



Research Associate Opportunity

@ [The Implantable Biosensing Laboratory](#), The University of British Columbia (UBC)

Location:	International Collaborations on Repair Discoveries – Vancouver, Canada
Classification Title:	Research Associate
VP/Faculty:	Faculty of Medicine
Department:	Orthopaedic - ICORD
Full/Part Time:	Full-Time
Desired Start Date:	2022-02-01
Job End Date:	2023-01-31 with possibility of renewals.
Funding Type:	Grant Funded

Job Summary

The Research Associate will be involved in technical aspects of a unique multi-collaborative and international research project that combines electro-optical technology and biological sensors for improving outcomes after tissue injuries including spinal cord injury at ICORD (www.icord.org), an interdisciplinary research center with 45 principal investigators collaborating on its vision to make spinal cord injuries (SCI) preventable, livable, and curable. ICORD has its home in a 10,000 square meter state-of-the-art research facility on the Vancouver General Hospital campus, shared with its partners the Rick Hansen Institute and the Vancouver Coastal Health Brenda and David McLean Integrated Spine Clinic. The incumbent will work under the supervision of [Dr. Babak Shadgan](#) within a team comprised of researchers, technicians and students in the lab as well as other internal and external labs of our research partners. The incumbent will be based at ICORD with work being performed periodically at selected labs at UBC Department of Electrical and Computer Engineering and occasionally at the Centre for Comparative Medicine.

Organizational Status

The Research Associate will be recruited by the UBC Department of Orthopaedics under supervision of [Dr. Babak Shadgan](#), Assistant professor and Director of the Implantable Biosensing Laboratory. The Research Associate will be based at ICORD (www.icord.org) with work being performed periodically at selected labs at UBC Department of Electrical and Computer Engineering. The Research Associate will work within a team comprised of researchers, technicians and students in the lab as well as other internal labs and our partners in and outside Canada.

Work Performed

The Research Associate will undertake [Implantable Biosensing Laboratory](#) (IBL) management. The Research Associate will support research, system, software and application developments of optical monitoring technologies and implantable biosensors for monitoring tissue hemodynamics, physiology and metabolism. The incumbent will be involved in technical advancements of an optical monitoring technology, system and implantable biosensor, based on near-infrared spectroscopy (NIRS), in particular signal processing, system operator and algorithm development, and system's user interface software development. The incumbent will be involved in technical supports of all related research studies including in vitro, animal models and in vivo human clinical trials which will take place at the UBC. Responsibilities also include managing related documentations, preparing reports and publications, and maintaining necessary communications between technical collaborators, industrial partners, regulatory agencies, and the multi-national co-investigators that are related to the optical technology advancement and examinations. The Research Associate will support and check the work of staff and students in the lab.

REQUIREMENTS

QUALIFICATIONS

- BSc or MSc in electronics or computer engineering.
- PhD in computer sciences, electronics, optics, biophysics, or biomedical engineering.

SKILLS AND WORK EXPERIENCE PREFERENCES

- Background and expertise in vital signs signal processing.
- Expert in MATLAB, HTML5, C, C++, Java, Python, CSS, traditional object-oriented languages (e.g., Java, Net, Ruby, Python)
- Good ability in writing structured code, basic scripting, running unit tests and debugging.
- High level ability to effectively use statistical software.
- Having publications in reputable scientific journals and/or patents.
- Ability to communicate scientific knowledge between disciplines and industries.
- Ability to work effectively, independently and collaboratively in a team environment.
- Ability to interact productively and professionally with a wide range of collaborators.
- Strong organizational, time management and project management skills.

Nice to Have:

- Background and knowledge in AI and machine learning.
- Background, engineering knowledge and experience of NIRS.
- Expertise in relational database design (SQL).
- Expertise in Altium design software and Solidworks.
- Expertise in Android and iOS application development.
- Background and expertise of medical device design, manufacturing and certifications.
- Knowledge of fabrication of Lab-on-a-chip, nanodevices, and nano biosensors.

TO APPLY: Please provide the following: a one-page letter of intent which includes a statement of your research interest, a detailed curriculum vitae, a PDF copy or a link to one of your recent and related peer-reviewed publications, and name and contact information of three references. Complete application packages should be directed to:

Alisa Vink
Human Resources Coordinator, UBC Department of Orthopaedics
Email: orthopaedics.hr@ubc.ca
Subject Line: Research Associate, SC-NIRS-4

Review of applications will begin on January 20, 2022 and continue until the position is filled. The anticipated start date for this position is February 1, 2022 or upon a date to be mutually agreed.