

# **PATHOLOGY AND MOLECULAR MEDICINE**

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## **Fields of Research**

Pathology is a study of disease and the mechanisms leading to injury. It involves a wide range of biochemical, molecular, cellular and clinical approaches. Fields of interest in the department include: cancer biology, drug resistance, metastasis, programmed cell death and cell cycle regulation, transgenic mouse models of gene function, cell differentiation and gene regulation, hemostasis/thrombosis, amyloidosis and Alzheimer's disease, disturbances in protein synthesis, and human genetics (including human gene mapping). Detailed information on faculty research interests is presented in a brochure which is available on request. See also the Department of Pathology WEB Page: <http://www.path.queensu.ca/>.

## **Departmental Facilities**

Excellent facilities are available for training in experimental pathology and basic research in cell and molecular biology. Facilities and techniques include hemtological analysis, electron microscopy, histochemistry, immunohistology, flow cytometry, two-photo confocal fluorescence microscopy, microinjection with fluorescence image analysis and time lapse capability, transgenic mice facilities for production of transgenic over-expressing and gene-knock out models, cell fractionation, tissue culture; column chromatography, DNA, RNA and protein electrophoresis; gene cloning and sequencing, using of isotopes and microarray-based global gene expression profiling.

## **Financial Assistance**

Graduate students are encouraged to apply for financial support in the form of fellowships and studentships from external granting agencies. Graduate research assistantships, funded from grants to staff members, and teaching assistantships, funded by the University, are also available. Departmental policy ensures a minimum stipend support for graduate students.

## **Postgraduate Activities**

Postgraduate training programs leading to certification and fellowship in the Royal College of Physicians and Surgeons of Canada and the American Board of Pathology are offered through the Faculty of Medicine to medical graduates.