



Summer Undergraduate Student – Calibration for nEXO Outer Detector

SNOLAB Research Division
Summer Term, May-August 2023

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

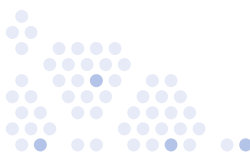
nEXO is a concept time-projection chamber (TPC) filled with five tonnes of liquid xenon enriched in the isotope Xe-136 to 90%. The TPC is located within an Outer Detector (OD) consisting of a water shielding tank instrumented with PMTs. The PMTs will be calibrated using a coupled fibre-optic system. Calibration is important to verify the proper functionality of the PMTs over time, including tracking their gain and timing performance. The student will work on various simulations to develop and test this system. There may be some work in developing a prototype system. The student will be based at SNOLAB.

Criteria

Education:

Applications from any undergraduate levels are accepted. 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:



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☎ 705.692.7000 🌐 www.snolab.ca

Experience in data analysis, statistics and modern programming languages is required; knowledge of C++, Python, ROOT and Monte Carlo simulations are an asset. Comfortable working in a team environment where frequent and open communication are part of the culture. Any additional experience working in a laboratory environment, especially a cleanroom environment, is also an asset.

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 erica.caden@snolab.ca and to studentjobs@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 CV in a single PDF file named <Name>_<ProjectApplying>_<AcademicYear>_<HomeInstitution>.pdf

Closing Date

Deadline to Apply: January 15 to February 1

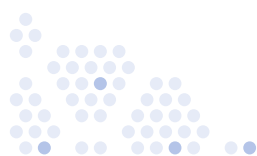
The posting will remain open until the position is filled, but review of applications will commence on February 1, 2023. SNOLAB thanks all applicants for their interest, however, only those students considered for an interview will be contacted.

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: 12 January 2023



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