



Synaptic physiology/brain plasticity positions in Victoria B.C.

Fully funded positions are available for graduate (MSc or PhD) trainees to study cellular and synaptic neurophysiology. We are looking for energetic, self-motivated individuals with an interest in basic neuroscience questions that can be applied for our research on transmitter release, synaptic plasticity. September or January start dates are possible.

Our research uses a variety of model system combining electrophysiology with fluorescence imaging to study nervous system in vivo or in blocks/slices of tissue maintained in vitro. We aim to understand how cell and synaptic physiology affect the performance of neural networks with an emphasis on the role of short-term activity dependent plasticity or neuromodulators.

Two programs are currently funded. Our work on olfactory bulb and related structures use this as a model system for studies of synaptic plasticity and dendritic processing (NSERC). Our research funded by CIHR and International Rett Syndrome Foundation examines the physiological consequences of mutation in an X-linked transcription factor, MeCP2 for thalamo-cortical connectivity and neuromodulation by nicotinic acetylcholine receptors. These studies are performed using transgenic mice that are a model for the human disorder combined with fluorescence markers that allow targeted recording from mutant and non-mutant neurons in mosaic female mouse brains to determine cell autonomous vs. non-autonomous effects of the mutation.

Successful applicants should have training through coursework and/or undergraduate research experiences that includes physiology and neuroscience. Experience with electrophysiology or fluorescence microscopy is advantageous but not necessary. Trainees will join a highly collaborative group of active researchers who are directly engaged in student training:

<https://www.uvic.ca/science/biology/research/researchareas/index.php#neurobiology>

Victoria offers an exceptional quality of life for those with an interest in outdoor activities such as hiking, kayaking, sailing, climbing and simply getting out into nature. <https://www.hellobc.com/places-to-go/victoria/>

Contact Dr. Kerry Delaney, kdelaney@uvic.ca, with a brief resume and a summary of research interests including a general description or ideas for the kinds of projects you would be interested in undertaking.