**Master’s and PhD graduate student positions (Neuroscience) - University of Saskatchewan**

We are inviting applications for Master’s and PhD students in behavioural and systems neuroscience at the University of Saskatchewan (Saskatoon, Saskatchewan).

Our Research:  
The Botterill laboratory has two major research pillars, including a basic science pillar focused on studying the cells and circuits that support learning, memory, and affective behaviours and a health sciences pillar focused on studying the neurobiological mechanisms of temporal lobe epilepsy and its treatment. Our research programs primarily focus on the dentate gyrus subfield of the hippocampus to study how hilar mossy cells, dentate granule cells (including adult-born neurons), and GABAergic interneurons influence hippocampal function in health and disease.   
  
Methods:   
1. Mouse stereotaxic surgery for injections of adeno-associated viruses (AAV), electrode recording assemblies, optic fibers, and cannulae for drug infusions, etc.   
2. Gain- and loss-of function manipulations via optogenetics and Designer Receptors Exclusively Activated by Designer Drugs (DREADDs)  
3. Mouse models of epilepsy (pilocarpine, kainic acid)  
4. 24/7 video electroencephalography (EEG) recordings in freely behaving mice  
5. Slice electrophysiology (whole cell patch clamp & extracellular field recordings)  
6. Mouse behavioural testing  
7. Behavioural pharmacology  
8. Biochemistry  
9. Epifluorescence and confocal microscopy

**Eligibility requirements:**

* Strong academic record
* Interest in behavioural neuroscience and/or epilepsy research
* Excellent written and oral communication skills
* Experience in rodent handling / behavioural neuroscience *is preferred*.
* The ideal candidate will have experience with AAV injections, *in vivo* optogenetics, slice electrophysiology, and/or video EEG data collection & analysis.

Funding:  
Successful candidates will receive graduate student stipends commensurate with the standard stipend amounts for graduate students in the Department of Anatomy, Physiology, and Pharmacology in the College of Medicine. Candidates will be expected to apply to the College of Medicine’s Graduate Student Award (CoMGrad) and Tri-council competitions (e.g., NSERC or CIHR).

Important dates:Deadline: June 1, 2023. Start date: September 1, 2023

Contact information:  
We welcome applications from qualified candidates and strongly encourage applications from individuals belonging to groups that have been traditionally underrepresented in the sciences. **Applications will be reviewed until the positions are filled**. Please contact Justin Botterill ([j.botterill@usask.ca](mailto:j.botterill@usask.ca)) with the following information:   
1. A brief statement of research interests and goals  
2. A copy of your curriculum vitae (CV) with at least 2 references.  
3. A copy of your unofficial transcripts.   
4. Please indicate whether you are a Canadian Citizen or a permanent resident of Canada.   
  
Additional information:  
Google Scholar Publications: <https://scholar.google.ca/citations?hl=en&user=VL_1ODIAAAAJ>   
Botterill Laboratory Website: <https://research-groups.usask.ca/botterillneurolab/index.php>   
Anatomy, Physiology, & Pharmacology website (*for program details and tuition costs*):  
<https://grad.usask.ca/programs/anatomy-physiology-pharmacology.php>