

University of Lethbridge
Canadian Centre for Behavioural Neuroscience

Graduate student opportunities available

I am looking for graduate students (PhD or MSc) interested in comparative neuroanatomy and the neuroendocrine control of behaviour in birds and mammals. There are several funded projects currently underway. Techniques generally include immunohistochemistry, stereology, hormone assays and behavioural analyses, but opportunities also exist to learn three-dimensional reconstruction and electron microscopy. There are also opportunities to collaborate with other research groups including University of Alberta, University of Maryland and several institutions overseas and to attend national and international conferences.

THREE OF THE PROJECTS CURRENTLY AVAILABLE ARE DESCRIBED BELOW, BUT STUDENTS ARE ALSO ENCOURAGED TO APPROACH ME WITH THEIR OWN IDEAS OR PROJECTS.

1. Male Ruffed Grouse (*Bonasa umbellus*) produce a unique courtship display known as drumming during the breeding season. A student is needed to assist in working on the neural and endocrine control of this unique behaviour as well as its function in mate attraction and/or territorial defense. This project will involve fieldwork in the foothills of the Canadian Rockies and lab work.
2. Ground squirrels exhibit a diverse array of social systems. In other rodent species, degree of sociality is correlated with the differential expression of several different neuropeptide receptors, but whether this pattern also applies to ground squirrels has yet to be tested. As a first step in exploring the neuroendocrine basis of sociality in squirrels, a student will examine the expression of several different neurochemicals in Richardson's Ground Squirrels (*Spermophilus richardsonii*). This project will involve fieldwork in the prairie region of southern Alberta as well as lab work.
3. Endocrine disrupting chemicals often have significant negative effects on neural and behavioural development. Although much is known about the neurobehavioural effects of sex hormone disruption, relatively little is known about the neurobehavioural effects of thyroid hormone disruption. As a means of assessing the effects of thyroid hormone on brain and behavioural development in Japanese quail (*Coturnix japonica*), a student is needed to partake in a series of experimental studies on the relationship between thyroid hormones and cerebellar development. This project will involve extensive lab work in a variety of techniques.

Although students will be encouraged to apply for external scholarships, stipends are available to support these projects and the University of Lethbridge also offers graduate scholarships to offset tuition costs. Further information on internal funding and graduate program can be found at:

<http://www.uleth.ca/graduatestudies/prospective-students>

For more information on the lab see:

http://web.me.com/aniwaniuk/Bird_Brains_Lab/Welcome.html

To apply for one of these positions, please send your CV, list of courses, copies of your transcripts, a description of your research interests and why you are interested in one (or more) of the projects described above and the names of at least 2 references to Dr. Andrew Iwaniuk at andrew.iwaniuk@uleth.ca. The positions will remain open until suitable individuals are accepted into the graduate program.