Ph.D. Opportunity in Boreal Ecosystems and Agricultural Sciences – Ph.D. in BEAS

Grenfell Campus, Memorial University of Newfoundland, Canada

The School of Science and the Environment is seeking a motivated and talented PhD student to join a research project focused on addressing the unique challenges of potato cultivation in Newfoundland and Labrador (NL). This position will focus specifically on **precision irrigation management using advanced geophysical techniques and machine learning approaches** to improve water use efficiency and optimize potato yield and quality.

To be considered for admission to the Ph.D. program in Boreal Ecosystems and Agricultural Sciences, applicants should hold an M.Sc. degree in Agricultural Sciences, Earth Sciences, Engineering, Environmental Sciences, or related fields with a cumulative weighted average of at least 85% (MUN grade system equivalent).

Key Responsibilities:

- Conduct research on soil moisture variability and related physical and hydraulic properties using geophysical techniques in boreal podzolic soils.
- Organize, process, and analyze datasets from geophysical tools and field experiments.
- Develop and implement machine learning models for predictive irrigation scheduling and site-specific water management.
- Collaborate with a multidisciplinary team to integrate geophysical and agronomic data.
- Publish research findings in peer-reviewed journals and present at conferences.

Desired Skills and Qualifications:

- Demonstrated experience or strong interest in **machine learning applications** in **agriculture** or **environmental sciences** or **engineering**.
- Familiarity with geophysical tools
- Proficiency in programming languages like **Python, R,** or **MATLAB** for data analysis and model development.
- Knowledge of soil hydrology, precision irrigation, or related fields is an asset.
- Strong analytical and critical thinking skills, with the ability to work independently and collaboratively in a multidisciplinary team.
- Demonstrated expertise in written and oral communication, effectively engaging both scientific and general audiences from diverse backgrounds.

Project Support:

- A graduate research assistantship minimum of $25,000 per year for 4 years is available.

How to Apply:

Submit the following documents to [lgalagedara@mun.ca] on or before Jan 31, 2025:

- A cover letter outlining your motivation and suitability for this position.
- A detailed CV highlighting relevant experience and skills.
- Academic transcripts (unofficial copies are acceptable).
- Research concepts note (2-3 pages) focusing on the project mentioned above.

Expected Starting Date:

Preferably in Summer, 2025 or Fall, 2025

Further Information:

Contact: Dr. Lakshman Galagedara [lgalagedara@mun.ca]