



UNIVERSITY OF TORONTO
FACULTY OF KINESIOLOGY & PHYSICAL EDUCATION

JOB POSTING – POSTDOCTORAL FELLOW

Area of Research: Orthopaedic Biomechanics

Description of duties:

The Biomechanics of Orthopaedic Sports Medicine (BOSM) Laboratory at the university of Toronto, is seeking an early career researcher to fill the role of postdoctoral fellow, with a strong interest in lower extremity injury risk reduction, treatment, and rehabilitation. This is a fully funded position through the newly established Tannenbaum Institute for Science in Sport. This is for a one-year fellowship with the potential to renew for one additional year. The start date is flexible and negotiable.

The PDF will focus on multi-disciplinary research across three research areas:

- Identify the multivariate contributors to successful return-to-sport following treatment of lower extremity injuries and conditions (e.g., hip and knee)
- Assessment of strength focused rehabilitation on patient reported and biomechanical outcomes following lower extremity injury
- Development of lower extremity musculoskeletal models to estimate muscle force contributions to joint stability

The successful candidate will be supervised by Dr. Timothy Burkhart and will work closely with our orthopaedic surgery collaborators at the University of Toronto affiliated hospitals. The BOSM lab also has partnerships with orthopaedic device companies and local professional sports teams providing additional collaboration opportunities for the PDF.

The BOSM lab is located in the University of Toronto's Athletic Centre, on the St. George Campus in downtown Toronto. The lab is equipped with marked (Qualisys) and markerless (Theia 3D) motion capture as well as an IMU system (Xsens). We have two floor mounted force plates (AMTI) and an 18-channel wireless EMG system (Delsys). In the fall of 2024, we will have a standing cone-beam CT scanner (Planmed Verity) and an in vitro material testing system (Instron). The University has close collaborations with neighboring hospitals (Women's College, St. Michaels, Mount Sinai, and Sunnybrook Health Sciences centre) and prioritizes musculoskeletal research, as exemplified by the creation of the Tanenbaum Institute for Science in Sport.

Primary Responsibilities

- Work with the research team to successfully execute the specific aims of ongoing research studies.
- Assist with recruiting and screening participants.
- Collect and process data, including interactions with human participants/patients to obtain biomechanics and patient-reported outcomes measures.
- Publish research findings through presentations, abstracts, and manuscripts.
- Assist with grants and REB documents preparation and reporting.
- Mentor junior lab members as part of the research team and support surgical resident and fellow research projects.
- Complete other duties as assigned.

Salary: \$65,000 per year, benefits included.

Required Qualifications

- A PhD in kinesiology, biomedical or mechanical engineering, or related fields
- Experience in human participant research and motion analysis.
- A track record of peer-reviewed publications.

Preferred Qualifications

- Programming experience (any language)
- Knowledge of computational modeling (e.g., FEM and/or musculoskeletal)
- Knowledge of advanced data analytics methods

Application instructions

All individuals interested in this position must submit a cover letter outlining reasons for interest in this posting, and proposed activities, as well as a CV and names and contact information of 2 references to Timothy Burkhart at timothy.burkhart@utoronto.ca by the closing date.

Closing date: August 31, 2024

Supervisor: Timothy Burkhart

Expected start date: September, 2024

Term: 1 year

FTE: 1.0 (40 hours per week). Given the nature of this research however, the PDF will be encouraged to keep flexible hours as the research and the PDF's personal schedule permits.

The normal hours of work are 40 hours per week for a full-time postdoctoral fellow (pro-rated for those holding a partial appointment) recognizing that the needs of the employee's research and professional development and the needs of the supervisor's research program may require flexibility in the performance of the employee's duties and hours of work.

Employment as a Postdoctoral Fellow at the University of Toronto is covered by the terms of the CUPE 3902 Unit 5 Collective Agreement. This job is posted in accordance with the CUPE 3902 Unit 5 Collective Agreement. The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from racialized persons / persons of colour, women, Indigenous / Aboriginal People of North America, persons with disabilities, LGBTQ2S+ persons, and others who may contribute to the further diversification of ideas.