

PhD scholarship in boreal soil carbon

The Soil Biogeochemistry group (<https://soilbgc.wordpress.com/>) in the Department of Renewable Resources, University of Alberta, Edmonton (Canada) is seeking a motivated Ph.D. student to join our team.

Project: Boreal forest soils are the single largest terrestrial carbon storehouse in the world. Consequently, changes in boreal carbon stocks and fluxes could significantly affect the global carbon cycle. These northern, high-latitude soils are also highly susceptible to global warming, and in the coming century are expected to face large increases in average temperatures, altered freeze-thaw patterns, and transformative vegetation shifts. The carbon contained in boreal soils is a complex network of interconnected pools, the stability of which may be controlled by various mechanisms. As such, it has been challenging to predict the response of boreal soil carbon to environmental changes.

This Ph.D. project will aim to clarify how interactions between the soil geological material and vegetation may ultimately determine the response of boreal soil carbon to climatic changes. We will use a variety of methods, including NMR and stable isotope tracking, to evaluate the source and fate of boreal carbon in soil profiles under different environmental conditions.

Qualifications: Candidates must have a M.Sc. (or equivalent) in soil science, chemistry or a related environmental science discipline. Strong verbal and written communication skills in English are essential.

The project is funded by NSERC. A yearly stipend of \$25,000 will be provided. In addition, the University of Alberta provides competitive recruitment awards between \$5,000 and \$10,000 for outstanding applicants. Graduates from a Canadian University with a GPA > 3.5 on a 4.0 scale and international students with equivalent academic accomplishments usually receive an entrance award.

Interested candidates should e-mail their transcript, a detailed curriculum vitae, a cover letter that summarizes their qualifications and research goals, and the names and contact information of three references to Dr. Sylvie Quideau at sylvie.quideau@ualberta.ca.

Only successful candidates will be contacted.