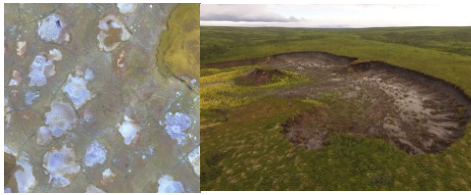Funded PhD Opportunity: Remote Sensing of Permafrost Landscape Change

The Arctic Landscape Ecology Lab at the University of Victoria is seeking a PhD student to lead a research project: 1) mapping permafrost landscape change and 2) assessing the determinants of terrain sensitivity.

In many permafrost regions, the frequency of thaw-related disturbances is increasing so rapidly that maintaining accurate inventories presents a significant challenge. This first objective of this project is to develop semi-automated procedures to map permafrost terrain disturbances using satellite imagery (e.g., Landsat, WorldView, Sentinel). The second project objective is to determine the biophysical controls of terrain sensitivity by analyzing the disturbance inventories generated through mapping. By identifying sensitive areas and increasing our capacity to monitor change, this project will significantly inform decision making in northern communities and regions affected by permafrost thaw.

Interested applicants should have an MSc in geography, environmental science, earth science, or related field, and previous experience with remote sensing, GIS and statistics. Applicants must be self-motivated, have strong communication skills, experience managing multiple tasks, and be willing to travel to the Canadian Arctic for fieldwork. Previous experience in permafrost environments is an asset, but is not vital.

This research project will be co-supervised by Dr. Trevor Lantz (University of Victoria) and Dr. Robert Fraser (Canada Centre for Remote Sensing). An annual stipend of $21,000 (plus benefits) is guaranteed for four years and additional support for field and conference travel is available for the duration of the project. This position is based at the University of Victoria, but includes opportunities for internships with partner organizations in Ottawa (Canada Centre for Remote Sensing) and Yellowknife (NWT Geological Survey).

This research project is part of PermafrostNet, a multi-sectorial research network of twelve Canadian universities and more than 40 partner organisations. As a member of the network, the successful applicant will have opportunities to engage with government (provincial, federal, indigenous), industry, and international partners, as well as graduate students and researchers from across Canada.

The University of Victoria and PermafrostNet are strongly committed to fostering diversity as a source of excellence, cultural enrichment, and social strength. We welcome those who would contribute to further diversification including, but not limited to women; visible minorities; First Nations, Inuit and Métis peoples; persons with disabilities; and persons of any sexual orientation or gender identity and expressions.

To apply, please send a cover letter describing your qualifications and interest in this project, a complete CV, and unofficial transcripts to Dr. Trevor Lantz (tlantz@uvic.ca). Questions should be directed to Dr. Trevor Lantz (tlantz@uvic.ca) or Dr. Robert Fraser (robert.fraser@canada.ca). The deadline for applications is October 30, 2019, but a range of start dates are possible (January 2019 to September, 2020).