

**Canada Research Chair (Tier II) and Assistant Professor, Integrative Musculoskeletal Biomechanics, Schulich School of Engineering**

Job ID: 24588

The **Schulich School of Engineering**, in partnership with the **McCaig Institute for Bone and Joint Health**, at the **University of Calgary** invites national and international applications for a **Tier II Canada Research Chair (CRC) in Integrative Musculoskeletal Biomechanics**, with an anticipated start date of July 1, 2022.

The Chair will be appointed at the rank of **Assistant Professor (tenure-track)** in the Department of Biomedical Engineering and will be a member of the McCaig Institute for Bone and Joint Health. In alignment with the University of Calgary's Growth Through Focus plan and in support of its strategic academic and research priorities, the Chair will actively contribute to research, student/postdoc supervision, undergraduate and graduate teaching as well as curriculum development. In time, the Chair is expected to grow into a leadership role within the Department, School, and University. The Chair will also provide service to the department, faculty, institute, University, and community and contribute to achieving equitable, diverse, inclusive and accessible employment practices and workplaces.

The successful candidate will be expected to establish a strong research program in the area of Integrative Musculoskeletal Biomechanics, with the potential to achieve international recognition in the next five to ten years. They will be expected to attract competitive external funding to support their research activities, and to attract excellent trainees and staff. They will also be expected to teach a range of undergraduate and graduate courses, related to their area of expertise. Candidates must be eligible for registration as a professional engineer with the Association of Professional Engineers and Geoscientists of Alberta (APEGA) (<https://www.apega.ca/>).

The successful candidate will be an emerging scholar with an original, creative, innovative, and forward-looking research program, acknowledged by their peers as having the potential to become an international leader in the field. The research program will focus on understanding the mechanisms of bone and joint disease with an engineering approach applied in a clinical environment; one that integrates imaging with biomechanical assessments and advanced data analysis. This may be accomplished through these novel research themes:

1. novel multi-modal integrative technologies for functional characterization of joints, including imaging, biomechanics, and whole-body movement (e.g., biplanar videoradiography)
2. biomarkers, artificial intelligence and computational modeling, or combinatorial approaches for monitoring, predicting, and diagnosing joint health status
3. Identification of key risk factors for early disease development and progression, and/or treatment evaluation

The successful candidate will have a mandate to develop a research program that advances critically required knowledge for determining how bone and joint tissues are behaving within the functional and dynamic conditions associated with daily life (i.e., under mechanical loading). The

CRC topic exemplifies the University of Calgary's vision of research that is built around areas of excellence, entrepreneurial thinking, innovation, advanced technology, and strong connections to industry and community.

The successful candidate must demonstrate potential for the development of a high impact research program that will attract competitive external funding, and experience in teaching and graduate student supervision at the University level.

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 an area related to Integrative Musculoskeletal Biomechanics. 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, and research interruptions due to the COVID-19 pandemic, 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](mailto:ipd@ucalgary.ca). Further information about the Canada Research Chair Program, including eligibility criteria, can be found on the Government of Canada's CRC [website](#).

[Biomedical Engineering](#) at the University of Calgary involves more than 300 faculty members with current annual research funding exceeding \$75M. The university has made significant investments in Biomedical Engineering to date, including the allocation of six Tier I and nine Tier II Canada Research Chairs. A strong culture of collaboration and cross-disciplinary research excellence is enabled by significant research infrastructure located in multiple centers across campus. The University of Calgary's multidisciplinary Engineering Solutions for Health: Biomedical Engineering research strategy drives innovations that are saving lives and revolutionizing health care. Biomedical Engineering is led by the Schulich School of Engineering, with the Cumming School of Medicine, and the faculties of Kinesiology, Nursing, Science, and Veterinary Medicine. With collaborative teams focused on wearable technologies (We-Trac CREATE), human mobility, health monitoring and management including e-health, advanced biomedical imaging, precision bio-diagnostics, regenerative medicine and novel medical technologies, our researchers are transforming health services and quality of life.

[The McCaig Institute](#) is a growing, strong collaborative team of interdisciplinary investigators (basic, translational and clinician researchers) from Medicine, Engineering, Kinesiology and other faculties. It is structured to provide strong internal peer review, mentorship and promote collaborative research. There is access to resources and facilities, such as the McCaig Institute's MoJo that provides state-of-the-art human imaging, the 3D microscopy lab (animal and ex vivo imaging), state-of-the-art biomechanical testing infrastructure, in vivo real-time 3-D movement assessment via biplanar videoradiography (one of only two in Canada), proteomics and biomarker facilities. Together with access to patient populations, this significant, advanced infrastructure will support the Chair toward new technologies for diagnosis and treatment of arthritis and other musculoskeletal diseases. Additional opportunities for collaborations are available within the Institute's emerging program in pediatric imaging in collaboration with Alberta Children's Hospital Research Institute (ACHRI), and the rehabilitation program RESTORE that is a collaboration between the McCaig, Hotchkiss, Libin Institutes, and the SSE.

The successful candidate will benefit from a rich ecosystem, which includes world-class scholars, a focus on entrepreneurship and innovation, and an equitable, diverse, and inclusive university community that supports transdisciplinary research, partnerships and collaborations, 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. The Schulich School of Engineering is a key contributor to the University of Calgary Growth Through Focus plan, which emphasizes transdisciplinary scholarship, deeper community integration, and future-focused program delivery. For more information, please visit the [Schulich School of Engineering](#) and the Canada Research Chairs [website](#).

### **How to Apply**

Interested candidates are encouraged to submit an application online via the 'Apply Now' link. Please be aware that the application process allows for only four attachments. Your four application attachments should be organized to contain the following (which may require you to merge documents, such as publications):

- Cover letter and curriculum vitae, as well as the name and contact information of three referees
- Statement of research interests, accomplishments and vision (maximum 2 pages)
- Statement of teaching philosophy promoting student learning and success (maximum 2 pages). This can include information on teaching experience, training, and mentoring inside and outside the classroom at the undergraduate, graduate and postdoctoral levels
- Statement on equity, diversity and inclusion (maximum 2 pages)

**Applications are accepted until February 25, 2022**

### **Questions may be addressed to:**

Dr. Michael Kallos  
Interim Head, Department of Biomedical Engineering  
Email: [mskallos@ucalgary.ca](mailto:mskallos@ucalgary.ca)

The University of Calgary has launched an institution-wide [Indigenous Strategy](#) in line with the foundational goals of [Eyes High](#), committing to creating a rich, vibrant, and culturally competent campus that welcomes and supports Indigenous Peoples, encourages Indigenous community partnerships, is inclusive of Indigenous perspectives in all that we do.

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 equity-deserving groups (women, Indigenous Peoples, persons with disabilities, members of visible minorities and diverse sexual orientation and gender identities) 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](mailto: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](#).

### **COVIDSafe Campus Strategy**

The University has implemented a new [Vaccination Directive](#) that requires all faculty and staff to be fully vaccinated against COVID-19 by January 1, 2022. You will be required to upload proof of vaccination prior to commencing your duties. Please review the [COVIDSafe Campus website](#) for further information and access to additional resources.

### **About the University of Calgary**

The University of Calgary is situated on land adjacent to where the Bow River meets the Elbow River; the traditional Blackfoot name of this place is Mohkinstsis, which we now call the City of Calgary. Calgary is home for the traditional territories of the Blackfoot and the people of the Treaty 7 region in Southern Alberta and the Metis Nation of Alberta, Region III.

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 become 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. Ranked as the top young university in Canada and North America, the University of Calgary inspires and supports discovery, creativity and innovation across all disciplines. For more information, visit [ucalgary.ca](http://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 2, 2021

Closing Date: February 25, 2022

