Interested in working with us?
Check out these great opportunities!

Masters and Doctoral research opportunities in the Canadian Arctic,

Impacts of changing climate on permafrost, streamflow and radionuclide mobility in the western Canadian Arctic

Professor Philip Marsh, Arctic Hydrology Research Group, Wilfrid Laurier University, Waterloo, Ontario, CA
Dr. Elizabeth Priebe, P.Geo, Hydrogeochemist, Canadian Nuclear Laboratories, Chalk River, Ontario, CA

The Arctic is undergoing rapid and unprecedented climate change that is impacting streamflow with effects on ecosystems, communities, and infrastructure. These graduate opportunities will be focussed on developing improved understanding of these impacts on the Arctic through the integration of our existing long term data sets and permafrost-hydrology models in order to consider past and future changes in streams and lakes in the western Canadian Arctic. These positions will work with our collaborators at the Canadian Nuclear Laboratories to address the concern that legacy fallout radionuclides are being released from thawing permafrost and transported through freshwater streams.

These positions will focus on the western Canadian Arctic at our Trail Valley creek (TVC) (www.trailvalleycreek.ca) research station, but will have cross Arctic applications. Multi-decadal long hydrologic monitoring and research conducted at TVC makes it a unique natural laboratory for carrying out this project.

We invite applications to the following MSc or PhD positions:

1. ***Field studies of permafrost hydrology runoff processes,***
2. ***Mathematical modelling of coupled permafrost-hydrology-lake models for increased predictive capabilities, and***
3. ***Field, lab and modelling studies of legacy fallout radionuclides being released from thawing permafrost and transported through freshwater streams***

Past experience in Arctic field work, physics-based mathematical models, and water chemistry is a benefit. Further information on the Geography Program at Laurier is available at: https://uwaterloo.ca/waterloo-laurier-graduate-program-in-geography/

Ideal candidates should have previous degrees in relevant disciplines (e.g., numerical methods, hydrology, geography, earth science, environmental science, engineering, physics, and/or atmospheric science), and should possess aptitude and enthusiasm for understanding the integrated impacts of climate change on Arctic systems. For the modelling positions, we

especially encourage applicants with an interest in high-resolution hydrologic modelling, and proficiency in numerical methods, physics and with appropriate modelling tools. Experience in northern environments is an asset for all positions but is not required.
Graduate students at Laurier receive competitive funding packages that come from a combination of teaching assistantships, internal scholarships, and research assistantships. All students are strongly encouraged to apply for a variety of external scholarships. Students in Melnik's and Marsh's research teams have been very successful in receiving such external awards over the past years. Canadian applicants are strongly encouraged to apply. Funding for Arctic field research is provided by external research grants.

https://www.wlu.ca/academics/faculties/graduate-and-postdoctoral-studies/funding-at-a-glance/index.html

Candidates are encouraged to apply as soon as possible by contacting Professor Marsh.
Please submit a cover letter highlighting relevant experience and your interest in joining our research team, a list of courses taken and marks, and a curriculum vitae to: pmarsh@wlu.ca and elizabeth.priebe@cnl.ca with the subject line "Arctic Hydrology Graduate Students".
Applicants will be reviewed in order they are received until successful candidates are found.

Dr. Philip Marsh, Professor and Canada Research Chair in Cold Regions Water Science, Wilfrid Laurier University