



Student – Gamma Ray Spectroscopy

Research Division
Winter (Jan-May) 2022

About Us

SNOLAB is an international facility for world-class underground physics research and has an expanding programme in astroparticle physics and underground science. Located in an air-conditioned clean room 2 km underground in the Vale Creighton Mine near Sudbury Ontario, with a suite of surface facilities and laboratories, SNOLAB is currently preparing for the next generation of experiments focusing on neutrino studies and the search for galactic dark matter.

The Position

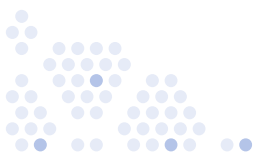
Astroparticle physics experiments searching for rare events, such as neutrinoless double beta decay and dark matter particle interactions, have to be shielded from background radiation and have to exhibit a radioactive background as low as reasonably achievable. The material selection for the next generation of low-background experiments is becoming crucial to inform the final design of the shielding scheme and to estimate the ultimate background rate in the energy region of interest of the experiments.

The SNOLAB material screening and assay program allows the direct measurement of the experimental background sources.

<https://www.snolab.ca/users/services/gamma-assay/index.html>

The student will be engaged with the analysis data from high purity germanium (HPGe) detectors used within the SNOLAB material assay and screening program. Samples of material which will be used in the construction of the next generation of rare search experiments will be screened for their gamma contamination.

In addition, the student will characterize of the response of the HPGe detectors via calibrations and MonteCarlo simulation. The student will be based at SNOLAB, spending a fraction of their time underground.



📍 Creighton Mine #9, 1039 Regional Road 24, Lively, ON P3Y1N2
☎ 705.692.7000 🌐 www.snolab.ca

Criteria

Education:

Applications from third and fourth year undergraduates (or equivalent) are preferred.

Must be 18 years or older, registered in post-secondary studies at an accredited institution or apprenticeship program, recent graduate (having graduated in the last 3-6 months) or individual returning to full-time or part-time studies in the next academic term.

Experience:

Strong analytical skills and the ability to use laboratory equipment are required.

Experience with the Linux operating system and a programming language such as python or c++ is preferred.

Salary Range

Salary will be determined by education and qualifications. These positions are subject to availability of funding. To meet operational needs, shift work may be required.

To Apply

Applications must be submitted to studentjobs@snolab.ca, tom.sonley@snolab.ca, and silvia.scorza@snolab.ca. **Please do not fax or mail your applications.** By applying to the e-mail address, your application becomes available to Research Scientists/Managers immediately. Interested students should include a cover letter and resume in a unique pdf file, named as "StudentName_Project_AcademicYear_HomeInstitution". For more details on this specific project, please contact Dr Tom Sonley at tom.sonley@snolab.ca.

Closing Date

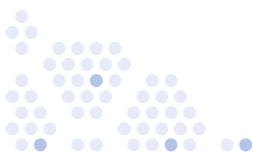
The posting will remain open until the position is filled, but review of applications will commence on October 1. SNOLAB thanks all applicants for their interest, however, only those students considered for an interview will be contacted.

SNOLAB is committed to equity in employment and encourage applications from all qualified applicants, including women, Indigenous persons, members of visible minorities and persons with disabilities. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents.

SNOLAB will provide support in its recruitment processes to applicants with disabilities, including accommodation that takes into account an applicant's accessibility needs.

Further information about SNOLAB may be found at www.snolab.ca

Posting Date: September 11, 2021



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