Why GRADUATE STUDIES in TRANSLATIONAL MEDICINE?

The new and innovative Doctor of Philosophy (PhD) in Translational Medicine is a unique research-based graduate program. The program provides students with a fresh perspective, offering a curriculum interweaving graduate level research with authentic clinical experiences in a multidisciplinary environment across departments at Queen’s University.

Combining the fields of medicine and research, this program links graduate level research skills with a variety of clinical experiences including patient interactions, clinical observerships and medical rounds to enhance professional thinking and action. This innovative curriculum will offer important foundation work for future careers in the biomedical field, and will provide critical skills for pursuing careers that include clinician scientists, biomedical researchers, leaders in industry and public health and/or health policy.

What is TRANSLATIONAL MEDICINE?

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 (see Figure). Our programs aim to train the next generation of researchers to be effective translators of biomedical discovery. Our graduates will operate at the intersection of clinical and related sciences and will have the expertise to generate and lead discovery through an integrated process, increasing the efficiency of translating science knowledge into health improvement.

Program STRUCTURE

The PhD in Translational Medicine is a 4-year research-based program, which requires the completion of 12-credit courses (3 core courses, 3-credit electives), a comprehensive exam, and a thesis.

The PhD in Translational Medicine has the same coursework requirements such that students who have completed the MSc in Translational Medicine will be granted advanced standing and have no further coursework to complete thus providing an accelerated route to PhD completion.

Core COURSES

- TMED 800* Translational Medicine
- TMED 801 Profession of Medicine
- TMED 802 Research Success Skills

Elective COURSES (Pick 3 credits)

- TMED 811 Next Generation Sequencing (1 credit)
- BMED 862 Cellular Techniques (1 credit)
- BMED 865 Imaging Analysis (1 credit)
- BMED 869 Reproduction (1 credit)
- BMED 809* Principles and Drug Discovery and Development
- BMED 811* Advanced Molecular Biology
- NSCI 844* Controversies in Neuroscience
- EPID 803* Public Health System in Canada
- EPID 810* Controlled Clinical Trials
- PATH 822* Experimental Cancer Therapeutics
- PATH 826* The Molecular Basis of Disease

* = Courses that are one term in length. Courses are 3 credits unless otherwise stated.

Additional existing courses may be approved by the program director and students’ supervisor, depending on the research interests of the students.

Program HIGHLIGHTS

- Build on your academic education or enhance your career with advanced knowledge and skills
- Learn about translational medicine from an interdisciplinary perspective with authentic clinical experiences
- Experience team-based learning with other students
- Network with students, alumni, and leaders in this emerging field
- Complete a supervised project on a topic of your choice
**PhD MAP**

### YEAR I

- **ACHIEVE YOUR ACADEMIC GOALS**
  - Start with key priorities like scheduling an initial meeting or meetings with your supervisor, forming your committee, and doing your coursework (if applicable)
  - Set expectations and discuss roles, responsibilities, program requirements, resources, research occupational goals, timelines, and any required accommodation plans with your supervisor
  - Look at Student Academic Success Services for a variety of supports
  - Complete TP25 CORE online module on research ethics if doing research with living people or sensitive topics

- **MAXIMIZE RESEARCH IMPACT**
  - Think about audiences for your research
  - Apply for external funding after discussion with supervisors about appropriate granting agencies
  - Attend conferences in your field

- **BUILD SKILLS AND EXPERIENCE**
  - Serve on departmental, faculty or university committees. Talk to the SGPS for tips on getting involved.
  - Consider positions in student services, the SOPS, or media outlets like the Queen's Journal, CFRC and the SGS Blog. Look in the AMS Clubs Directory
  - Check out professional development workshops from Expanding Horizons and the Department of Medicine.

- **ENGAGE WITH YOUR COMMUNITY**
  - Explore how you can connect with your community through experiential opportunities on- and off-campus.
  - Consider volunteering with different community organizations, such as the Kingston Health Sciences Centre, Queen's Cancer Research Institute or RPLA Public Health.
  - Consider joining appropriate professional associations in consultation with your supervisor.

### YEAR II

- **ACHIEVE YOUR ACADEMIC GOALS**
  - Schedule regular meetings with your supervisor and meet thesis committee at least twice a year
  - Priorities include completing your research proposal, and pursuing research. Complete the *ethics review process* if applicable.
  - Complete the Comprehensive Exam (oral defense) and embark on your substantive research
  - Find your way through the academic process with help from departmental and Expanding Horizons academic workshops, the program director and the SGS Mentor

- **MAXIMIZE RESEARCH IMPACT**
  - Start to present your work at graduate conferences, through professional associations, or topic conferences.
  - Expand your research audience through social media.
  - Apply for the Graduate Dean's Travel Grant for Doctoral Field Research.

- **BUILD SKILLS AND EXPERIENCE**
  - Hone skills for non-academic employment by continuing involvement on committees and in community.
  - Start keeping an epoefile of your skills, experiences and competencies.
  - For help with teaching, get support from the Centre for Teaching and Learning. Enroll in SC001, or the PUTF certificate for more professional development in teaching and learning.

- **ENGAGE WITH YOUR COMMUNITY**
  - Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups.
  - If you are an international student interested in staying in Canada, consider speaking with an International Student Advisor
  - Do some targeted networking with people working in careers of interest, through Queen's Connects on LinkedIn, the Queen's Alumni Association, professional associations, and at conferences. Get help from a Career Services workshop.

### YEAR III

- **ACHIEVE YOUR ACADEMIC GOALS**
  - Continue to research and write your dissertation. Check out the SGS Dissertation Boot Camp or Dissertation on the Lake.
  - Consider publishing elements of your research. Learn from the Expanding Horizons Publishing workshop.
  - Use conference presentations to create and refine dissertation material.
  - Continue to meet your supervisor regularly and your committee twice a year.

- **MAXIMIZE RESEARCH IMPACT**
  - Continue to present at conferences.
  - Consider participating in the 3 Minute Thesis (3MT) competition.
  - Contact the Queen's Media Centre for guidance on speaking to news outlets about your work.
  - Consider doing a Grad Chat and share your research.

- **BUILD SKILLS AND EXPERIENCE**
  - Find opportunities for extra training through CTL, Expanding Horizons, Mitacs, or other sources to boost your skills. Investigate internships from Mitacs and other sources
  - Prepare for work or studies in a multicultural environment by taking the QUIC and Four Directions Aboriginal Student Centre's Training Certificate.
  - Consider participating in PhD Community Initiative. Using a Teaching Assistant position to develop your teaching skills.

- **ENGAGE WITH YOUR COMMUNITY**
  - Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups.
  - If you are an international student interested in staying in Canada, consider speaking with an International Student Advisor
  - Continue targeted networking with people working in careers of interest. Join groups on LinkedIn reflecting specific careers or topics of interest in translational medicine, biomedical science, public health, and health policy.

### YEAR IV & transitioning

- **ACHIEVE YOUR ACADEMIC GOALS**
  - Complete the Comprehensive Exam (oral defense). Continue to meet your supervisor regularly and your committee twice a year.
  - Plan date of thesis submission for examination.
  - Present your research to graduate students and faculty or at conferences and work with supervisor to prepare for defence.
  - Review submission and examination guidelines.
  - Secure necessary oral defence accommodations.
  - Defend your thesis and submit to the OPGarc.
  - Discuss career pathways, references letters, and publication options with your supervisor.

- **MAXIMIZE RESEARCH IMPACT**
  - Continue to attend conferences and connect with scholars in your field and with community members.
  - Continue public outreach through social media and the Queen's Media Centre.
  - Set up a meeting with the School of Graduate Studies for a Grad Chat to discuss your research interests.

- **BUILD SKILLS AND EXPERIENCE**
  - Practice articulating the skills you have been developing in settings outside the university, such as casual conversation, networking, and interviews. Get help from a Career Services workshop.
  - Do some targeted networking with people working in careers of interest, through Queen's Connects on LinkedIn, the Queen's Alumni Association, professional associations, and at conferences. Get help from a Career Services workshop.
  - Continue targeted networking with people working in careers of interest. Join groups on LinkedIn reflecting specific careers or topics of interest in translational medicine, biomedical science, public health, and health policy.

- **ENGAGE WITH YOUR COMMUNITY**
  - Continue to attend conferences and connect with scholars in your field and with community members.
  - Continue public outreach through social media and the Queen's Media Centre.
  - Set up a meeting with the School of Graduate Studies for a Grad Chat to discuss your research interests.

### WHAT WILL I LEARN?

A graduate degree in Translational Medicine can equip you with valuable and versatile skills, such as:
- Knowledge and technical skills
- Effective communication skills in multiple forms for diverse audiences
- Information management: prioritize, organize and synthesize large amounts of information
- Time management: meet deadlines and manage responsibilities despite competing demands
- Project management: develop ideas, gather information, analyze, critically appraise findings, draw and act on conclusions
- Creativity and innovation
- Perseverance
- Independence and experience as a collaborative worker
- Awareness, an understanding of sound ethical practices, social responsibility, responsible research and cultural sensitivity
- Professionalism in all aspects of work, research, and interactions
- Leadership, initiative and vision leading people and discussion

### WHERE CAN I GO?

A PhD degree in Translational Medicine can take your career in many directions. Our students are equipped with a strong foundation for careers such as:
- Medicine
- Post-doctoral fellowships or academics
- Public Health and Health Policy
- Health research (research associates in universities, hospitals, government, public health units)
- Taking time to explore career options, build experience, and network can help you have a smooth transition to the world of work after graduation.

*This map is intended to provide suggestions for activities and careers, but everyone’s abilities, experiences, and constraints are different. Build your own Grad Map using our online My Grad Map tool.*

Visit careers.queensu.ca/gradmaps for the online version with links!
What do I need to know to APPLY?

ACADEMIC REQUIREMENTS
- A master's degree from a recognized university with a minimum of an A- average. At Queen's an A- is equivalent to a percentage conversion of 80-84.9% and a Grade Point Average of 3.7 (out of 4.3).

ADDITIONAL REQUIREMENTS
- Applications for admission are completed and submitted on the School of Graduate Studies website, including an online application form and specific instructions regarding how to submit the following documents:
  - A Statement of Interest about how applicants' background experiences and career aspirations make them ideally suited for the program (up to 4000 characters in the online application);
  - Transcripts for all postsecondary education;
  - Two references from individuals familiar with the applicant's academic performance;
- Applicants are required to submit an electronic resume/curriculum vitae to tmed@queensu.ca.

LANGUAGE REQUIREMENTS
- In cases where English is not the first language, nor was the language of instruction in undergraduate studies, applicants must demonstrate English language proficiency. Those applicants will need to provide proof of English language proficiency through one of the following:
  - International English Language Testing System (Academic module) with a minimum score of 7 in each component, or
  - TOEFL iBT with a passing score of 93 including a minimum score of 24 on the speaking section.

Before you start your application, please review the Graduate studies application process.

What about FUNDING?

We offer our PhD students a minimum funding of $23,000 per year for four years.

Apply for external funding from OGS, CIHR/NSERC and other sources. Queen's will automatically issue a $5,000 top-up to Master's winners of federal government tri-council awards. See the School of Graduate Studies' information on awards and scholarships for more.