Graduate Student Opportunities:
Ecological Research in Arctic Freshwater Ecosystems

Motivated MSc/PhD students are sought to participate in novel Arctic research within a NSERC Strategic Project Grant, "*Functional, Structural and Biodiversity Studies of Arctic Freshwater Watersheds: Validating Protocols for Monitoring and Cumulative Assessments*". Students will join a research team with scientists from the Université du Québec à Chicoutimi, University of Waterloo, and Wilfrid Laurier University.

PROJECT AIMS: to develop an improved understanding of how human-induced changes in Arctic freshwater ecosystems (i.e., climate change, resource development) may impact the health of northern freshwater resources and the provision of ecosystem services (e.g., sustainable fisheries, drinking water quality). The team will use cutting-edge methods to establish baseline studies of the Lake Greiner watershed, from its lowest trophic levels (micros, algae, benthic invertebrates, plankton) to its upper trophic levels (fish), to describe how the function and structure of aquatic ecosystems support plankton, macroinvertebrate and juvenile fish production, the diversity of organisms, and the habitats upon which the health and sustainability of fisheries ultimately depend. The research will establish and validate monitoring protocols for aquatic ecosystems in the north, thereby providing tools to government agencies for the continued routine monitoring of the systems and a means by which the significance of the accumulation of future ecosystem impacts may be determined. Field research will be based out of the newly completed Canadian High Arctic Research Station, Cambridge Bay, NU.
See (https://www.aadnc-aandc.gc.ca/eng/1314731268547/1314731373200).

Required qualifications:

- B.Sc, as well as MSc for PhD position candidates, in Aquatic Ecology, Environmental Science or related discipline
- Interest in designing experiments and conducting field monitoring in remote locations
- Ability to work as part of a team
- Meet graduate studies enrolment requirements at the University of Waterloo, Université du Québec à Chicoutimi, or Wilfred Laurier University

Additional desired qualifications:

- Experience in conducting aquatic fieldwork, ideally in remote locations
- Knowledge of univariate and multivariate statistical analyses
- Experience working with a diversity of project partners including Inuit communities
- Experience with ArcGIS
- Ability to write and present in English
- Knowledge of French for candidates interested in enrolling at UQAC

5 graduate student positions (May 1, 2018 start date) are available as follows:
PhD 1 (UQAC – Co-supervised by Rautio & Power) – Linking changes in watershed size and hydrological connectivity to ecosystem structure and ultimately the availability of food for fish.
PhD 2 (WLU – Co-supervised by Culp & Rautio) – Determining the importance of lake-stream connectance and landscape linkages as drivers of benthic food web structure and function.
PhD 3 (Waterloo – Co-supervised by Power & Rautio) – Testing the importance of landscape and watershed attributes for fish temperature use, growth and condition.
MSc 1 (Waterloo or UQAC – Co-supervised by Power & Rautio) – Linking reliance on autochthonous carbon to fish condition.
MSc 2 (Waterloo or WLU – Co-supervised by Power & Culp) – Linking stream habitat characteristics to juvenile fish density and biomass.

Please send your CV, unofficial transcripts, a list of three references (along with contact phone and email), and a cover letter summarizing your qualifications and research interests to all of the following:
University of Waterloo: Dr. Michael Power (m3power@uwaterloo.ca)
Université du Québec à Chicoutimi: Dr. Milla Rautio (Milla.Rautio@uqac.ca)
Wilfrid Laurier University: Dr. Joseph Culp at (jculp@wlu.ca)

Application deadline: 31 January, 2018 but applications will be accepted until all positions are filled.