

Opening for
Postdoctoral Fellows on the PICO Experiment
Experimental AstroParticle Physics

Department of Physics, Engineering Physics, and Astronomy
Queen's University

The PICO Dark Matter Research team at Queen's University has an immediate opening for two postdoctoral fellows. The International PICO experiment is currently operational at the SNOLAB international facility for underground physics in Sudbury, Ontario. The PICO collaboration utilizes bubble chambers with superheated fluids to search for dark matter signals produced by recoiling nuclei that induce observable phase transitions in the fluid. The experiment has set world leading limits in the spin-dependent sector and is currently in the operational phase of "PICO 40", a 40-liter chamber utilizing a new design technology that is expected to yield a new world-leading sensitivity. The collaboration was recently funded to develop and construct a next generation detector, "PICO-500", that will be about another order of magnitude more sensitive. It is expected that one position will be based primarily at the experimental location at the SNOLAB facility in Sudbury while the second position will be located primarily at Queen's University in Kingston.

Both successful candidates will have a recent PhD in experimental astroparticle physics, nuclear physics, particle physics or a related field. They will both contribute to the PICO program in areas including the operation of the detector, detector fabrication and assembly, design, commissioning and analysis of the data. Ideally, candidates will have experience with hardware installations and physics analysis and exposure to low background techniques. Both positions will involve working on analysis and hardware, the mentoring of students, and the opportunity to guide the delivery of major scientific results. The position to be located at the experimental site in Sudbury is best suited for a scientist who is technically inclined and interested in detector development and operations. The position to be located at Queen's University will contribute to PICO operations and analysis in addition to local research and development efforts. Some trips to SNOLAB in support of the main detector operation are expected.

Applicants should include a statement of research interests, a detailed CV and arrange for two letters of reference, all to be forwarded to: Prof. Tony Noble, noblet@queensu.ca. The review of applications will begin April 10th 2020. Please indicate if you have a preference for one position over the other.

Queen's University thanks all who express an interest and advises that only those selected for an interview will be contacted. Queen's University has an employment equity programme, welcomes diversity in the workplace and encourages applications from all qualified candidates, including individuals from all nationalities, women, indigenous peoples, peoples with disabilities, and visible minorities.