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

As part of the SSHRC Sustainable Agriculture Research Initiative "Future Harvest Partnership", there are funded positions for one postdoctoral researcher and two PhD students 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. The ideal candidates will spend 4-5 months conducting field data collection in Northwest Territories. Evaluation of applications will begin in November 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: Improve soil health and yield utilizing cover crops in the Northwest Territories

Background: Currently, there is relatively little established agricultural production in the NWT. However, models show that as the climate warms, southern regions of the NWT will have more favorable conditions for agriculture. Agricultural practices in the southern provinces offer a lesson in conventional versus organic pathways for food production. The NWT's relatively young agriculture sector has an opportunity to learn from these lessons to employ environmental and socially conscientious farming practices that sequester carbon, reduce emissions, and reduce environmental impacts to nearby natural systems, but also generate local food production to enhance northern food security. At the same time, NWTs regional food supply chain is almost entirely reliant on shipping food from the south, by air, road, and barge to remote communities across the territory. The second largest contributor to Canada's carbon emissions is the transportation sector, reduction of transportation emissions associated with food import could therefore move the NWT closer to net zero goals.

Details:
While there are several farmers already operating in the NWT, they face numerous environmental and economic hurdles. The challenges include a short growing season, prolonged sun exposure, shallow or nutrient deficient soils, little to no summer precipitation, understudied biological actors in the soil, and high import costs for soil amendments, seeds, and irrigation equipment. There is a need for NWT-specific research to support and scale commercial farming with the aims of improving food security and reducing carbon emission associated with the food system. Cover cropping is one farming practice that can help alleviate the economic and environmental hurdles farmers face, while also building soil health and soil carbon and reducing water use and costs associated with imported soil amendments.

The ideal PhD student will help to develop NWT-tailored research on cover cropping, including the impact of cover crop on soil health, soil carbon, soil biology; the impact of cover crop on improving low productivity soils, feasibility of cover cropping including timing, seed mixture, and seed production for NWT. The project will support project goals of reducing carbon emissions, improving soil health, reducing external input use, and creating NWT-specific growth and yield curves. The PhD student will work closely with the FHP post-doctoral fellows to develop knowledge mobilization pieces that communicate the recommendations for cover cropping in the NWT.

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Future Harvest Partnership

Funding includes a competitive stipend for the graduate student and funds for field assistants, travel expenses, and field supplies. The ideal candidate will have a background in agriculture, plant production and/or soil health. Previous experience in cover cropping, small-scale farming, and/or sustainable farming practices is preferred. Further, the candidate should have strong writing and organizational skills. The ability to lead and implement field-sampling logistics is essential. Strong communication skills will be necessary for working closely with northern partners. Fieldwork will involve extended periods in communities in the Northwest Territories.

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 2026 and enroll in the graduate program for the Fall 2026 semester.

Interested students should contact me directly (kwakulich@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.