

Open Graduate (MSc or PhD) Position Available in Vascular Repair Mechanism Following Traumatic Brain Injury

Project Description:

Traumatic brain injury (TBI) causes the loss of vascular cells and dysfunctional blood flow, which limits oxygen and nutrient support to the tissue. This exacerbates cell death and prevents the activation of neurorepair mechanisms involving neural stem cells (NSCs). Strategies to improve cerebral vascular repair have the potential to promote successful neuro-regeneration and improve the lives of TBI patients. Currently, there is a limited understanding of how cerebral blood flow and NSC activation are related and can be enhanced to facilitate repair.

The ***Lindsey and Stobart labs*** are collaborating using an adult zebrafish model to investigate how new blood vessels and blood hemodynamics may direct NSC-driven regeneration after TBI. This is an exciting opportunity to learn diverse techniques that bring together expertise from both labs. Trainees will learn:

- Zebrafish neuroscience and the TBI model
- In vivo two-photon microscopy of blood flow
- Histological techniques (immunohistochemistry and in situ hybridization)
- FACS and flow cytometry
- Proteomics analysis
- Computer image analysis

We are looking for motivated candidates who hold a B.Sc. or MSc. in biology or related discipline. They must be interested in neurobiology, have good problem-solving skills, and can work independently. Previous experience with zebrafish is beneficial.

Successful candidates will be admitted to the graduate program through the Department of Human Anatomy and Cell Science at the University of Manitoba where they are expected to complete some course work in addition to research experiments. All students will be paid a stipend to cover tuition and living expenses. If the student is successful in the first year of the program, there will be an opportunity to transition directly to the PhD program. International students who are from countries where the primary language is not English – regardless of the language of their instruction – will also require a minimum TOEFL iBT score of 100 out of 120 (equivalent to a TOEFL CBT of 250 out of 300, a TOEFL PBT of 600 out of 677, or an IELTS score of 7.5 out of 9.0).

Please submit a letter with statement of research interests, CV including research experience, official transcripts and contact details for 2 references by email.

Please Send Your Documents To:

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Deadline to Apply:

The position will remain open until filled, and we will continue to review applications until a successful candidate is selected. However, we would like the successful candidate to commence either January 2025 or May 2025 on this project in line with our grant funding.