

Posting Date: Apr. 16, 2025

**Department of Physics**  
**University of Toronto**  
**JOB POSTING – POSTDOCTORAL FELLOW**

**Area of Research:** Experimental Astroparticle Physics

**Description of duties:** One postdoctoral fellowship position is available in the University of Toronto SuperCDMS group, who is expected to be stationed at SNOLAB.

SuperCDMS is a direct-detection dark matter search that looks for interactions of dark matter interacting in cryogenic germanium and silicon detectors equipped with sensors that detect the thermal energy released in the interactions. The SuperCDMS Collaboration has a history of world-leading dark matter results. The next-generation experiment, featuring novel detector upgrades, is currently being installed in SNOLAB, located 2 km underground in the Vale Creighton Mine near Sudbury. Our international collaboration aims for world-leading sensitivity to a variety of dark matter candidates and masses over the next six years. The chief advantage of SuperCDMS's cryogenic technology is the extremely low detection thresholds achievable, while SNOLAB provides a very low-background environment.

The Toronto SuperCDMS group is led by Prof. Miriam Diamond, Prof. Ziqing Hong, and Prof. Pekka Sinervo, together with adjunct Professors and SNOLAB scientists Dr. Andrew Kubik and Dr. Matt Stukel. Together as a team of five faculty and about a dozen students and postdoctoral fellows, we work on all aspects of the experiment, including detector R&D and commissioning, experiment operation, detector testing and calibration, data acquisition, data quality monitoring, Monte Carlo detector simulation, and data analysis. The installation and integration of the experiment is expected to be finished in summer 2025, with commissioning and data-taking for the next four years. The group is also building a new cryogenic facility at the University of Toronto for detector calibration efforts.

The successful candidate will be stationed at SNOLAB. Working closely with Dr. Kubik and Dr. Stukel, they will take a significant role in building, simulating, and operating the SuperCDMS experiment, participating in on-site shifts and off-site data quality monitoring as well as leading the analysis of first SuperCDMS physics data. Additional duties will consist of organizing meetings, documenting software, and reviewing and authoring internal reports as well as published papers.

**Salary:** Determined based on research experience, with a starting salary between \$70,000 and \$75,000 CDN.

**Required Qualifications:**

- Ph.D. in experimental particle physics, experimental astrophysics, or other related research areas, by the time of the appointment.
- Strong record of accomplishments in experimental physics.
- Strong teamwork skills in collaborative research environments.
- Excellent oral and written communication skills as demonstrated by presentations at conferences and a record of publication(s) in peer-reviewed journals.
- Ability to descend the SNOLAB mineshaft and traverse the mine tunnels.
- Experience with cryogenic experiments and/or strong coding skills are preferable.

**Application instructions**

All individuals interested in this position must submit a CV, a publication list, and a short statement of research interest to [zqhong@physics.utoronto.ca](mailto:zqhong@physics.utoronto.ca) with the subject line "Postdoctoral Fellow – Experimental Astroparticle Physics" by the closing date. At least three letters of reference should also be sent directly by the referees to this address by the closing date.

**Closing date:** Review of applications will commence on May 9, 2025, and the opportunity will remain available until filled.

**Supervisor:** One of the PIs in the SuperCDMS Toronto group, depending on the active working area.

**Expected start date:** Aug. 1 2025, flexible

**Travel:** Travel to destinations (domestic and international) for conferences and workshops will be optional.

**Term:** Two (2) years, with the possibility of renewal, contingent on performance and funding.

**FTE:**

This is a full-time position, and will require flexible scheduling to accommodate evening or overnight shifts for data-taking.

The normal hours of work are 40 hours per week for a full-time postdoctoral fellow recognizing that the needs of the employee's research and training and the needs of the supervisor's research program may require flexibility in the performance of the employee's duties and hours of work.

*Employment as a Postdoctoral Fellow at the University of Toronto is covered by the terms of the CUPE 3902 Unit 5 Collective Agreement.*

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*The University of Toronto is strongly committed to diversity within its community and especially welcomes applications from racialized persons / persons of colour, women, Indigenous / Aboriginal People of North America, persons with disabilities, LGBTQ persons, and others who may contribute to the further diversification of ideas.*