



Metal Earth Graduate Student Research Opportunity

Fall 2018/Winter 2019

With CAD \$104 million in funding provided by the Canada First Research Excellence Fund (CFREF) and through strategic partnerships with 5 Canadian universities, 6 government geological surveys and 3 international research centres, Laurentian University has initiated Metal Earth - the largest ever mineral exploration research project undertaken in Canada. Metal Earth seeks to identify and understand the processes responsible for Earth's differential metal endowment during the Precambrian. This research initiative aims to transform our understanding of Earth's early evolution and how we explore for metals.

Metal Earth is led by the Mineral Exploration Research Centre (MERC), which is housed in the Willet Green Miller Centre at Sudbury. MERC is a semi-autonomous research centre at Laurentian established in 1997 and comprises an internationally-recognized group of researchers from HSES, academia, industry and government.

MSc Project Outline

A key objective of the Data Analytics component of the Metal Earth project is to develop data integration workflows and tools that facilitate information fusion and integration to propose alternative targeting solutions based on machine learning and statistical modelling of available geochemical, geophysical and geological information. This MSc project fulfills the need for advanced geochemical data processing of available lake sediment data as part of a regional scale mineral prospectivity study focused on the Superior province.

Metal Earth MSc Graduate Opportunity in Data Integration

Metal Earth is seeking a MSc student to conduct exploratory data analysis, geostatistical interpolation and other multivariate data reduction/clustering techniques to determine potential mineral exploration vectors for BIF-hosted Au, using recently released lake sediment geochemical data (McCurdy et al. 2018, GSC Open File 8348) and other available digital information. Enhancing the characterization of Au mineral prospectivity in the Ashuanipi complex (known to be host of numerous Au prospects/occurrences occurring in highly sheared domains such as the Schefferville area, Quebec-Labrador) will provide additional support to current prospecting and exploration programs in relatively unexplored and remote parts of Canada. Research will complement also the Metal Earth objective of distinguishing factors controlling Au endowment and precious metal fertility.

Each MSc project is fully funded for two years (\$30K/yr. which includes a Laurentian Graduate Assistantship). Programming and/or GIS experience will be an asset. To apply, please forward your application and cover letter to metalearth@laurentian.ca. The application should include: a CV with a list of publications, academic transcripts, contact details, and the names of three referees. Review of applications will begin immediately; however, applications will be accepted until the position is filled. Position to begin in the fall of 2018 or January 2019.

Laurentian University is a bilingual (French-English), tri-cultural institution. Laurentian University especially welcomes and encourages applications from members of visible minorities, women, Aboriginal persons, members of sexual minorities and persons with disabilities. Applicants may self-identify as a member of an employment equity group. All qualified candidates are encouraged to apply. However, Canadians and permanent residents will be considered first for these positions.