# Geological Sciences PhD Map

### Applying to and Navigating Graduate Studies

### Why GRADUATE STUDIES in GEOLOGICAL SCIENCES?

Geoscientists and geological engineers interpret the natural world. They bring methods such as geophysics, geochemistry, geobiology, and field geology together to understand the modern and ancient Earth. Clues concealed in rocks and minerals, fluids and fossils, mountains and sediments, glaciers, and volcanoes are marshaled to understand and explain the Earth system at all scales. Managing water, mineral and energy resources, designing sustainable strategies for infrastructure and industrial growth, and coping with natural and anthropogenic hazards facing increasing global populations, including climate change, all depend on a deep understanding of natural processes.

"The PhD experience in geology at Queen's has been a key step in my academic career. It has been a meaningful and rewarding experience, allowing me to achieve my inner goals, besides allowing me to be in contact with a great team of experts in the field"

– Tassiane Junquiera, PhD

### Why QUEEN'S?

As a PhD student in Geological Science you are part of one of the most research intensive universities in Canada. Our research program is internationally renowned with a wide range of research activities in all the major specialization areas in geological science.

Students are able to work in firstrate facilities with world-renowned scientists and research engineers, and have opportunities to collaborate with industrial leaders and engage in extensive fieldwork on six continents, making our GRAD MAP FOR PhD STUDENTS 😔



program truly a world-class experience. Students can also collaborate with other departments at Queen's, including Mining, Environmental Studies, Chemistry, and Biology as well as other institutions like RMC.

### Program STRUCTURE

**PhD** (4 years): Thesis. The department has no minimum formal course requirement (beyond the MSc program requirements).

### **RESEARCH** Areas

- Applied Geoenvironmental Sciences & Geotechnique
- Economic Geology & Mineral Exploration
- Geophysics and Geochronology
- Petrology & Structural Geology
- Sedimentology, Sedimentary
   Geochemistry & Paleobiology

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

Visit the <u>Geological Sciences Department</u> 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. This is also an opportunity for you to find out if the faculty member is accepting new graduate students to supervise.





### 2023-2024 Geological Sciences PhD Map

DOCTOR OF PHILOSOPHY (PhD)

	YEAR I	YEAR II	YEAR III	YEAR IV & TRANSI
ACHIEVE YOUR ACADEMIC GOALS	<ul> <li>Key priorities include your relationship with your supervisor, forming your committee, coursework, field exams, and language exam.</li> <li>Meet early with your supervisor to set expectations and discuss roles, responsibilities, program requirements, resources, research/ occupational goals, timelines, and any required accommodation plans.</li> <li>Look to <u>Student Academic Success Services</u> for a variety of supports.</li> </ul>	<ul> <li>Priorities include completing your comprehensive examination and pursuing substantive research.</li> <li>Write and defend your thesis proposal.</li> <li>Find your way through the academic process with the help of School of Graduate Studies and Postdoctoral Affairs professional development and the SGSPA website.</li> <li>Set up regular meetings with your supervisor to discuss progress and obstacles to timely completion.</li> </ul>	<ul> <li>Continue to meet regularly with your supervisor, review research progress, and write your dissertation. Check out the <u>SGSPA</u> writing camps, like Dissertation Boot Camp.</li> <li>Use conference presentations to create, discuss, and explore ways to disseminate research findings.</li> <li>Begin discussion of potential thesis defence examiners.</li> </ul>	<ul> <li>Plan date of thes examination.</li> <li>Present your rese work with your se defence.</li> <li>Review submission guidelines.</li> <li>Secure necessary accommodations</li> </ul>
MAXIMIZE RESEARCH IMPACT	<ul> <li>Think about audiences for your research.</li> <li>Complete CORE online module on research ethics if doing research regarding sensitive topics.</li> <li>Apply to SSHRC, OGS, and other funding.</li> <li>Attend conferences in your field.</li> </ul>	<ul> <li>Attend or present at a graduate conference.</li> <li>Expand your research audience through social media such as Twitter or a blog.</li> <li>Apply for the Graduate <u>Dean's Travel Grant for Doctoral Field Research</u>.</li> </ul>	<ul> <li>Continue to present at conferences.</li> <li>Consider participating in the <u>3 Minute Thesis</u> (<u>3MT</u>) competition.</li> <li>Contact the <u>Queen's Media Centre</u> for guidance on speaking to news outlets about your work. List yourself on the <u>Arts and Science University</u>. <u>Research website</u>.</li> </ul>	<ul> <li>Continue to atter connect with sch with community International Cor Geoscience.</li> <li>Continue public of media and the Q</li> </ul>
BUILD SKILLS AND EXPERIENCE	<ul> <li>Serve on departmental, faculty, or university committees. Talk to the Joliffe Club (graduate student society) for tips on getting involved.</li> <li>Consider positions in student services, the SGPS, or media outlets like the Queen's Journal, CFRC, and the SGSPA Blog. Look in the <u>AMS Clubs Directory</u>.</li> <li>Use a Teaching Assistant or Research Assistant position to develop your skills and experience.</li> </ul>	<ul> <li>Hone skills for non-academic employment by continuing involvement on committees and in community.</li> <li>Start keeping an eportfolio of your skills, experiences, and competencies.</li> <li>For help with teaching, get support from the <u>Centre for Teaching and Learning</u>. Enrol in SGS902 or the PUTL Certificate for more professional development in teaching and learning.</li> </ul>	<ul> <li>Begin teaching as a departmental Teaching Fellow.</li> <li>Investigate internships from <u>MITACS</u> and other sources. Find opportunities for extra training through CTL, SGSPA professional development, MITACS, or other sources to boost your skills.</li> <li>Prepare for work or studies in a multi-cultural environment by taking the Intercultural Awareness Training Certificate hosted by QUIC and FDISC.</li> </ul>	<ul> <li>Practice articulat been developing university, such a networking, and a Career Services</li> </ul>
ENGAGE WITH YOUR COMMUNITY	<ul> <li>Consider volunteering with different local community organizations, such as <u>Martha's</u> <u>Table</u>, or <u>Loving Spoonful</u>.</li> <li>Connect to broader communities of engineers by joining an <u>Engineering Society Design</u> <u>Team</u>.</li> </ul>	<ul> <li>Participate in your graduate and professional community through activities such as graduate student outreach programs, organizing conferences, and research groups.</li> <li>Consider signing up for the PhD-Community Initiative program run by the SGSPA.</li> </ul>	• Do some targeted networking with people working in careers of interest, through Queens <u>Connects</u> on LinkedIn, the <u>Queen's Alumni</u> <u>Association</u> , professional associations, and at conferences. Get help from a Career Services workshop.	<ul> <li>Consider joining like the <u>Geologica</u></li> <li>Join groups on Li careers or topics</li> </ul>
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LAUNCH YOUR CAREER How to use this map	<ul> <li>Finding a career fit starts with knowing yourself. Take a <u>Career Services workshop</u> or meet with a career educator and coach for help.</li> <li>Start reading publications like <u>University Affairs</u> and the Chronicle of Higher Education. Browse non-academic labour market websites.</li> <li>Stay on the lookout for special events like School of Graduate Studies and Postdoctoral Affairs Career Week to explore your career pathways.</li> </ul>	<ul> <li>Start building your teaching portfolio including student evaluations, and seeking mentorship.</li> <li>Explore different careers of interest by using <u>Queens Connects</u> on LinkedIn to connect with Queen's alumni. For more information check out <u>Career Cruising</u>.</li> <li>Investigate requirements for professional positions or other opportunities related to careers of interest.</li> </ul>	<ul> <li>Participate in hiring committees and attend job talks. Research academic careers of interest. Craft your CV and job application materials.</li> <li>Start focusing on non-academic areas of interest. Research organizations of interest and start putting together your resume for potential positions of interest.</li> </ul>	<ul> <li>Build connection department. Pur positions and ap and positions.</li> <li>Apply to jobs or r adventures. Get with job searchir</li> <li>If considering job immigration regu international stu in Canada, considering Studies</li> </ul>

#### 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. The map just offers suggestions – you don't have to do it all! To make your own custom map, use the <u>My Grad Map</u> tool.



### SITIONING

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esearch at conferences and supervisor to prepare for

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ary oral defence ons.

end conferences and cholars in your field and ty partners such as the onference on Geology and

c outreach through social Queen's Media Centre.

ating the skills you have ng in settings outside the n as casual conversation, d interviews. Get help from ses workshop.

g professional associations ical Association of Canada.

LinkedIn reflecting specific cs of interest.

ons with faculty outside of your ursue interviews for faculty apply for post-doc fellowships

or make plans for other et help from Career Services ning, resumes, and interviews.

If considering jobs abroad, research possible immigration regulations. If you are an international student interested in staying in Canada, consider speaking with an International Student Advisor.

### WHAT WILL I LEARN?

A graduate degree in Geological Sciences 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 in Geological Sciences 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.

Graduates from the Geological Sciences PhD program have found careers in:

- Academia and research
- Environment assessment
- Mineral and oil exploration
- Mining and hydrocarbon extraction
- Policy analysis
- Protection and rehabilitation
- Resource Management
- Surface and underground construction

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

### 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 <u>SGSPA professional</u> <u>development</u> framework and the new <u>Individual Development Plan (IDP)</u> 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\_ <u>SGSPA website</u> for available resources.

### What is the community like?

At Queen's, graduate students from all disciplines learn and discover in a closeknit 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 Geological Sciences or Geological Engineering, Mining Engineering, or Civil Engineering are acceptable.
- Grade requirements: minimum B average.

#### 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 deadline: February 1 for September submissions.
- **Notification of acceptance:** 4 weeks after the full application has been received.

Before you start your application, please review the <u>Graduate studies application</u> process.

### What about FUNDING?

The minimum funding guarantee for Geological Sciences PhD students is \$23,000 per year for domestic students and \$30,000 for international students throughout years 1-4. Research Assistantships are in consultation with the student's supervisor.

We encourage all students to apply for external funding from OGS, NSERC, 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 and Postdoctoral Affairs' information on <u>awards and scholarships</u>.



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GEOLOGICAL SCIENCES & GEOLOGICAL ENGINEERING

Kelly McCaugherty, Graduate Assistant (613) 533-2597 geolgradassistant@queensu.ca queensu.ca/geol/graduate