

FIELD OF SPECIALIZATION

Biochemistry and Cell Biology

Research in this field is focused on understanding the fundamental processes of life and human disease at the cellular and molecular level. Areas of expertise include protein structure analysis using NMR spectroscopy and X-ray crystallography, and protein and enzyme function analysis using a wide variety of biophysical and cell biological techniques.

CAREERS

Biochemistry is a broad field that offers a wide range of career options. Biochemists are employed as technicians and scientists in the academic sector, in numerous private companies (biotechnology and pharmaceutical industry, diagnostic labs, food science, health and beauty care) and government agencies (Health Canada, hospitals, environment, agriculture).

COURSES

The Biomedical and Molecular Sciences MSc requires, at minimum, the completion of 12 credit units at the graduate level. In addition to BMED 860* (3 credit units, Fundamentals of Academic Research and Research Proposal) and BMED 897* (3 credit units, Biomedical Sciences Seminar Program), MSc students in the Biochemistry and Cell Biology Field require 6 credit units from either BCHM 820*, BCHM 822*, BCHM 823* or BCHM 841*.

FACULTY

- J. Allingham:** Structure and function of kinesin motor proteins
- B. Banfield:** Molecular and cellular biology of viruses
- M. G. Blennerhassett:** Effects of inflammation on the nerve-smooth muscle relationship of the intestine
- S.P.C. Cole:** Anti-cancer drug resistance
- G. P. Côté:** Structure and function of protein kinases
- A. Craig:** Signal transduction in hematopoietic cells
- S. K. Davey:** DNA repair mechanisms
- P. L. Davies:** Antifreeze proteins and calpain
- P. A. Greer:** Proto-oncogenes in cancer
- B. C. Hill:** Membrane bioenergetics
- Z. Jia:** Protein crystallography
- G. Jones:** Vitamin D metabolism and cytochrome P-450s
- F. W. K. Kan:** Sperm-egg interaction and reproductive function
- A. S. Mak:** Podosomes and cell invasion
- R. J. Oko:** Biology of mammalian sperm components during fertilization
- P. M. Petkovich:** Retinoic acid signaling
- W.C. Plaxton:** Plant biochemistry and metabolism
- S. P. Smith:** NMR spectroscopy of proteins
- V. Walker:** Stress genes and the molecular basis of resistance

