



## Postdoc – Target & Ion Source Development

Comp. #619

[TRIUMF](#) is Canada's national laboratory for particle and nuclear physics and accelerator-based science. Our 500 MeV cyclotron provides the proton driver beams for the majority of TRIUMF's current on-site research programs, which include molecular and materials science and nuclear medicine, physics and astrophysics. There are two ISOL (Isotope Separator On-Line) 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. There will be two new driver beam-target interaction stations for the production of exotic isotopes at ARIEL, the first accepting a 100 kW, 35 MeV electron driver beam and the second accepting a 50 kW, 500 MeV proton driver beam.

We are seeking to hire a Postdoc to join the Targets and Ion Sources (TIS) department. The department encompasses a broad cross-section of the systems required for radioactive ion beam production: from target vessel design and development of target material studies, to ion source R&D that spans from transfer lines or arc discharge ion sources, to [laser spectroscopy](#) and laser-atom interaction regions. The workings of ISOL targets and ion sources sit at an intersection of numerous disciplines: from nuclear, accelerator, atomic or plasma physics to materials science or chemistry, a multidisciplinary approach will therefore be required.

The research focus of the position could fall anywhere within the TIS department and will be driven by the candidate's interests and TIS development priorities. The role will also involve the provision of crucial physics input to some of the many ongoing ARIEL related projects at TRIUMF, enabling candidates to gain direct experience in the support and coordination of pioneering science and engineering projects.

### Knowledge, Skills and Qualifications:

- A recent PhD in a related discipline.
- Relevant experience working in a research laboratory environment.
- Knowledge of one or more of the following disciplines: experimental nuclear or atomic physics, ion beam transport, beam-matter interactions, target chemistry, laser spectroscopy, materials science.
- Specific knowledge of relevant simulation software packages (MCNP, FLUKA, EGS, COMSOL Multiphysics, ANSYS etc.) and CAD software (SolidWorks) would be a valuable asset.
- Demonstrated experience in hands on experimentation and related areas such as applied computing or electronics, mechanical design principles, vacuum techniques or ion beam instrumentation would be advantageous.
- Strong English oral and written communication skills.
- Initiative, self-motivation and attention to detail.
- Ability to work effectively within both, large and small teams, and with individuals from diverse and varying backgrounds and education/experience levels.

### Job Factors:

- Some international travel may be required.
- Occasional work outside of regular hours.
- Occasional work in radiation environments requires on-site radiation safety training and designation as a TRIUMF Nuclear Energy Worker.

### We offer:

- A competitive postdoctoral hiring salary commensurate with experience
- An attractive benefits package
- An excellent opportunity to enhance your career portfolio in a high profile national research facility

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

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](mailto:recruiting@triumf.ca) and will include the following in one complete PDF file:

Subject line: Competition #619

- [Employment Application Form](#)
- Cover letter indicating salary expectations
- CV

**Applications will be accepted until position is filled.**