**Microbiological and Molecular Tools for Remediation of Metal-Polluted sites**

*Stacie Tardif, PhD Thesis*

* **Objectives**: Stacie’s aim will be to investigate the long-term effects of CCA contamination on soil microbial community composition, function, metal resistance and permissiveness for plasmid uptake. She also aims to develop and apply more predictive, ecologically relevant methods for assessing soil contamination and remediation efforts. She will be using advanced microbiological and molecular tools such metal-specific whole-cell biosensors, microbial resistance profiling (PICT (Pollution induced community tolerance), next-generation sequencing, fluorescence-activated cell sorting (FACS) as complemented by soil physical and chemical characterization such as e.g. ICP-MS, GFAAS, and trace element speciation analysis. She is expected to provide cutting-edge information on interactions between metals & microorganisms in soil and on the resistance & resilience of soil microbial communities.

**Timeline:**