Why GRADUATE STUDIES in PATHOLOGY & MOLECULAR MEDICINE?

Graduate students and their work are an important part of an ongoing research process that provides the community with ways of understanding natural, cultural, imaginative, social and technological phenomena. The faculty, staff and trainees in Pathology & Molecular Medicine are engaged in world-class research and teaching, attracting and mentoring the best students, the finest educators, dedicated support staff, and internationally-competitive researchers. We value curiosity, creativity, commitment, and collegiality.

The department is a distinguished academic centre engaging a wide range of research endeavours including anatomical sciences, bacteriology, biochemistry, cancer biology, cardiovascular sciences, cell biology, developmental biology, immunology, molecular biology, neuroscience, pharmacology, physiology, reproductive biology, toxicology and virology. The breadth and depth of our research has a strong foundation in multidisciplinary discovery. The faculty and trainees collaborate with numerous research institutions locally, nationally and internationally.

Queen’s is a great setting to learn first-hand how the fast pace of molecular genetic research is changing clinical practice, leading to exciting new diagnostic and treatment approaches for cancer and other diseases.

Program STRUCTURE

PhD (4 years): Course work, research making novel contributions to the field of study, and a thesis.

Research AREAS

- Cancer Research and Developmental Biology
- Human Genetics and Cytogenetics
- Hemostasis, Thrombosis Research, and Vascular Biology

Visit the Pathology and Molecular Medicine website to read faculty profiles and learn more about faculty members' research areas. When you find a faculty member with similar research interests to yours, contact him/her and tell them about your interest in graduate work, area of research interest and related experience.

Why QUEEN’S?

With a focus on cancer – 12 of our 20 investigators are cancer biologists – our department members deliver comprehensive diagnostic laboratory and clinical services to Southeastern Ontario through the Kingston General Hospital, offering great training for the next generation of biomedical research scientists and laboratory physicians.

Please include a current CV, contact information for 2-3 references who would be familiar with your academic performance and any research experience and an unofficial transcript. The email correspondence is also an opportunity for you to find out if the faculty member is accepting new graduate students to supervise. Consider meeting with your potential supervisor at departmental events for prospective students.
## PhD Map * 

**Pathology & Molecular Medicine**

**DOCTOR OF PHILOSOPHY (PhD)**

### Achieve Your Academic Goals

#### Year I
- Key priorities include completing any required coursework and training, and developing your research proposal.
- Meet early with your supervisor to set expectations and discuss roles, responsibilities, program requirements, resources, research/occupational goals, timelines, and any required accommodation plans.
- Look to Student Academic Success Services for a variety of supports.

#### Year II
- Priorities include completing your comprehensive examination and pursuing research.
- Find your way through the academic process with the help of the Expanding Horizons professional development workshops, the Pathology and Molecular Medicine Graduate Coordinator and the SGS website.

#### Year III
- Continue to research and write your dissertation. Check out the SGS Writing Camps, such as Dissertation Boot Camp.
- Consider publishing elements of your research. Learn from the Expanding Horizons publishing workshop.
- Use conference presentations to create and refine dissertation material.

#### Year IV & Transitioning
- 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.
- Discuss career pathways, references letters, and publication options with your supervisor.

### Maximize Research Impact

- Think about audiences for your research.
- Complete CORE online module on research ethics if doing research regarding sensitive topics.
- Apply to CHRP, NSERC, OGS, and other funding.
- Attend conferences in your field.

- Present your work at graduate conferences such as the Canadian Cancer Research Conference, 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

- Serve on departmental, faculty or university committees.
- Consider positions in student services, the SGPS, or media outlets like the Queen’s Journal, CFRC, and the SGS Blog. Look in the AMS Clubs Directory.
- Use a Teaching Assistant or Research Assistant position to develop your skills and experience.

- Hone skills for non-academic employment by continuing involvement on committees and in the community.
- Start keeping an eportfolio of your skills, experiences and competencies.
- For help with teaching, get support from the Centre for Teaching and Learning.
- Enroll in SGS902 or the PUTL Certificate for more professional development in teaching and learning.

#### 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 Canadian Cancer Society, Kingston General Hospital and the Canadian Breast Cancer Foundation.
- Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups.
- If pursuing research abroad or outside Kingston, investigate opportunities such as the Jeremy Nesheim Graduate Travel Award which supports travel to an academic or government setting.

#### Launch Your Career

- Finding a career starts with knowing yourself. Take a Career Services workshop or meet with a career counsellor for help. Check out books like So What Are You Going to Do With That? or Planning a Scientific Career.
- Start building your teaching portfolio, including student evaluations, and seeking mentorship.
- Explore different careers of interest by using Queens Connects or linkedin to connect with Queen’s alumni. For more information check out Career Counselling.
- Investigate requirements for professional positions or other opportunities related to careers of interest.

- Participate in hiring committees and attend job talks. Research academic careers of interest. Craft your CV and job application materials.
- Start focusing on non-academic areas of interest. Research organizations of interest and start putting together your industry resume and begin your job search plan.

- Build connections with faculty outside of your department. Pursue interviews for faculty positions and apply for post-doc fellowships and positions.
- Apply to jobs or make plans for other adventures. Get help from a Career Services workshop.
- Continue public outreach through social media and the Queen’s Media Centre.

### What Will I Learn?

A graduate degree in Pathology and Molecular 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.
- Perserverance.
- Independence.
- Leadership: Initiative and vision leading people and teams.

### Where Can I Go?

A PhD in Pathology & Molecular Medicine can take your career in many directions. In Canada, less than 40% of all PhDs will work in post-secondary education — the majority will work in industry, government, or non-profit.

- Health Care (Hospital clinical labs)
- Pharmaceutical companies
- Academic labs
- Scientific supply companies
- Administration in academic, health care or government settings
- Teaching positions in academic institutions or the private sector
- Technical positions in academic institutions or the private sector
- Marketing positions in private sector companies
- Taking time to explore career options, build experience, and network can help you have a smooth transition to the world of work after graduation.

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* 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.
Application FAQs

What do I need to know to APPLY?

ACADEMIC REQUIREMENTS

- Honours BSc or equivalent in life sciences, biochemistry, biology, or equivalent program with first class standing, or MSc, or equivalent research experience.
- We consider all of your grades, but pay particular attention to the last two years of science-related courses.

ADDITIONAL REQUIREMENTS

- If English is not a native language, prospective students must meet the English language proficiency requirements in writing, speaking, reading, and listening. The following minimum scores are required: (1) TOEFL iBT: Writing (24/30); Speaking (22/30); Reading (22/30); Listening (20/30). Applicants must have the minimum score in each test as well as the minimum overall score, or (2) IELTS: 7.0 (academic module overall band score and a 7.0 for each test band), or (3) PTE Academics: 65, or (4) CAEL CE -70 (minimum overall score).

KEY DATES & DEADLINES

- Application due: February 1st to be considered for internal funding.
- Notification of acceptance: Quickly pending confirmation of a supervisor.

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

What about FUNDING?

Minimum funding guarantee for PhD students: $23,000 annually. For internal, provincial and national competitive award winners, the funding package increases by 2.5%, 5% and 10% respectively.

Apply for external funding from CIHR, NSERC, OGS, the Heart & Stroke Foundation, CBCF, the Department of Defence, the American Cancer Society and other sources. Queen’s will automatically issue a one time $10,000 award to incoming PhD students who have won federal government tri-council awards. For more information, see the School of Graduate Studies’ information on awards and scholarships.