

MSc/PhD opportunity in electromagnetic geophysics

Project: Using a three-component transmitter for borehole transient electromagnetic surveying to identify conductive orebodies.

This project will involve using an existing prototype three-component transmitter to acquire data in one or more boreholes in the Sudbury area that are close to a conductive Ni-Cu-PGE orebody. This data can be used to demonstrate that the transmitter can couple strongly to a conductive target, irrespective of the transmitter location, significantly simplifying data acquisition. There is also potential to simplify ways of determining the orientation of the target, simplifying interpretation. The data from the system can also be used to identify the highly conductive orebodies in Sudbury by estimating the in-phase response without knowing the precise location of the transmitter or receiver. This removes the requirement for expensive and time consuming surveying of the transmitter loop vertices and borehole trajectory.

The successful candidate will be based at Laurentian University's [Harquail School of Earth Sciences](#). Fieldwork will be in the Sudbury area. Applicants must possess an Honours or Masters degree, with a specialization in geophysics and have a minimum average grade of 75%. Experience with electromagnetic methods, programming in python and signal processing knowledge will be an asset. The student stipend will be CA\$27k at the MSc level and CA\$40k at the PhD level (which includes a Laurentian Teaching Assistantship). The cost of field work, travel and conference attendance will be covered. The project will begin in September 2025, or as soon as a suitable candidate has been found.

How to Apply

Please email your application to rsmith@laurentian.ca. The application package must include a cover letter, CV, academic transcripts, contact details, and names of three referees.

Working at Laurentian University

[Laurentian University](#) is an inclusive and welcoming community and encourages applications from members of equity-seeking groups including Indigenous persons, racialized persons, persons with disabilities, women, 2SLGBTQ+ persons. The University is committed to providing an inclusive and barrier-free experience to applicants with accessibility needs. Requests for accommodation can be made at any stage during the recruitment process. Please contact the Human Resources and Organizational Development Office at hrd@laurentian.ca for more information.

All qualified persons are encouraged to apply; however, Canadians and permanent residents of Canada will be given priority. While we thank all candidates for their interest, only those short-listed will be contacted.