



Physicist: Experimental Officer, Laser & Ion Trapping

Comp. #651

[TRIUMF](#) is Canada's particle accelerator centre, and one of the world's leading laboratories for particle and nuclear physics and accelerator-based science. We are an international centre for discovery and innovation, advancing fundamental, applied, and interdisciplinary research for science, medicine, and business.

Our 500 MeV cyclotron provides the proton driver beams for the majority of TRIUMF's current on-site research programs, including nuclear physics, and there are two Isotope Separator On-Line (ISOL) facilities on-site. The [ISAC](#) facility has been producing and accelerating radioactive ion beams with the highest power driver beam in the world since 1999. The Advanced Rare Isotope Laboratory ([ARIEL](#)) is currently under development and will expand TRIUMF's (and Canada's) capabilities to produce and study radioactive isotopes for cutting edge research.

We are currently recruiting a Physicist whose ultimate primary responsibility will be to plan and set-up experiments within these facilities. The incumbent will initially provide scientific support to ARIEL during the development phase before transitioning fully to ARIEL/ISAC Experimental Support during the physics exploitation phase. The Physicist will work in tandem with other specialists and facility personnel to ensure the success of the rare-isotope science program at TRIUMF, and will maintain, operate, repair and plan the deployment of lasers, ion traps and associated beamlines. They will also support precision experiments with the [Collinear Fast Beam laser Spectroscopy \(CFBS\)](#), FranciumPNC, FranciumEDM, [TRINAT](#), [TITAN](#), and other ISAC experiments as needed. Specific responsibilities include:

- Managing, maintaining, repairing and deploying laser systems associated with the CFBS, Francium, and TRINAT facilities
- Maintaining and operating the ion traps and beamlines associated with the TITAN facility, and assisting in upgrades
- Setting up, troubleshooting and operating ultra-high vacuum (UHV) systems according to UHV protocols
- Troubleshooting electrical and laser systems, as well as electronics, for nuclear detector and data acquisition systems
- Providing experiment-specific training as required, through written documents and on-the-job training, and expert input and planning advice for experimental campaigns
- Responding to incidents that compromise experimental accelerator beam time, including after hours
- Performing light industrial, mechanical and electrical tasks as required, and performing all work safely and efficiently
- Providing task specific and technical oversight to technicians, postdocs, and students

You will also be required to successfully complete the TRIUMF in-house radiation safety training course and be designated as a TRIUMF Nuclear Energy Worker.

As our ideal candidate, you possess a deep understanding of high-precision experimental techniques, in particular those for lasers, low-noise electronics, instrumentation, UHV systems, electrostatic optics, and high-voltage and high-current electrical systems. You are a team player who can communicate effectively, with good analytical and troubleshooting skills, and you also have:

- A basic knowledge of strong magnetic fields and magnetic shielding, electronic noise filtering, cryogenic systems, and data acquisition
- An advanced degree in nuclear or atomic physics combined with at least of 4 years of relevant and practical work experience, or the equivalent combination of education and work experience

When submitting your application as detailed below, please include a detailed CV with a list of publications, and arrange for 3 letters of recommendation or reference to be sent directly to the email below.

TRIUMF offers a creative, diverse and inclusive team environment, located on the South campus of the University of British Columbia in Vancouver, BC.

We offer a comprehensive benefits package, a competitive starting salary, and an excellent opportunity to enhance your career portfolio in a high profile national research facility.

All qualified applicants will be given serious consideration, and in the case of equal qualifications, preference will be given to a Canadian Citizen or Permanent Resident.

TRIUMF is an equal opportunity employer committed to diversity in the workplace, and we welcome applications from all qualified candidates. Your complete application package should be submitted by email to recruiting@triumf.ca and will include the following in one complete PDF file:

- Subject line: Competition 651
- [Employment Application Form](#)
- Cover letter indicating salary expectations
- CV

Applications will be accepted until 2018-09-01