

## Postdoctoral Fellow on the nEXO Experiment

One postdoctoral position is **available immediately** to work with the Enriched Xenon Observatory (EXO) group at Laurentian University (Sudbury, Ontario). The successful candidate will focus research efforts on R&D for the next-generation experiment nEXO. The Particle Astrophysics Group at Laurentian provides a dynamic environment and maintains very strong interactions with researchers at nearby SNOLAB, where nEXO intends to be located.

The EXO program searches for neutrino-less double beta decay in  $^{136}\text{Xe}$ . EXO-200, a 100-kg class detector filled with enriched liquid xenon, has successfully finished data-taking in 2018 at the WIPP underground site in New Mexico. EXO-200 measured the  $2\nu\beta\beta$  transition rate with the highest precision of all  $2\nu\beta\beta$  nuclei and probed the  $0\nu\beta\beta$  transition rate down to an effective neutrino mass close to 100 meV. EXO-200 also informs the design of the 5-tonne nEXO detector, with a planned sensitivity on the effective neutrino mass covering the inverted hierarchy.

The successful candidate will take leading roles in one or more of these areas:

- characterization of the photomultipliers for the nEXO outer detector;
- simulations and physics potentials of nEXO;
- analysis of EXO-200 data;
- R&D on isotopic xenon enrichment.

Candidates must hold a recent Ph.D. degree in experimental particle or nuclear physics at the time of appointment. Demonstrated experience is required in detector development, simulation and/or data analysis. It is expected that the candidate will be familiar with high energy physics tools such as ROOT and/or GEANT4.

The initial appointment will be for two years, with possible extension. Applicants should forward a Curriculum Vitæ and a statement of research interests, by email only, and arrange for three reference letters to be sent directly to:

Prof. Caio Licciardi (cllicciardi@snolab.ca)  
Department of Physics, Laurentian University  
935 Ramsey Lake Road, Sudbury Ontario, P3E 2C6 Canada  
Tel: +1-705-675-1151 ext 2309

*Laurentian University and Arthur B. McDonald Institute are committed to equity in employment and encourages applications from all qualified applicants including women, aboriginal peoples, members of visible minorities, and persons with disabilities.*

*Review of applications will begin March 13, 2019 and will be accepted until the position is filled.*