Canadian Association of Physicists
Association canadienne des physiciens et physiciennes

Contribution ID: **251** Type: **Invited Speaker / Conférencier(ère) invité(e)**

# The SNOLAB Low Background Measurement Program

*Tuesday 10 June 2025 10:15 (30 minutes)*

Many experiments which require very low levels of background radiation are located deep underground as the deep underground facilities provide significant rock overburden and commensurate reduction in the cosmic ray flux and cosmic ray-spallation induced products. However, even when an experiment is deep underground there are still backgrounds present, these can include high-energy cosmic ray muons which pass through the rock overburden that then interact with the experiment or rock nearby the experiment, and the detector environment itself, which can include the radioactivity naturally emitted from the surrounding rock and the materials used to build the experiment. Since many of these backgrounds may be present in the underground environment, it is highly desired to measure these backgrounds and to determine if further work is required to reduce them to meet the desired scientific goals of the experiments. This presentation will describe SNOLAB's low-background measurement facilities which can be used to directly measure these radioactive backgrounds and to search for new low-background materials which can be used for future detector fabrication.

## Keyword-1

Low-Background

## Keyword-2

Radiation

## Keyword-3

Underground Science

**Author:** Dr LAWSON, Ian (SNOLAB)

**Presenter:** Dr LAWSON, Ian (SNOLAB)

**Session Classification:** (DAPI) T1-1 | (DPAI) Advances in Radiation Detection, Simulation, and Low Background Techniques

**Track Classification:** Technical Sessions / Sessions techniques: Applied Physics and Instrumentation / Physique appliquée et de l'instrumentation (DAPI / DPAI)