TRIUMF
Canada's National Laboratory for Particle and Nuclear Physics
STUDENT JOB PROGRAM
Summer 2018 job posting
Job number TR18-2-31

Student job title:
Nuclear Medicine Research Assistant

Name of project:
228Th/212Pb generator production and radiolabeling

Overview:
212Pb (t1/2 = 10.6 h) is a potential isotope for use in targeted alpha therapy, an emerging technique with a demonstrated ability to effectively treat late-stage cancers. 212Pb can be obtained from the decay of 228Th (t1/2 = 1.9 y), which TRIUMF has already produced in substantial quantities as a by-product of 225Ac production on BL1A. Despite the isotope's availability, neither the development of a 228Th/212Pb generator nor the application of 212Pb in potential radiopharmaceuticals has yet been performed at TRIUMF.

Duties:
The successful candidate will first assist in development of procedures for isolation of 212Pb from existing 228Th supplies. Once established, the ability of labeling various ligands with 212Pb will then be studied. The student is expected to be involved in publishing the results.

Skills learned during this work experience:
Basic knowledge in nuclear medicine and radiochemistry will be acquired, as will familiarity with techniques such as radionuclide generators, gamma spectroscopy, and radiolabeling. Laboratory skills, experimental design skills, writing skills, and project management skills will be improved or learned.

Qualifications:
The successful candidate must have a background in chemistry. Experience in radiochemistry is considered an asset.

Shiftwork required: No

Period of Work: May - Aug 2018, with possible 4-month extension