Forest Ecology Research Group

Postdoctoral and graduate positions available with the Forest Ecology Research Group as part of the Future Harvest Partnership

As part of the newly funded SSHRC Sustainable Agriculture Research Initiative "Future Harvest Partnership", there are funded positions for one postdoctoral researcher and three PhD positions available through Wilfrid Laurier University's Forest Ecology Research Group (https://forestecology.ca). All these positions can be based in Waterloo, Ontario or Northwest Territories. Evaluation of applications will begin in early January and continue on a rolling basis until all positions are filled.

The Future Harvest Partnership is a multi-year collaboration between Wilfrid Laurier University, the Territorial Agrifood Association and the Government of the Northwest Territories Department of Industry, Tourism and Investment. Supported by an interdisciplinary team of leading academics from across North America, and informed by Indigenous Governments and traditional knowledge, the Partnership engages with food producers and local communities of the Northwest Territories to co-create research and generate useful insights for innovation and policy that can inform the development of a climate-resilient local food system.

PhD 2: Evaluate the retention of fire retardant in northern ecosystems and its impacts on terrestrial and aquatic communities

Field Location: South Slave and Dehcho Regions, Northwest Territories

Background: The NWT presents an exceptional opportunity to study the social-ecological landscape of new agriculture development in a changing climate. Previous studies have investigated the potential for northern agricultural expansion in the face of predicted future climates. In contrast, there has been very little investigation of economic, social, and cultural factors associated with northern agriculture. Food systems are complex social-ecological systems meaning that a simple translation of climate appropriate crops from the south may not be suitable in the North and a variety of barriers may limit the ability to grow food. These include, but are not limited to, poor soil fertility, colonial histories of forced agricultural labour, diverse cultures of food procurement, limited capacity to acquire adequate infrastructure and technologies, and disputes over sovereign land. To ensure communities and northern growers can adapt and grow the food system in the face of rapid environmental change, on-site experimentation and innovation will be supported to enhance production capacity, sustainability, and resilience of NWT food systems.

Details: To build a resilient food system in the NWT, producers require innovative research that supports sustainable food production and expansion in a disturbance-prone landscape and communities require an understanding of how fire and fire management impact traditional food systems. Fire suppression was required around many NWT communities in summer 2023 and concerns have been raised about the safety of food grown on these lands. To address this concern, we will evaluate the impact of fire retardant application in northern plants and soils where food is harvested and/or grown. Our goals will be to evaluate 1) the impact of fire retardant on the safety and productivity of crops and harvested wild plants (e.g., berries); 2) the retention of fire retardant in northern soils and plants; 3) the impact of fire retardant on downstream aquatic ecosystems.

Funding includes a competitive stipend for the graduate student and funds for field assistants, travel expenses, and field supplies. The ideal candidate will have experience in tree growth/physiological studies, soils analysis, and/or water quality analysis. The candidate should have experience working with spatial data layers. Further, the candidate should have strong writing and organizational skills. The

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ability to lead and implement field-sampling logistics is important. Fieldwork will involve extended periods in remote field locations in the Northwest Territories. This position will be jointly supervised by Drs. Jennifer Baltzer and Heidi Swanson (Wilfrid Laurier University).

Students will enroll in the graduate program of the Department of Biology at the Wilfrid Laurier University in Waterloo, ON (https://students.wlu.ca/programs/science/biology/index.html) in Dr. Jennifer Baltzer's research group (https://forestecology.ca). Ideally, students would take part in field campaigns during summer 2025 and enroll in the graduate program for the Fall 2025 semester.

Interested students should contact me directly (jbaltzer@wlu.ca) with a resume, transcript (unofficial is fine) and, if possible, a piece of your own written work. In your cover letter, please indicate your motivation for pursuing this position and highlight any barriers, career interruptions, or other life events that may have modified your path if you feel comfortable sharing these.