

# Biology PhD Map

## Applying to and Navigating Graduate Studies

### Why GRADUATE STUDIES in BIOLOGY?

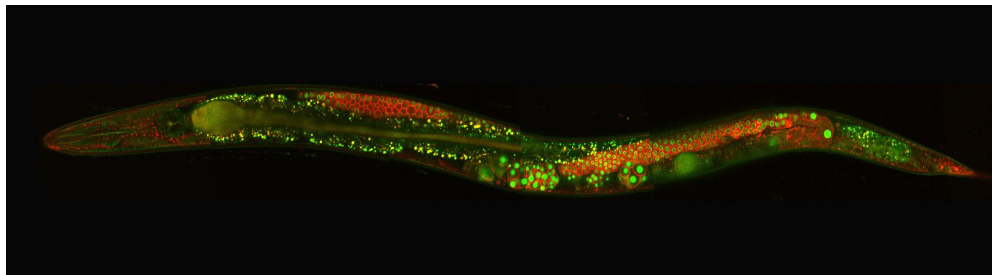
There is no end to the fascinating questions we can ask about how the natural world functions, from dissecting the molecular mechanisms at play in cells to understanding the complexity of interactions in the biosphere, the beauty and mystery of nature astounds. It is an incredibly exciting time to do biological research and we are learning about the natural world at a rate unprecedented in history. The remarkable power of modern research tools, from powerful gene-editing techniques to bioinformatics to ecosystem modelling, is driving exciting discoveries daily. These discoveries are made by graduate students. Regardless of your area of interest, there is something in biology for you, questions waiting to be answered, and riddles of nature to be solved.

*"When I started my [Biology graduate degree] at Queen's, all of a sudden I had this new network of friends who were interested in the same biological questions that I was - it was a ton of fun."*

– Roslyn Dakin, PhD



GRAD MAP FOR PhD STUDENTS



### Why QUEEN'S?

The Biology Department at Queen's is one of the largest departments on campus with approximately 85 graduate students supervised by over 25 faculty with research opportunities in a range of disciplines. Our faculty are world leaders in several research fields, including many Canada and Queen's Research Chairs and winners of national and international awards for research and teaching excellence.

We offer a broad and challenging program in one of the top Biology departments in the country. We have an impressive range of sophisticated infrastructure for cell biology, biochemistry, molecular biology, ecology, and evolutionary research including: a confocal microscopy suite, DNA and RNA sequencing services, aquatic research facilities, and a state-of-the-art phytotron. Our field station, comprising more than 3,200 hectares of woodland, fields, and lakes, is a short drive away and has excellent research facilities and living quarters.

We encourage you to identify an area of research interest and contact a potential supervisor before applying.

Visit the [Biology Department 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 them and tell them about your interest in graduate work and related experience.



### Program STRUCTURE

PhD (4 years): research thesis and defense.  
(Some courses may be required).

### RESEARCH Areas

- Animal Physiology
- Cell and Molecular Biology
- Ecology, Evolution and Behaviour
- Plant Sciences
- Mathematical Modelling & Bioinformatics
- Paleolimnology



**GRADUATE STUDIES AND  
POSTDOCTORAL AFFAIRS**

[queensu.ca/grad-postdoc](http://queensu.ca/grad-postdoc)

# Biology PhD Map

DOCTOR OF PHILOSOPHY (PhD)



### Knowledge & Workplace Skills

A graduate degree in Biology can equip you with:

- 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** and 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

### Career Possibilities

A PhD in Biology 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-profits. Our PhD students are equipped with a strong foundation for careers in:

- Academia and teaching
- Agriculture
- Biotechnology industries
- Environmental law, patent law
- Government research centres and organizations
- Pharmacy and medicine
- Wildlife conservation and environmental consulting

Taking time to explore career options, build experience, and network can help you have a smooth transition to the world of work after graduation.

How to use this map

Use the 5 rows of the map to explore possibilities and plan for success in the five overlapping areas of career and academics. To make your own custom map, use the My Grad Map tool: [careers.queensu.ca/gradmaps](https://careers.queensu.ca/gradmaps).

# Graduate Studies FAQs

## How do I make the most of my time at Queen's?

Use the Grad Map to plan for success in five overlapping areas of your career and academic life. Everyone's journey is different - the ideas on the maps are just suggestions to help you explore possibilities. For more support with your professional development, take advantage of the SGSPA professional development framework and the new Professional Development Plan (PDP) process to set customized goals to help you get career ready when you graduate.

## Where can I get help?

Queen's provides you with a broad range of support services from your first point of contact with the university through to graduation. Ranging from help with academics and careers, to physical, emotional, or spiritual resources – our welcoming environment offers the programs and services you need to be successful, both academically and personally. Check out the [SGSPA website](#) for available resources.

## What is the community like?

At Queen's, graduate students from all disciplines learn and discover in a close-knit intellectual community. You will find friends, peers and support among the graduate students enrolled in Queen's more than 130 graduate programs within 50+ departments & research centres. With the world's best scholars, prize-winning professional development opportunities, excellent funding packages and life in the affordable, historic waterfront city of Kingston, Queen's offers a wonderful environment for graduate studies. Queen's is an integral part of the Kingston community, with the campus nestled in the core of the city, only a 10-minute walk to downtown with its shopping, dining and waterfront. For more about Kingston's history and culture, see Queen's University's Discover Kingston page.

# Application FAQs

## What do I need to know to APPLY?

### ACADEMIC REQUIREMENTS

- MSc in Biology or direct entry from BSc for exceptional candidates.

### ADDITIONAL REQUIREMENTS

- Correspond with potential supervisors (may require CV).
- 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:** March 1 (domestic students), February 15 (international students).
- **Notification of acceptance:** Students are accepted on a rolling basis as applications are reviewed.

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

## What about FUNDING?

The minimum funding guarantee for Biology PhD students is currently \$27,750 per year, throughout years 1-4. The funding package may be comprised of graduate awards and teaching assistantships.

Apply for external funding from OGS, NSERC, and other sources. For more information, see the School of Graduate Studies and Postdoctoral Affairs' information on awards and scholarships.



**Queen's**  
UNIVERSITY

DEPARTMENT OF  
BIOLOGY

Graduate Assistant  
(613) 533-6138  
[biologygradassistant@queensu.ca](mailto:biologygradassistant@queensu.ca)  
[biology.queensu.ca](http://biology.queensu.ca)