Tier II Canada Research Chair (CRC) in Smart and Sustainable Structural Systems Integrating Artificial Intelligence

The **Department of Civil Engineering** in the **Schulich School of Engineering** at the University of Calgary invites national and international applications for a **Tier II Canada Research Chair (CRC) in Smart and Sustainable Structural Systems Integrating Artificial Intelligence**. The Department of Civil Engineering focuses on research excellence and impact in the design, construction, maintenance and conservation of sustainable and resilient infrastructure that is adaptive to the climates of today and tomorrow.

The Chair will be appointed at the rank of Assistant Professor (tenure-track) or Associate Professor (with tenure). In alignment with the University of Calgary's Eyes High strategic vision and in support of its strategic academic and research priorities of leadership, teaching and research integration, and creating a dynamic environment to promote research excellence, the Chair will actively contribute to research, teaching and curriculum development, and student/postdoc supervision, and is in time expected to grow into a leadership role within the Department, School and the University. Service to the department, faculty, University and community is also expected.

The successful candidate at the **Assistant Professor** level must demonstrate evidence of a track record of publications in high quality journals, prior experience in working with external research funding programs, and effectiveness in teaching and graduate student supervision at the University level.

The successful candidate at the **Associate Professor** level must demonstrate evidence of a strong track record of publications in high quality journals, evidence of securing ongoing external research funding, effectiveness in teaching at the University level, and evidence of effective graduate student supervision.

In accordance with the regulations set for Tier II CRC Chairs, applicants must have received their Ph.D. within the last 10 years and be an emerging world-class researcher in a technology area suitable for application to Sustainable Structural Systems. Candidates who are more than 10 years from having earned their highest degree and who have had career breaks, such as maternity, parental, or extended sick leave, clinical training, etc., may have their eligibility for a Tier II Chair assessed through the program's Tier II justification process. Please contact UCalgary's Office of Research Services for more information: ipd@ucalgary.ca. Further information about the Canada Research Chair Program can be found the on the Government of Canada's CRC website, including eligibility criteria.

It is expected that the successful candidate will establish a strong research program in the area of Sustainable Structural Systems with the potential to achieve international recognition in the next five to ten years, have the ability to attract external funding to support research activities, and be able to attract excellent trainees, students, and future researchers. A demonstrated ability to teach a range of undergraduate and graduate courses on topics related to Structural Engineering is required, and candidates must be eligible for registration as a professional engineer with the Association of Professional Engineers and Geoscientists of Alberta (APEGA). As a member and leader of the university

community, the Chair will support, and contribute to, equity, diversity and inclusion and foster a positive working and learning environment.

The successful candidate will be an emerging scholar with an original, creative, innovative and forward-looking research program, with demonstrated excellence in integrating emerging digital engineering technologies with smart and sustainable structural systems. The research will combine structural engineering, structural health monitoring, with the gathering, processing and extracting of useful information generated from big data using artificial intelligence (AI) technologies. This may include machine learning (ML), deep learning (DL), pattern recognition (PR) combined with remote sensing systems and Internet of Things (IoT). It is anticipated the successful candidate will lead an impactful research program that aims to:

1. innovate autonomous systems that enable rapid and continuous structural monitoring and damage identification;
2. enhance design and optimization of sustainable structural systems;
3. enhance assessment and management of infrastructure systems; and/or
4. innovate at the intersection of structural systems and digital engineering.

The research in sustainable structural systems and digital engineering aligns with the focus of the Department of Civil Engineering on Sustainable Infrastructure, the Schulich School of Engineering on Digital Engineering and Engineering for the Environment (Sustainable and Resilient Infrastructure sub-theme), and the University of Calgary Eyes High strategic research theme of "Human Dynamics in a Changing World" within the "Smart Cities" group.

The successful candidate will benefit from a rich ecosystem, which includes world- class engineering scholars, a focus on entrepreneurship and innovation, and a university community that supports transdisciplinary research, partnerships and collaborations, and supports research and education excellence. The Schulich School of Engineering Strategic Plan, Catalyst for a Connected World, identifies three priorities: 1) enhancing global research impact; 2) expanding access to engineering; and 3) enriching the student experience. For more information please visit the Schulich School of Engineering and the Canada Research Chairs.

Interested individuals are encouraged to apply by sharing the following:

- Cover letter and curriculum vitae, including the name and contact information of three referees
- Statement of research interests, accomplishments and vision (3 pages)
- Statement of teaching philosophy (2 pages)
- Statement on equity, diversity and inclusion (2 pages)

The University of Calgary is partnering with the executive search firm Perrett Laver in this process. Further information, including details of how to apply, can be downloaded at https://candidates.perrettlaver.com/vacancies/1667/canada_research_chair_tier_ii_in_smart_and_sustainable_structural_systems_integrating_artificial_intelligence_schulich_school_of_engineering/ and quoting reference 4488. For informal inquiries, please contact Benjamin.Crase@perrettlaver.com.

Applications will be accepted through the Perrett Laver site until January 30, 2020.

The University of Calgary recognizes that a diverse staff/faculty benefits and enriches the work, learning and research experiences of the entire campus and greater community. We are committed to removing barriers that have been historically encountered by some people in our society. We strive to recruit individuals who will further enhance our diversity and will support their academic and professional success while they are here; in particular, we encourage members of the four designated groups (women, Indigenous people, persons with disabilities and members of visible minorities) to apply. All qualified candidates are encouraged to apply; however Canadians and permanent residents will be given priority. To ensure a fair and equitable assessment, we offer accommodation at any stage during the recruitment process to applicants with disabilities. Questions regarding diversity or requests for accommodation can be sent to Human Resources (hrhire@ucalgary.ca).

The University of Calgary recognizes that candidates have varying career paths and that career interruptions can be part of an excellent academic record. Candidates are encouraged but not required to provide any relevant information about their experience and/or career interruptions to allow for a fair assessment of their application. Selection committees have been instructed to give careful consideration to, and be sensitive to the impact of career interruptions, when assessing the candidate's research productivity.

To learn more about academic opportunities at the University of Calgary and all we have to offer, view our **Academic Careers website**. For more information about the Schulich School of Engineering visit **Careers in the Schulich School of Engineering**.

About the University of Calgary

The University of Calgary is Canada's leading next-generation university – a living, growing and youthful institution that embraces change and opportunity with a can-do attitude. Located in the nation's most enterprising city, the university is making tremendous progress on its Eyes High journey to be recognized as one of Canada's top five research universities, grounded in innovative learning and teaching and fully integrated with the community it both serves and leads. The University of Calgary inspires and supports discovery, creativity and innovation across all disciplines. For more information, visit **ucalgary.ca**.

About Calgary, Alberta

Calgary is one of the world's cleanest cities and has been named one of the world's most livable cities for years. Calgary is a city of leaders - in business, community, philanthropy and volunteerism. Calgarians benefit from a growing number of world-class dining and cultural events and enjoy more days of sunshine per year than any other major Canadian city. Calgary is less than an hour's drive from the majestic Rocky Mountains and boasts the most extensive urban pathway and bikeway network in North America.

Posting Date: December 04, 2019
Closing Date: January 30, 2020