

TRANSLATIONAL MEDICINE

Areas of Research

Translational Medicine is driven by our patients and their diseases. Guided by this primary focus, translational research spans across the spectrum from molecular and cell biology to preclinical models to patient studies and back again. Our research operates at the intersection of clinical and related sciences and will generate and lead discovery through an integrated process, increasing the efficiency of translating science knowledge into health improvement. The areas of research include, but are not limited to: Inherited Bleeding Disorders and Molecular Hemostasis, Gastrointestinal Motility Disorders, Dietetics and Human Nutrition, Neuroimmunology, Regenerative Cardiovascular Medicine, Pulmonary Hypertension, Vascular Disease in Chronic Renal Failure, Allergy/Immunology, Cancer and Cancer Clinical Trials, Neurologic Outcomes after ICU Admission, Cognitive Disorders, Atherosclerotic Heart Disease, Cardiac Arrhythmias, Sleep Apnea, Chronic Obstructive Pulmonary Disease Understanding Intraocular Immune Mechanisms, Policy Development for Health Programs, Biomedical Computing and Transcriptomics and Molecular Medicine.

Facilities

Most students will be housed within the research space of their supervisor. Translational Medicine facilities are located in QCPU (Queen's Cardiopulmonary Unit), GIDRU (Gastrointestinal Disease Research Unit), Etherington Hall, Botterell Hall, and Kingston Health Sciences Centre.

Financial Assistance

Graduate students are encouraged to apply for financial support in the form of fellowships and studentships from external granting agencies. Departmental policy ensures a minimum stipend support for graduate students. Students enrolled in the programs will receive funding packages to assist with living expenses and coverage of tuition: MSc – minimum \$25,000 per year for 2 years; PhD – minimum \$26,000 per year for 4 years.

Faculty

Graduate Program Director

Ellis, A.

Graduate Program Co-Director

Ormiston, M.

Professor

Archer, S.L., Ellis, A., Holden, R., James, P., Johri, A., Lomax, A., Lougheed, D., Neder, A., Redfearn, D., Shukla, G., Simpson, C., Vanner, S., White, C., Winston, G., Yeates, K.

Associate Professors

Asai, Y., Boyd, J.G., de Wit, K., Digby, G., Flemming, J., Gill, S., Hay, A., Lomax, A., Maslove, D., Ormiston, M., Silver, S., Taylor, D.,

Assistant Professor

Colpitts, C., Hindmarch, C., Nakamura, A., Reed, D., Rodrigues, D.

Professor Emeritus

Anastasiades, T., Pater, J.L.

Cross-Appointed Faculty

Baetz, T., Berman, D., Brundage, M., Cook, D.J., Cotton, C., Dancey, J., De Wit, K., Dunham Snary, K., Ghasemlou, N., Goldie, K., Hanna, T., Lillicrap, D.P., McGlory, C., Maurice, D., Mulder, D., Parulekar, W., Postovit, L., Purzner, T., Rauh, M., Rullo, J., Sheth, P., Simpson, A., Walia, J.

Adjunct Faculty

Bowman, M., Das Gupta, A., James, M.D.

Programs

- Translational Medicine - Doctor of Philosophy (<https://queensu-ca-public.courseleaf.com/graduate-studies/programs-study/translational-medicine/translational-medicine-phd/>)
- Translational Medicine - Master of Science (<https://queensu-ca-public.courseleaf.com/graduate-studies/programs-study/translational-medicine/translational-medicine-ms/>)

Courses

TMED 800 Translational Medicine

Students will learn about the translation of medical knowledge from a variety of medical disciplines. Classroom sessions will be divided into a traditional lecture, followed by an interactive discussion and a 3-minute student presentation. Clinical observerships will involve direct placement within various clinics (totalling three half-day observerships per student). Students will be expected to write a review article on the topic of their thesis research. (3.0 credit units)

TMED 801 Profession of Medicine

This course will immerse students in the professional learning environment of Medicine. Course content will



consist of attendance at a minimum number of weekly Medical Grand Rounds, followed by facilitated small group discussions. Students can expect to gain skills in communication, active listening, and critical thinking. Research seminars will be held during the winter term for presentation of thesis research proposals. (3.0 credit units)

TMED 802 Research Success Skills

This course will equip students with many skills and certifications required to be a successful researcher in Translational Medicine. Instruction on study design, ethical and regulatory requirements for biomedical researchers will be provided through completion of online modules. A Library session will be included to teach strategies to search biomedical literature. Students will be expected to write a CIHR Canada Graduate Scholarship application and laboratory/research skills related to their thesis research will be evaluated. (3.0 credit units)

TMED 811 Next Generation Sequencing

This course will teach students the theoretical and practical basis of high-throughput genomics and transcriptomics. The course is a combination of classroom lectures, practical bench science and practical computing. Students will learn to design, implement and analyze an experiment using next generation sequencing technology and be expected to demonstrate these skills in the course assignments. (1.5 credit units). Not offered 2024-25.

TMED 865 Cell imaging analysis

The objective of this course is to familiarize graduate students with the principles and practice of cutting-edge technologies used for cell imaging analysis involved in biomedical and molecular sciences research. Offered annually. This course is offered jointly with BMED 865. (1.5 credit units).

Prerequisites: basic understanding of cell and molecular biology.

Exclusions: BMED 865

TMED 899 Master's Thesis Research

TMED 999 Ph.D. Thesis Research