



## Cold Region Engineering Modelling, Characterization, Observations and Testing

---

### 8F - Laboratory Modelling and Testing of Permafrost Soils

Geoff Eichhorn<sup>1</sup>, Pooneh Maghoul<sup>2</sup>

<sup>1</sup>Royal Military College, <sup>2</sup>Polytechnique Montréal

---

This session aims to examine all aspects of the laboratory study of permafrost, at all scales and includes element testing, scaled physical modelling, centrifuge modelling, and full-scale lab testing of permafrost. Maintaining a sample of soil at sub-zero temperatures while also investigating strength, permeability, thermal conductivity, and soil mechanisms presents significant challenges compared to the same testing at temperate, above-freezing states. Both laboratory methods and technological developments to maintain and study cold regions samples are of interest, as well as outcomes of studies if the lab methods used are well examined and discussed. Themes of infrastructure modelling, permafrost soils strength, hydrogeology of cold regions soils, and thermal control and measurement are of interest.

**Keywords:** Laboratory, Testing, Physical Modelling

Contact: Geoff Eichhorn: [eichhorn@rmc-cmr.ca](mailto:eichhorn@rmc-cmr.ca)