

DEPARTMENT OF CIVIL ENGINEERING
The Natural and Built Environment



Civil Engineering

Tenure-Track Position in Structural Engineering

The Department of Civil Engineering in the Faculty of Engineering and Applied Science at Queen's University invites applications for a Tenure-track faculty position at the rank of Assistant Professor, with specialization in *Structural Engineering*. The preferred start date of the appointment is July 1st, 2019.

Candidates must have completed a PhD in Civil or Structural Engineering at the start date of the appointment. Relevant industrial experience is an asset. Registration as a Professional Engineer in Canada, or eligibility to acquire registration, is an essential requirement. The main criteria for selection are academic and teaching excellence.

Providing opportunities for junior faculty to develop a strong teaching and research profile and maintaining an environment where all faculty can thrive is our top priority. Support for course development and delivery is provided by the Department, the Queen's Centre for Teaching and Learning, the Faculty of Engineering and Applied Science, and access to a range of educational technologies as well as the Faculty Teaching and Learning Team. Support of junior faculty to develop strong research programs includes a Research Initiation Grant, grant writing workshops and review services, funding support for graduate students through the Queen's Graduate Award program, and one-to-one mentorship from senior faculty members.

The successful candidate will provide evidence of high quality scholarly output that demonstrates potential for independent research leading to peer-assessed publications and the securing of external research funding, active engagement with industry, and the supervision of graduate students. The candidate will also demonstrate an ability to work as part of our highly-collaborative Structures research team. This group conducts cutting-edge research on new and sustainable materials and techniques for the construction and retrofitting of buildings and bridges. Our expertise includes structural applications of fibre reinforced polymer (FRP) and bio-based composites, the effects of cold regions on concrete structures, the dynamics of bridge structures, behaviour of concrete and composite materials subjected to fire hazards, structural monitoring using conventional and novel sensors, nonlinear finite element analysis of reinforced concrete and shell structures, constitutive modelling of reinforced concrete, thin-walled steel structures, soil-structure interaction, building information modelling (BIM) and sustainable materials including straw-bale, earth blocks, and timber.

The centre-piece of our Structures Laboratory is the Moving Load Simulator for testing bridges, a first for Canada, and part of a \$3.5M CFI-IOF grant that led to a number of enhancements in the Structures Laboratory.

We are especially interested in a candidate who can complement our existing experimental and

analytical expertise with a strong analytical/computational background in one of the following areas: *Structural Safety/Reliability*; applications could include: multi-hazard risk analysis (such as flood, wind, earthquakes) of civil engineering infrastructure, infrastructure resilience, climate change effects on structural design/assessment of critical infrastructure, risk and resilience of interdependent and interconnected systems (applications of big data and network analysis), long-term effects (such as aging, deterioration, fatigue) on infrastructure resilience; *Advances in Structural Analysis*; applications could include: Artificial Intelligence and building information modelling (BIM); *Structural Optimization/Performance-Based Design*; applications could include: computational form-finding and optimization, graphical design and analysis techniques, design sensitivity analysis, topology and shape optimization.

The newly formed Institute for Disruptive Technologies at Queen's University is an interdisciplinary initiative within the Faculty of Engineering and Applied Science (FEAS) that has a core focus on Cyber Human Systems, including machine learning and artificial intelligence, and the sensing and control of human environments with application to building or infrastructure systems. A successful candidate whose expertise falls within this remit will be expected to develop research links between the Structures research group and the Centre.

The successful candidate will demonstrate a strong potential for outstanding teaching contributions at both the undergraduate and graduate levels, and an ongoing commitment to academic and pedagogical excellence in support of the department's programs. Candidates must also provide evidence of an ability to work in an interdisciplinary, collaborative and student-centred environment. Our programs incorporate innovative approaches to engineering education, with emphasis on professional skills development and on building a rapport with students. The successful candidate will also be expected to make substantive contributions through service to the Department, to the Faculty, to the University, and/or the broader community. Salary is commensurate with qualifications and experience.

The University invites applications from all qualified individuals. Queen's is committed to employment equity and diversity in the workplace and welcomes applications from women, visible minorities, Aboriginal peoples, persons with disabilities, and LGBTQ persons. All qualified candidates are encouraged to apply; however, in accordance with Canadian immigration requirements, Canadian citizens and permanent residents of Canada will be given priority.

To comply with Federal laws, the University is obliged to gather statistical information about how many applicants for each job vacancy are Canadian citizens / permanent residents of Canada. Applicants need not identify their country of origin or citizenship, however, all applications must include one of the following statements: "I am a Canadian citizen / permanent resident of Canada"; OR, "I am not a Canadian citizen / permanent resident of Canada". Applications that do not include this information will be deemed incomplete.

A complete application consists of:

- a cover letter (including one of the two statements regarding Canadian citizenship/ permanent resident status specified in the previous paragraph);

- 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
- Three letters of reference to be sent directly to Susan Palo at susan.palo@queensu.ca.

Applicants are encouraged to send all documents in their application package electronically (either as PDFs or MS Word files) to Susan Palo at susan.palo@queensu.ca with the subject line “Application for Faculty Position”, although hard copy applications may be submitted to:

Dr. Ian Moore
Department Head (Interim) and Chair, Appointments Committee
Department of Civil Engineering
Queen’s University
Kingston, Ontario
Canada, K7L 3N6.

Review of applications will begin on November 15, 2018 and applications will continue to be accepted until the position is filled.

The Department of Civil Engineering at Queen’s University currently has an enrolment of approximately 300 undergraduate students and over 100 graduate students. Current faculty conduct internationally recognized research in the areas of Structural Engineering, Geotechnical and Geoenvironmental Engineering, and Water Resources and the Environment. The Department actively involves industry partners in both research and teaching (see civil.queensu.ca for further details).

Academic staff at Queen’s University are governed by a *Collective Agreement* between the Queen’s University Faculty Association (QUFA) and the University, which is posted at <http://queensu.ca/facultyrelations/faculty-librarians-and-archivists/collective-agreement> and at www.qufa.ca.

Queen’s historic campus is located in the heart of the vibrant Kingston community in the Thousand Islands region of South Eastern Ontario. Queen’s is positioned centrally with respect to three major metropolitan areas: Toronto, Montreal, and Ottawa.

Additional information about Queen’s University, which may be of interest to prospective faculty members, can be found at <http://www.queensu.ca/facultyrecruitment>.

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 Susan Palo in the Department of Civil Engineering at susan.palo@queensu.ca.