

### M.Sc. Opportunity in Northern Hydrometeorology

The recent Mountain Pine Beetle (MPB) infestation is one of the largest ecological disturbances ever recorded in Canada. With its extensive impact on British Columbia's forested areas, it is now steadily expanding and claiming large forest areas in northwestern Alberta and northeastern British Columbia (BC) including the pine forests along the eastern slopes of the Rocky Mountains. Evidence clearly indicates that the MPB's population is on the rise in these regions and is expanding its range. There is therefore an urgent need to focus on understanding the potential impact of the MPB infestation on various watershed processes at a stand and watershed scale to investigate impacts to regional hydrology, aquatic habitat and flood frequency. This research project will therefore investigate the magnitude and direction of MPB induced changes in regional hydrology of the Peace and Athabasca River basins under a warming climate. The project will utilize the VIC hydrological model in an idealized setup to evaluate changes that are critical to account for hydrological risks in managing and planning both the watershed infrastructure and water availability.

We invite applications for a potential M.Sc. student having a strong knowledge of cold regions hydrology, excellent computational and programming skills and experience in hydrological modelling. The student will implement the Variable Infiltration Capacity (VIC) model to simulate the snow hydrology of the Peace and Athabasca River basins in western Alberta and northeastern BC. This research will involve analysis of large datasets of model simulations and observed hydrometeorological data, so experience with efficient data and statistical analyses is an asset.

Interested applicants are encouraged to contact Dr. Siraj Ul Islam at [sirajul.islam@unbc.ca](mailto:sirajul.islam@unbc.ca) or Dr. Stephen Déry at [sdery@unbc.ca](mailto:sdery@unbc.ca) with a cover letter highlighting research interest and experience, an up-to-date curriculum vitae, unofficial transcripts, and the names of two potential references. The deadline for submitting these documents is Friday 18 August 2017. The successful candidate will then be required to submit an application (due by 15 September 2017) for entry to the Natural Resources and Environmental Studies (NRES) graduate program at the University of Northern British Columbia (UNBC) situated in Prince George, British Columbia, Canada. The successful candidate will receive 2-year of financial support (subject to availability of project funds) starting with the UNBC academic session in January 2018.