



### **MSc Opportunity in Earth and Environmental Sciences**

The Department of Earth and Environmental Sciences at St. Francis Xavier University is looking for an MSc student interested in clastic sedimentology and critical mineral resources to begin their degree in summer 2024. Interested students are encouraged to send an CV, unofficial transcript, and statement of research interests to Dr. Celeste Cunningham ([ccunning@stfx.ca](mailto:ccunning@stfx.ca)) or Dr. Donnelly Archibald ([darchiba@stfx.ca](mailto:darchiba@stfx.ca)).

#### **Project: Manganese (Mn) Concentration and Enrichment in Metasedimentary Rocks of the Goldenville Group, Eastern Nova Scotia**

This project is part of a broader research program investigating the sedimentology, stratigraphy, origin, and critical mineral potential of metasedimentary rocks of the Meguma terrane in Nova Scotia. This MSc project will focus on the sedimentology and mineralogy of manganese-enriched horizons in the upper Goldenville Group of the Meguma terrane. Manganese occurs in various forms, such as nodules, coticles when metamorphosed, and disseminated within mud and sand beds. The MSc candidate will conduct fieldwork, sampling, field mapping, and data collection to constrain the age and depositional environment of the sedimentary rocks. They will use bulk rock geochemical data, strontium-neodymium isotopic data, electron microprobe, and Raman spectroscopy, to determine the concentrations of Mn, the mineral phases that host the Mn, and the sedimentary or metamorphic processes that concentrated Mn in the Meguma terrane.

StFX is one of Canada's leading primarily undergraduate universities, located in Antigonish Nova Scotia. Our historic residential campus is home to just over 4,200 students from across Canada and internationally, as well as over 200 full-time faculty members dedicated to providing our students with a post-secondary education conducive to intellectual and personal growth. As a member of one of the most research-intensive departments on the StFX campus, you will have the opportunity to work one-on-one with your supervisor on an innovative research project. StFX offers graduate studies at the MSc and PhD levels and at any given time, 20 or more graduate students are active within the department. Graduate students have a peer group that enroll in common courses and students have a close collaborative relationship with their supervisor that is characteristic of small universities. For more information, visit <https://www.stfx.ca/department/earth-and-environmental-sciences>.