a measured impact on Canada and the world.

Faculty and their dependents are eligible for an extensive benefits package including prescription drug coverage, vision care, dental care, long term disability insurance, life insurance and access to the Employee and Family Assistance Program. Employees also participate in a pension plan. Tuition assistance is available for qualifying employees, their spouses and dependent children. Queen's values families and is pleased to provide a 'top up' to government parental leave benefits for eligible employees on maternity/parental leave. In addition, Queen's provides partial reimbursement for eligible daycare expenses for employees with dependent children in daycare. Details are set out in the Queen's-QUFA Collective Agreement. For more information on employee benefits, see Queen's Human Resources.

The City

The University is situated on the traditional territories of the Haudenosaunee and Anishinaabe, in historic Kingston on the shores of Lake Ontario. Queen's is an integral part of the Kingston community, with the campus nestled in the core of the city, only a 10-minute walk to downtown. Kingston's residents enjoy an outstanding quality of life with a wide range of cultural and creative opportunities, with access to many natural areas and proximity to vibrant First Nations Communities including Tyendinaga and Akwesasne. Kingston is a unique Canadian city of 125,000 with a distinct blend of history, recreation, industry, and learning. Kingston offers unique waterfront living with many recreational opportunities. It is within a two-and-a-half hour drive (two-hour train ride) to the commercial, industrial and political hubs of Toronto, Montreal, and the nation's capital, Ottawa, and a thirty minute drive from the international bridge linking Ontario and upstate New York. The city is also the origin of the historic Rideau Canal system – a UNESCO International Heritage site, and is close to Frontenac Provincial Park, the Thousand Islands National Park, and the Frontenac Arch UNESCO World Biosphere Reserve. The Queen's University Biological Station, north of the city, encompasses 34 km2 of diverse lands, affording premier learning and research opportunities. Visit Inclusive Queen's for information on equity, diversity and inclusion resources and initiatives.

How to Apply

The University invites applications from all qualified individuals. Queen's is strongly committed to employment equity, diversity and inclusion in the workplace and encourages applications from Black, racialized/visible minority and Indigenous people, women, persons with disabilities, and 2SLGBTQ+ persons.

In accordance with Canadian immigration requirements, Canadian citizens and permanent residents of Canada will be given priority, including any qualified individuals who have a valid

legal work status in Canada. Please indicate in your application if you have a valid legal work status in Canada. Applications from all qualified candidates will be considered in the applicant pool.

In addition, the impact of certain circumstances that may legitimately affect a nominee's record of research achievement will be given careful consideration when assessing the nominee's research productivity. Candidates are encouraged to provide any relevant information about their experience and/or career interruptions.

The University will provide support in its recruitment processes to applicants with disabilities, including accommodation that takes into account an applicant's accessibility needs. If you require accommodation during the interview process, please contact April Hiles, Administrative Assistant, in the Department of Chemical Engineering at april.hiles@queensu.ca .

Those interested in this position should submit a complete application package, including the following documents:

- a cover letter, indicating whether or not you have a valid legal work status in Canada;
- a current Curriculum Vitae (including a list of publications);
- a statement of research interests;
- a statement of teaching interests and experience (including teaching outlines and evaluations if available); and,
- a statement of experience with, and commitment to, facilitation and promotion of Indigenization, equity, diversity, inclusion, anti-racism, and accessibility; and,
- the names and contact information of three referees

The deadline for applications is October 17, 2024, and applications may continue to be reviewed until the position is filled. Applicants are encouraged to send all documents in their application packages electronically as PDFs to Dr. Robin Hutchinson at cheehead@queensu.ca although hard copy applications may be submitted to:

Dr. Robin Hutchinson, Department Head
The Department of Chemical Engineering
J.R. Smith Faculty of Engineering and Applied Science
Room 201, Dupuis Hall
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Academic staff at Queen's University are governed by a Collective Agreement between the University and the Queen's University Faculty Association (QUFA), which is posted at Collective Agreements / LoU's / MoA's | Faculty Relations Office (queensu.ca) and at http://www.qufa.ca.