

Collaborative Graduate Program with a Specialisation in

# GeoEngineering

MASc and PhD



## Why GRADUATE STUDIES in GEOENGINEERING?

Unique in North America, the [GeoEngineering program](#) is a collaboration between faculty members at Queen's University and the Royal Military College (RMC). Drawn from three engineering departments at the two universities, the GeoEngineering Centre's members are dedicated to advancing knowledge in geotechnical, geohydrological, geochemical, geohazards, and cold regions.

The program links three accredited graduate programs to provide shared learning experiences with interdisciplinary content: Civil Engineering (Queen's); Geological Sciences & Geological Engineering (Queen's); and Civil Engineering (RMC).

Through the development of collaborative research projects, with involvement of government and industrial partners, the GeoEngineering Centre provides exciting opportunities for graduate student researchers in specialized or multi-disciplinary fields of interest.

## Why QUEEN'S?

We bring together students from a variety of backgrounds to take advantage of unique world class facilities and the largest GeoEngineering faculty in North America. Graduate students have opportunities to engage in innovative cross-disciplinary training and collaborations with research and industry leaders.

## Program STRUCTURE

### MASc

- 2 years full time, coursework + thesis.

### PhD

- 3-4 years full time, coursework + thesis.



All students take the GeoEngineering Graduate Seminar, one GeoEngineering course from outside of their home department, and undertake at least 20% of selected coursework from their home department.

## RESEARCH Areas

- **Geotechnical Engineering:** applying soil mechanics, rock mechanics and engineering geology to solve soil and rock engineering problems.
- **Geomechanics:** applying soil and rock mechanics, materials science, and mathematics to the solution of geoenvironmental problems.
- **Geosynthetics:** researching and developing planar, polymeric materials used in contact with soil, rock and other geotechnical
- **Geohazards:** research on the underlying mechanisms and risk-based frameworks to

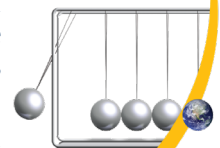
improve resilience and understanding of geohazards using experimental, numerical, and remote sensing approaches.

- **Cold Regions Engineering:** Research on behaviour of frozen and thawing soils to improve resilience of permafrost and infrastructure to climate change.
- **Geoenvironmental Engineering:** applying geotechnical engineering, hydrogeology and geochemistry to solve environmental problems related to soil and water pollution.
- **Hydrogeology:** research on the behaviour and remediation of contaminants in groundwater.
- materials in civil engineering applications.
- **Geochemistry:** researching chemical composition and interaction of earth materials such as natural and contaminated waters, sediments, and rocks.

School of  
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[www.queensu.ca/sgs](http://www.queensu.ca/sgs)



# GeoEngineering

## Faculty RESEARCH and SUPERVISION

### GEOTECHNICAL

- Richard Bathurst
- Ryley Beddoe
- Richard Brachman
- Mark Diederichs
- Georgia Fotopoulos
- Jean Hutchinson
- Ian Moore
- Kerry Rowe
- Greg Siemens
- Andy Take
- Nicolas Vlachopoulos

### GEOMECHANICS

- Fady Abdelaal
- Ryley Beddoe
- Richard Brachman
- Mark Diederichs
- Georgia Fotopoulos
- Jean Hutchinson
- Ian Moore
- Kerry Rowe
- Greg Siemens
- Andy Take
- Nicholas Vlachopoulos

### GEO SYNTHETICS

- Fady Abdelaal
- Richard Bathurst
- Richard Brachman
- Ian Moore
- Kerry Rowe
- Andy Take

### GEOHAZARDS

- Andy Take
- Jean Hutchinson
- Greg Siemens
- Ryan Mulligan
- Elisabeth Steele
- Ryley Beddoe

### COLD REGIONS

- Greg Siemens
- Simon Dumais
- Kerry Rowe
- Ryley Beddoe

### GEOENVIRONMENTAL

- Fady Abdelaal
- Richard Bathurst
- Richard Brachman
- Mike Hulley
- Jean Hutchinson
- Heather Jamieson
- Bernard Kueper
- Kevin Mumford
- Kent Novakowski
- Kerry Rowe
- Greg Siemens
- Nicholas Vlachopoulos

### HYDROGEOLOGY

- Mike Hulley
- Bernard Kueper
- Kevin Mumford
- Kent Novakowski

### GEOCHEMISTRY

- Heather Jamieson
- Bernard Kueper

# Application FAQs

## What do I need to know to **APPLY**?

Students must first be admitted to one of the three participating graduate programs and have a thesis supervisor connected with the GeoEngineering Centre. Students must satisfy the admissions, coursework, thesis, and other requirements of the specific program in which they are enrolled.

Students seeking enrolment in the GeoEngineering program must obtain and complete the [GeoEngineering enrolment form](#) and return it to the Executive Director of the GeoEngineering Centre at Queen's-RMC. Applications are accepted at any time and all eligible students are immediately accepted into the program. Students should then register through SOLUS in the GENG840 core course.

## What about **FUNDING**?

Financial support is available to fund your studies. Please consult with your potential supervisor for more information.

Full-time students are encouraged to seek external financial support and to apply through Queen's for funding from NSERC and OGS.



GeoEngineering Centre at Queen's - RMC

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GeoEng.ca