



Carleton University – Postdoctoral Fellow with the nEXO Experiment

A postdoctoral position is available in the Astroparticle Physics Group at Carleton University (Ottawa, Canada) in collaboration with SNOLAB (Sudbury, Canada). The successful candidate will join the nEXO Collaboration towards a search for neutrinoless double beta decay ($0\nu\beta\beta$).

The nEXO detector is designed to include a time projection chamber filled with 5 tonnes of enriched liquid xenon. Its predecessor, EXO-200 completed operations in 2018 having made the first observation of ^{136}Xe double beta decay and set stringent limits on the $0\nu\beta\beta$ mode. nEXO is building on the success of this technology towards probing the full inverted ordering of neutrino masses with potential to discover new physics.

The nEXO-Carleton group is operating a liquid xenon cryostat and testing silicon photomultipliers (SiPMs) to inform the photo-detector technology choice for nEXO. The successful candidate will take leading roles in designing, operating, and analyzing data from cryogenic characterization infrastructure for nEXO SiPMs. Participation to software development for nEXO simulations and event reconstruction is also possible.

Candidates must hold a recent Ph.D. degree, or obtain one by the time of employment, in Physics or Engineering. Good communication skills and ease of participating in team work are expected. Proficiency with programming languages for data analysis (e.g. Python, C++ ROOT) is required. Experience in detector instrumentation research and development, including cryogenic systems, photo-detector physics, readout electronics, data acquisition systems and/or ultra-low background methods is an asset.

This is a full-time postdoctoral position with a one-year contract. The position is renewable on a yearly basis, based on performance and available funding. Applicants should forward a Curriculum Vitæ and a statement of research interests, and arrange for three reference letters to be sent directly by email to

Dr. Simon Viel, Associate Professor (sviel@physics.carleton.ca)

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Review of applications will begin on January 17th, 2025.

Carleton University is committed to employment equity, diversity and inclusion in the workplace and strongly encourages applications from all qualified applicants, including women, Indigenous persons, members of visible minorities, persons of any sexual orientation or gender identity, and persons with disabilities. In accordance with Canadian immigration requirements, priority will be given to Canadian citizens and permanent residents. As a postdoc from Carleton University, you would be represented by the Public Service Alliance of Canada and entitled to membership in PSAC Local 77000. We are committed to providing support to applicants with accessibility needs: if you require accommodation at any stage during the recruitment process, please contact us at the above email address.