# Postdoctoral Fellowship on the AMS Characterization of Materials for Rare Astroparticle Event Measurements

The A. E. Lalonde Accelerator Mass Spectrometry (AMS) Laboratory at the University of Ottawa, in collaboration with the Arthur B. McDonald Canadian Astroparticle Physics Research Institute has **a postdoctoral fellowship position** open. Specific international experiments currently involved in this project are **nEXO**, **NEWS-G** and **DEAP/DarkSide**, all of which are planning to install large detector systems in the 2 km deep underground SNOLAB facility. nEXO searches for neutrinoless double beta decay and both DEAP/Darkside and NEWS-G are direct searches for dark matter.

These detectors all require materials such as copper and insulators with exceptionally low levels of heavy contaminant radionuclides to avoid interferences from the decay of these nuclides. Initial work has shown the feasibility and advantages of using AMS techniques and so this project has been funded to optimize AMS and sample preparation methods, to establish appropriate reference materials and to control even very low levels of ion source cross-contamination.

The successful candidate will be expected to work approximately 70% of their time on the above AMS project goals and the remainder of their time interfacing and collaborating with the three experimental teams at Carleton University, (nEXO, DEAP/Darkside), Queen's University and the University of Alberta (NEwS-G). This will include the co-supervision of graduate and senior undergraduate students sponsored by each of these teams.

Candidates are expected to have a background in AMS physics or chemistry with a **proven disposition toward experimental techniques**, **instrumentation development** and **physical and chemical extraction of nuclides from samples**. The candidates are required to already have, or expected to obtain before employment, a Ph.D. degree in physics, radiochemistry or similar AMS-related field.

The Lalonde AMS team at the University of Ottawa is strongly committed to equity in employment and we welcome applications from all qualified persons, including women, indigenous people, ethnic minorities and persons with disabilities. Applicants should submit, via email, an application package which includes a **detailed CV**, a **research background and an interests statement** which demonstrates appropriate skills and qualifications and should arrange for **three reference letters** to be sent to Prof. Liam Kieser at address Liam.Kieser@uOttawa.ca