

MSc Opportunity, Department of Soil Science University of Saskatchewan, Canada

Root and residue contributions to soil organic matter under contrasting nitrogen fertilization across diverse canola genotypes

Drs. Bobbi Helgason and Melissa Arcand are seeking a MSc student to conduct research to examine crop carbon inputs on soil organic matter dynamics under contrasting nitrogen fertilization to canola. The student's project will involve conducting greenhouse studies that employ stable isotope labelling of plants and ^{13}C tracing into soil organic matter pools and the soil microbial community. The student will learn a diversity of complex laboratory techniques in soil microbiology and biochemistry. The Department of Soil Science is home to a newly updated state of the art Stable Isotope Facility. Candidates interested in learning about plant-soil relationships on soil fertility and carbon sequestration are encouraged to apply. This project is part of a larger project "Getting more from less – enhancing nitrogen use efficiency and carbon sequestration in canola" funded through the Canola AgriScience Research Cluster.

Interested students should have the following qualifications:

- Undergraduate degree in soil science, environmental science, microbiology, crop science, agronomy, or related discipline
- Strong communication skills
- Ability to work independently and in teams
- Experience in a laboratory work environment is considered an asset

Students will be paid a stipend of \$24,000 per year for 2.5 years. Additional scholarship opportunities are available. Students have the option to be part of the Food-Water Nexus Education & Training NSERC CREATE program (<https://water.usask.ca/fwnet-create/>).

Interested candidates should submit a CV, a one page statement of research interest, and unofficial transcripts to melissa.arcand@usask.ca.

Start date: January 2025 or May 2025