CAREERS & RESEARCH

Opportunity	**2 PDF & 4 MSc Research Positions - Canadian Digital Core Library Initiative**
Project Description & Positions	The Harquail School of Earth Sciences (HES) and its Mineral Exploration Research Centre (MERC) at Laurentian University are the academic lead for the Canadian Digital Core Library (CDCL) initiative. As part of Phase 1 (2026-2028), we are hiring 2 post-doctoral fellows (PDFs) and 4 master's students (MSc) to research a variety of Canadian ore deposits in collaboration with mineral exploration and mining companies. The PDFs and MSc students will work closely with one another as part of this collaborative research program led by Stephane Perrouty, Doug Tinkham, Richard Smith, Stefanie Brueckner and Ross Sherlock. **Each project will start immediately after a suitable candidate is found.** **PDF1** will compile, level, validate and assess hyperspectral (SWIR, MWIR, LWIR), X-ray fluorescence (pXRF, uXRF), laser-induced breakdown spectroscopy (LIBS) and petrophysical drill core data to assist with the geological characterization and comparison of ore assemblages and trends in several deposit types (Ni-Cu-PGE, Cu-Zn, Au). The primary goal is to provide the geological foundation on which AI/ML technology can be further developed. Prior experience in ore deposit studies should be described in the application. Prior experience in exploration geochemistry or mineralogy is an asset. **PDF2** will develop and apply AI/ML techniques to integrate hyperspectral (SWIR, MWIR, LWIR), pXRF, uXRF, LIBS and petrophysical drill core data for ore targeting. The primary objectives are i) to build algorithms for mineralogical and geochemical characterization, ii) thermodynamic prediction of the mineralogy from the above datasets, and iii) to identify, develop and test algorithms for rock texture description (e.g., structures), pattern recognition (e.g., ore assemblage) and ore targeting. Prior experience in AI/ML technologies and challenges should be described in the application. Prior experience with geological/geophysical investigations is an asset. **MSc 1 to 4** will work closely with the PDFs to provide and test specific datasets. They will develop practical expertise in modern tools used in mineral exploration (all available at HES-MERC). **MSc1** will document and interpret the metamorphic and alteration mineralogy of hydrothermally altered rocks using a suite of research instruments (SEM, EPMA, whole rock geochemistry). **MSc2** will compile, collect, validate and interpret LIBS data for characterization of several ore deposit types. **MSc3** will compile, collect, validate and interpret uXRF data for characterization of several ore deposit types. **MSc4** will compile, collect, validate and interpret petrophysical data for characterization of several ore deposit types.
About Us	Located in Sudbury, Ontario, Canada, Laurentian University's Harquail School of Earth Sciences (HES) and its Mineral Exploration Research Centre (MERC) are home to award-winning faculty, researchers, and students focused on innovative research and teaching in a collegial and tri-cultural environment. HES and MERC are global leaders in ore deposit and Precambrian geosciences education and research. We conduct and promote global, collaborative, lab- and field-based research focused on mineral deposits, exploration, and targeting, and host internationally recognized projects and researchers from academia, industry, and government. MERC also leads Canada's Metal Earth project, which is one of the largest university-led public geoscience projects in the world.
How to Apply	To apply, forward your application with a cover letter to sperrouty@laurentian.ca, cc'ing merc@laurentian.ca. Your application should include a CV, academic transcripts, contact details and the names of three referees. Only short-listed applicants will be contacted, and applications will be accepted until a suitable candidate is found. All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be considered first for these positions.