

The University of Calgary is recruiting for a graduate student position leading to the degree of Masters of Science (MSc) in Medical Sciences or Community Health Sciences. The student will have the opportunity to work with Orthopaedic Trauma Surgeons, Department of Surgery, on a research project relating to trauma-induced coagulopathy and inflammation-related thrombosis.

Research Topic:

Major orthopaedic surgeries carry one of the highest incidence of venous thromboembolism (VTE), which includes deep vein thrombosis (DVT) and pulmonary embolism (PE). The duration of increased VTE risk following a major orthopaedic surgery is unknown, and no standardized guidelines exist for optimal thromboprophylaxis duration. The goal of our research program is to identify orthopaedic surgery patients at increased risk for life-threatening VTE, using a simple blood test.

Thrombelastography (TEG) is a point-of-care assay that analyzes a whole blood sample and can identify hypercoagulable states. It provides an overview of the coagulation cascade; its utility in detecting hypocoagulable states has been extensively studied. Our published research has demonstrated that maximal amplitude (MA), a measure of clot strength, strongly predicts VTE.

In the past years, we have been studying coagulation in orthopaedic trauma patients, including hip, femur, and pelvis and acetabulum fracture patients. However, patients undergoing elective primary total knee and total hip arthroplasty, as well as patients requiring orthopaedic surgery for the management of metastatic bone disease are also at increased risk for DVT and PE. Our goal is to measure coagulation patterns in these two patient populations using TEG analysis, in order to identify patients at increased risk for VTE and to develop guidelines for the optimal duration of thromboprophylaxis.

Ethics and operational approval will be obtained by the time the graduate student starts, allowing for immediate commencement of data collection. The graduate student will be supported by the Orthopaedic Trauma Research Team, consisting of four clinical research coordinators/nurses, a data administrator, a research facilitator, a research manager, and other graduate students.

Supervisor:

- Dr. Prism Schneider, MD, PhD, FRCSC – Cumming School of Medicine, Department of Surgery and Community Health Sciences

Funding:

The selected student will be offered two years of guaranteed funding (\$25,000 per year for MSc). The selected student will be encouraged to apply for additional funding available through the Canadian Institutes of Health Research (CIHR), Alberta Innovates (AI), Natural Sciences and Engineering Research Council of Canada (NSERC), and the University of Calgary.

Qualified applicants will have the following:

- A 4-year undergraduate degree in health sciences, medical sciences, basic sciences, kinesiology, nursing, engineering or equivalent, or a medical degree (MD) with demonstrated interest and/or achievement in orthopaedics or hemostatis.
- Completed honours thesis research is an asset.
- A strong GPA in the past two years to ensure competitiveness for external funding.
- Availability to commence their graduate degree program in September 2020 or January 2021 with ability to commit to a 2-year training program.

Location:

The University of Calgary is located in Calgary, Alberta Canada – a multicultural city in Western Canada with a population over one million, a one hour drive to the Canadian Rocky Mountains and averaging 333 days of sunshine per year. Calgary is home to professional sports teams, world-class outdoor activities including hiking and skiing, as well as diverse dining and shopping options and vibrant nightlife. The University of Calgary was recently ranked the #1 University in the world under 50 years old, and is considered among Canada's top research institutions.

How to Apply:

Motivated and qualified candidates should submit their electronic Curriculum Vitae (CV), post-secondary transcripts, and letter of interest to Dr. Prism Schneider at prism.schneider@gmail.com. In your letter of interest, please include an overview of your career goals, your research and academic interests, and a statement on why you believe you would be a good fit for this opportunity.