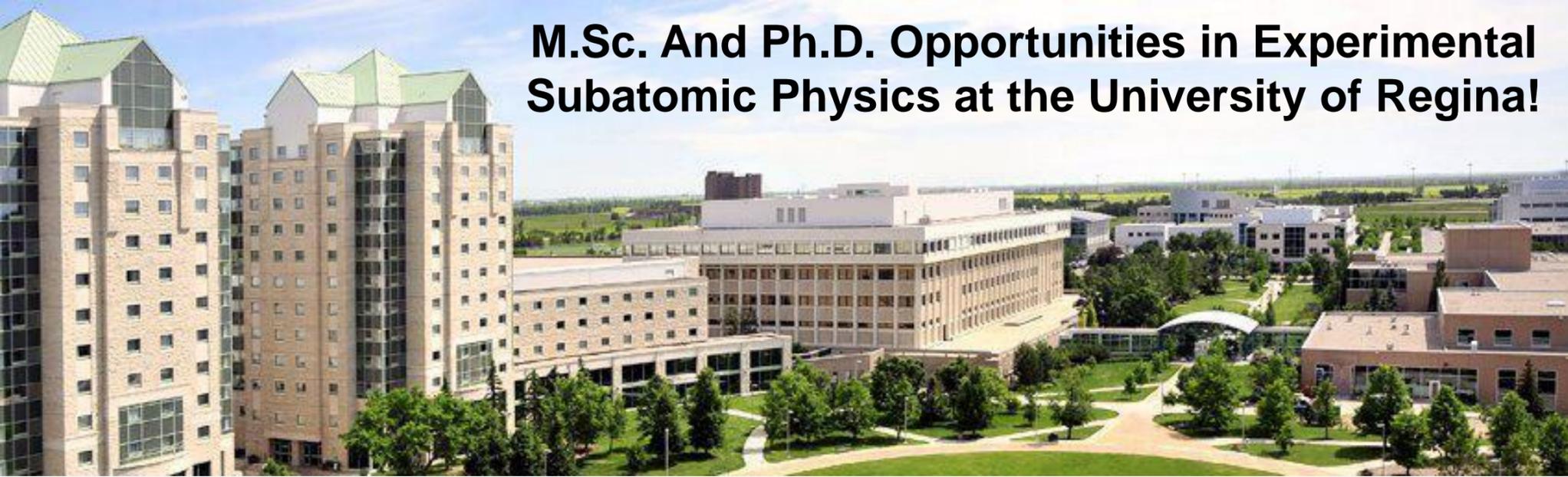


M.Sc. And Ph.D. Opportunities in Experimental Subatomic Physics at the University of Regina!



Why study subatomic physics?

Subatomic physics is a quest to discover and understand the basic laws of our universe. Using powerful accelerators and cutting-edge techniques, research in subatomic physics is an exciting journey that takes us to the heart of matter.

National and International Context:

Our research is performed at TRIUMF (Canada), Jefferson Lab (USA) and GANIL (France).

Current opportunities for M.Sc. and Ph.D. research

Gamma-ray Spectroscopy @ ISAC (TRIUMF, Canada):

Our research at TRIUMF's Isotope Separator and Accelerator (ISAC) facility uses the state-of-the-art GRIFFIN and TIGRESS gamma-ray spectrometers to study the structure and decays of rare isotopes produced far from stability. The nature of the nuclear force and how it evolves towards the extremes of nuclear matter is one of the "big questions" in subatomic physics research.

Quark-Gluon structure of mesons and nucleons (JLab, USA):

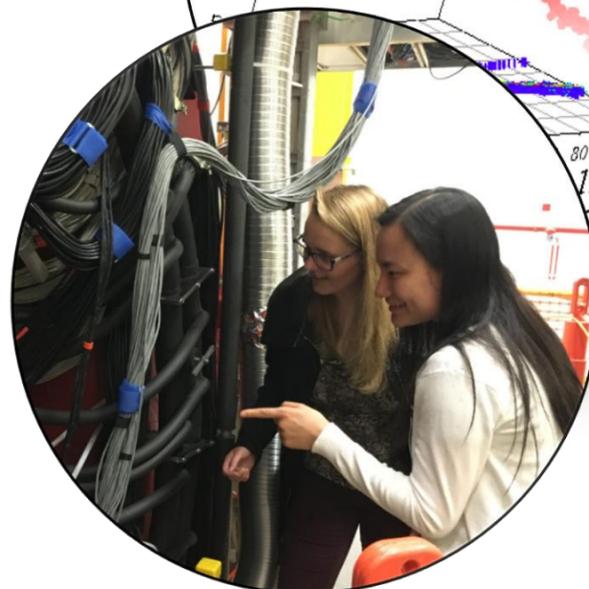
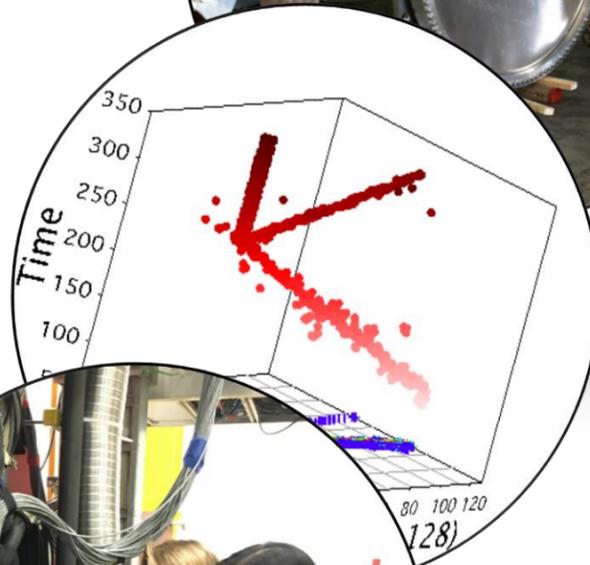
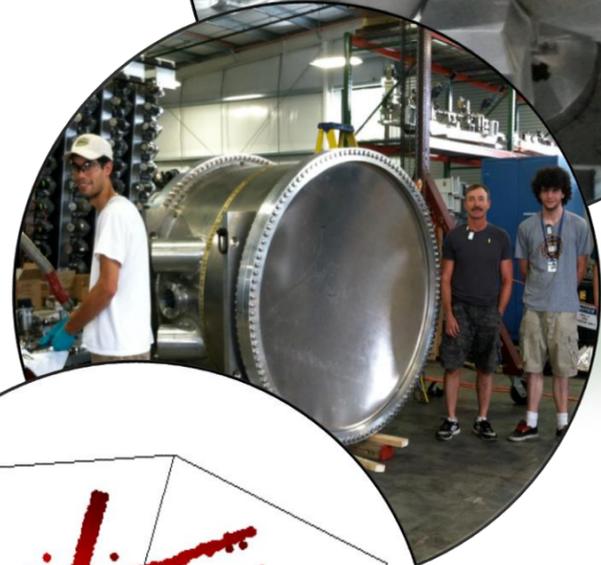
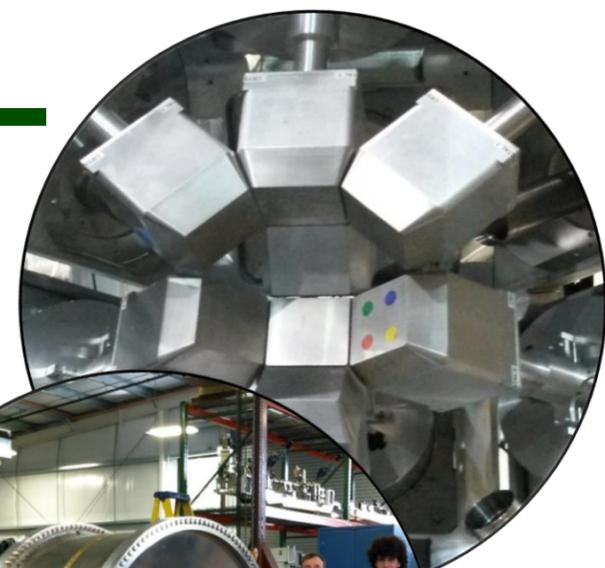
One of the top 10 unsolved problems in physics is the nature of the strong force. It is poorly understood how the interactions between quarks and gluons give rise to the observed properties of mesons and nucleons. The recently upgraded Jefferson Lab (USA) will allow crucial data to be taken which will address this issue.

Nuclear astrophysics with an active target (GANIL, France):

The Active Target and Time Projection Chamber is a novel detector that will be used to study reactions and decays of exotic nuclei. The detector takes 3D "images" of events using a pixelated pad plane. First physics experiments with this brand new detector will be scheduled in 2018.

Search for exotic hybrid mesons (JLab, USA):

We are a driving group in the GlueX collaboration. The goal of the GlueX experiment is to produce and identify previously unseen, exotic new forms of matter. GlueX is a 'Discovery Experiment' and has received priority 'A' at JLab.



Funding available for successful applicants!



University
of Regina