



OPEN HOUSE **Sunday October 26th, 10:00am to 4:00pm**

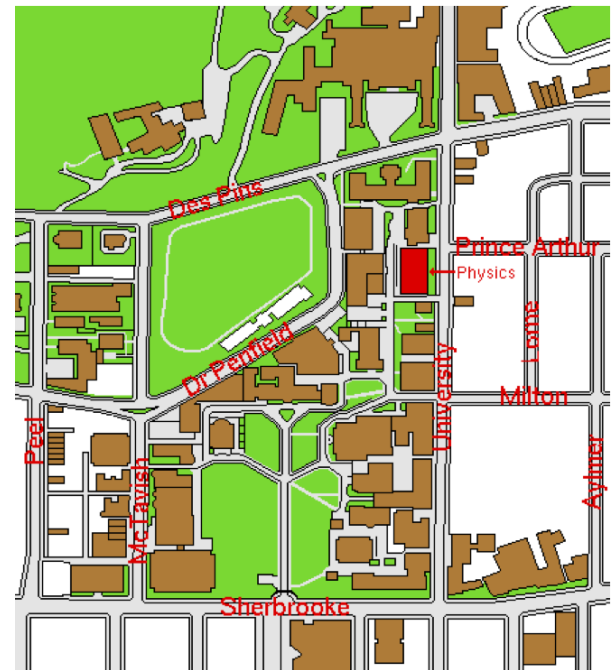
Physics is at the heart of every aspect of science and technology. Visit the Rutherford Physics Building to learn more about the way a Physics education can expand your horizons and provide skills that are transferable into nearly every sector of the economy.

What to do in the Rutherford Physics Building?

- ➔ Visit McGill University's historic Rutherford Museum
- ➔ Visit McGill University's Anna I. McPherson Observatory
- ➔ Visit the Physics Department's Research Laboratories
- ➔ Have fun with interactive physics demonstrations
 - Magnetic levitation train
 - Cloud chamber: muons detection
 - Observation of sunspot with our telescopes (only if sunny)
 - and more!
- ➔ Watch videos of computational physics simulations
- ➔ Meet undergraduate and graduate physics students
- ➔ Discover the main research areas in physics

Directions to the Rutherford Physics Building

3600 rue University
Montréal, QC
Canada H3A 2T8



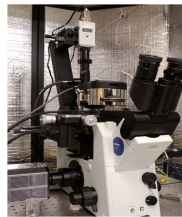


McGill - Department of Physics



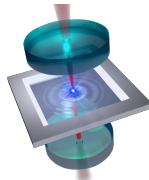
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Laboratory tours and visits



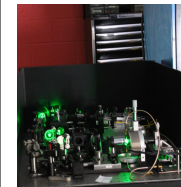
Atomic Force Microscopy Laboratory
Room 404 (4th floor)
Prof. Peter Grütter

Come see one of the internationally leading atomic force microscopes (AFM). These are used to understand how nanoscale objects can be used for storage of information and processing (the field commonly known as nanoelectronics). AFMs are a unique tool for the nanoscale. They are capable of imaging, measuring properties and manipulating nano objects such as single electrons, individual molecules or individual neuronal synapses in almost any environment.



McGill Optomechanics Laboratory
Room 024 (1st basement)
Prof. Jack Sankey

The research group of Prof. Jack Sankey is developing new ways of controlling the motion of tiny mechanical objects with laser light. In particular, they are interested in developing mechanical force sensors supported primarily by photons in an optical cavity. Such systems should be capable of exhibiting quantum motion and "sensing" superposition forces from external quantum systems.



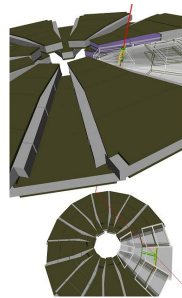
McGill Quantum Defects Laboratory
Room 231 (2nd floor)
Prof. Lilian Childress

This lab uses individual optically-active defects in diamond to explore the development of potential quantum information processing platforms and create precision sensors. Such research involves high resolution microscopy to observe single defects, combined with electron spin resonance to manipulate their long-lived quantized magnetic moments. These tools make it possible to use single spins to measure magnetic fields with nanoscale spatial resolution; this might someday be used to implement quantum algorithms or increase the range of quantum cryptography.



Ultra low Temperatures Laboratory
Room 019 (1st basement)
Prof. Guillaume Gervais

In Prof. Gervais' laboratory, experiments are conducted at the ultra-low temperatures, very near the absolute $T=0$, and in extremely high magnetic fields. The physics under investigations bridges the nanotechnology sector to that of fundamental laws governing quantum mechanics. This group therefore studies "bizarre" aspects of the quantum world while building a microscope capable of imaging a single electron near the absolute zero of temperature.



ATLAS sTGC Laboratory
Room 209 (2nd floor)
Prof. Brigitte Vachon

This laboratory is a testing facility for new muon detectors made in Canada (at TRIUMPH and Carleton University). The quality and performances of these muon detectors will be assessed with cosmic muons before being sent to the CERN in Geneva, in order to be installed on the ATLAS detector of the Large Hadron Collider, for the 3rd generation of experiments.



McPherson Astronomical Observatory
Roof of Rutherford Physics Building
Access from the 4th floor

Atop the Rutherford Physics Building here at McGill is the Anna I. McPherson Observatory. This consists of a 14-inch Celestron telescope in a dome, a 2-meter computer controller radio telescope (at 1400 MHz), and a series of smaller portable telescopes. The equipment of the McPherson Observatory is perfectly suited to introduced students to astronomical observations during astronomy laboratory classes.