

HONOURS THESIS RESEARCH OPPORTUNITIES

IN ENDOCRINOLOGY

ENVIRONMENTAL TOXICOLOGY

FISH + AMPHIBIAN BIOLOGY

MOLECULAR BIOLOGY

A number of potential honours projects are available within the Canadian Rivers Institute at UPEI. Listed here are just some of the potential options. Analytical/environmental chemistry-focused projects are also possible.

Thyroid Hormone Influence on Amphibian Reproduction. Studies will explore the relationship between the amphibian thyroidal- and reproductive-endocrine systems by determining the effects of thyroid hormone on steroid production in testes and ovary. Experiments will involve lab animal exposures, hormone assays and molecular biology techniques. Start date Sept 2009. **Contact Dr. Natacha Hogan**

Endocrine Effects of Sewage Effluent on PEI. Molecular biology techniques (quantitative RT-PCR) will be used to determine if three-spine stickleback are exposed to androgens (male hormones) or to estrogens (female hormones). These endpoints will be related to measures of reproductive success. Start date September 2009. **Contact Dr. Natacha Hogan**

Impacts of Oil Sands Affected Waters on Fathead Minnows. Fathead minnows will be used to examine the risk of oil sands aquatic reclamation to fish health. This will include growth and physiological endpoints, pathological examination for disease, and biochemical indicators of exposure to oil sands-related chemicals. Start date May 2009. **Contact Dr. Mike van den Heuvel.**

Understanding the Signal Transduction of Androgens in Fishes. Fishes possess unique androgen receptors and androgens among vertebrates. Using the 3-spine stickleback as a model, we will examine the signal transduction of androgens using quantitative molecular biology techniques and receptor binding in order to develop new tools for toxicological study. Start date September 2009. **Contact Dr. Mike van den Heuvel**

Mike van den Heuvel
Duffy 429, ext. 6072
mheuvel@upei.ca

Natacha Hogan
Duffy 433, ext. 6068
nshogan@upei.ca

