

Biophysics: MSc, PhD

The Biophysics Interdepartmental Group (BIG) at the University of Guelph offers unique programs of masters and doctoral study that seek to further our understanding of biological processes through the application of the concepts and techniques of the physical sciences. Unlike many biophysics graduate programs across Canada, BIG focuses on basic discovery research in the sciences, rather than medical and clinical applications. Experimental research conducted by students within BIG spans the entire breadth of the life sciences spectrum, including biochemistry, molecular biology, microbiology, and human biology.

uoguelph.ca/biophysics/

Program

The BIG program provides graduate students with comprehensive education and research training in the field of Biophysics. The program emphasizes multidisciplinary experimental and computational approaches, in which physical and computational tools are applied to biological problems. Collaborative research between faculty members with complementary research interests is actively encouraged, and several graduate students are co-supervised by two research groups.

Admission Requirements

- Honours Bachelor's degree or a Master's degree in a wide range of areas, including: Biophysics, Biochemistry, Cell Biology, Physics, Chemistry, Biology, Molecular and Cellular Biology, Microbiology, Engineering, Kinesiology, Mathematics, Computer Science, Food Science, etc.
- Direct transfer into the PhD degree is possible following partial completion of the MSc degree requirement.

Funding

Most of our graduate students are funded through a combination of research assistantships, teaching assistantships, and scholarships.



Facilities and Research

Our students have access to a wide range of state-of-the-art facilities at the University of Guelph. These include: an array of NMR spectrometers operating at 800, 600 and 500 MHz, and a 600MHz/395 GHz Dynamic Nuclear Polarization NMR spectrometer for structural and dynamic characterization of biological molecules and biomaterials; protein X-ray crystallography; high-throughput protein purification facilities; confocal, atomic force and cryo-electron microscopy; fluorescence spectroscopy; facilities for growth of bacterial, yeast and mammalian cells; genomic and microarray facilities; Fourier transform infra-red spectroscopy; biomechanics instrumentation including parallel robots, motion capture, telemetered electromyography, and biaxial and uniaxial materials testing; mass spectrometry; SHARCNET supercomputing cluster.

Application Deadline:
Ongoing

ARE YOU INTERESTED IN:

- Biomechanical Biophysics
- Cellular Biophysics
- Computational Biophysics
- Molecular Biophysics
- Structural Biophysics

CAREER OPPORTUNITIES:

- Government laboratory researcher
- Hospital clinical research scientist
- University professor
- Biomedical research writer
- Industrial researcher/instrument specialist
- Medical student

CONTACT INFORMATION

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