**Position Title:** Research Associate  
**Hiring Unit:** Anatomy and Cell Biology  
**Supervisor:** Dr. Javier Vargas  
**Work Location:** 3640 Rue University, Strathcona Building. Montréal, QC H3A 0C7  
**Hours/Week & Schedule:** 35 hours/week – Monday to Friday (from 9 am to 5 pm)  
**Hourly Wage:** Negotiable based on experience  
**Planned Start Date & End Date:** March 1, 2020 to 28 Feb 2022  
**Date of Posting:** February 25, 2019  
**Deadline to Apply:** March 29, 2019

### PRIMARY DUTIES

A Research Associate is required to significantly contribute to a research project to improve the throughput and reliability of data collection and image processing in cryo-electron microscopy. The two goals of this project are (1) automatize the data collecting and processing pipeline in cryo-EM allowing to capture atomic resolution structures without (or with minimal) human intervention, (2) automatically evaluate the quality of the finally obtained structures.

Duties will include:
- Implementing novel image quality descriptors for foil-hole and data cryo-EM images in Scipion platform;
- Developing new image processing methods in Scipion to process cryo-EM data in streaming mode;
- Defining monitors to extract key quality information of the collected data on the fly inside Scipion software package;
- Training graduate students in the lab in all aspects of methods development and image processing using Scipion platform;
- Any other related activities assigned by the research supervisor.

### EDUCATION/EXPERIENCE

- PhD degree with minimum 5 years of research experience in image processing and computational methods development in cryo-electron microscopy;
- Experience using cryo-electron microscopy packages as Scipion, Xmipp and Relion;
- Experience developing cryo-electron microscopy methods in streaming mode;
- Experience in obtaining macromolecular 3D reconstructions by cryo-electron microscopy;
- Experience in Biophysics and Biochemistry will be valued;
- Experience programming in Python and C++.

### OTHER QUALIFYING SKILLS & ABILITIES

- The ideal candidate should be able to troubleshoot, evaluate findings and write the first draft of the manuscript for results that should be published;
- Contribute with ideas, content and preliminary results to grant applications;
- Contribute in the discussions at weekly laboratory meetings;
- Good writing and communication skills to make presentations at internal or external scientific conferences;
- Good management skills (i.e. an organized person in the lab who is able to manage his/her time effectively);
- As a senior researcher, the candidate should have a high degree of independence during the course of the project;
- Be able to interact smoothly with other members of the lab;
- Be a good team player.

### HOW TO APPLY

Please submit your application to: javier.vargasbalbuena@mcgill.ca and highlight the position you are applying for in the title. We thank all applicants for their interest; however, only applicants selected for an interview will be contacted.

*McGill University hires on the basis of merit and is strongly committed to equity and diversity within its community. We welcome applications from racialized persons/visible minorities, women, Indigenous persons, persons with disabilities, ethnic minorities, and persons of minority sexual orientations and gender identities, as well as from all qualified candidates with the skills and knowledge to productively engage with diverse communities. McGill implements an employment equity program and encourages members of designated equity groups to self-identify. Persons with disabilities who anticipate needing accommodations for any part of the application process may contact, in confidence, Professor Angela Campbell, Associate Provost (Equity and Academic Policies) by email or phone at 514398-1660. All qualified applicants are encouraged to apply; however, in accordance with Canadian immigration requirements, Canadians and permanent residents will be given priority.*