



Queen's  
UNIVERSITY

The department of Geological Sciences and Geological Engineering at Queen's University is inviting applications for:

## **Two PhD positions in isotope and environmental geochemistry**

These fully funded positions are part of a project that utilizes (unconventional) stable isotopes to investigate solute mobilization and attenuation in mine waste rock. The objective of the projects is to develop advanced analytical methodologies for the assessment of waste rock reactivity and in-situ material storage conditions. These methodologies include isotopic and trace-level speciation analyses as well as applied quantitative mineralogy, which are to be deployed for source attribution and studying biogeochemical controls on solute dynamics. The projects are supported by a Canadian industry partner with actively operating mines and in close collaboration with an interdisciplinary team of experts from other universities. The research will be supervised primarily by Dr. Bas Vriens and Dr. Matthew Leybourne (Department of Geological Sciences and Geological Engineering). Results of this projects will help optimize material management and advance environmentally friendly mining technologies at the gigaton scale.

**Anticipated Start:** January 1, 2026 (or upon agreement) **Duration:** 4 years.

### **Main duties and responsibilities:**

- Develop and quality assure state-of-the-art analytical methodologies
- Analyze field samples and interpret long-term geochemical datasets
- Publish research results in peer-reviewed scientific journals
- Attend and present at project meetings and international conferences

### **Preferred Qualifications:**

- BSc and MSc degree in a relevant field (e.g. geochemistry, environmental science, analytical chemistry, mineralogy, hydrogeology)
- Demonstrated familiarity with fundamentals of isotope geochemistry and hands-on experience with hydrochemical laboratory techniques
- Highly motivated to conduct scientific research in environmental geochemistry, interest in the development of multi-disciplinary approaches to solve complex problems
- Good organizational and communication skills; fluency in English (written and spoken) is essential

**Application Instructions:** Applicants should submit (1) a cover letter outlining their qualifications and motivations for this position, (2) a curriculum vitae and transcripts with relevant course work, and (3) the names and contact information of two references, to Bas Vriens ([bas.vriens@queensu.ca](mailto:bas.vriens@queensu.ca)). Formal admissions are made through Queen's University School of Graduate Studies. Applications are considered until the positions are filled.

**About Queen's University:** One of Canada's leading universities, Queen's University has a long-standing reputation for academic excellence, world-class research, and a diverse and vibrant learning environment. With its strong tradition of public service, the University has helped to shape Canadian values and international policies, educating notable industrial, political and cultural figures. Queen's University is located in the heart of the community of historic Kingston, midpoint between Montreal, Toronto, and the nation's capital Ottawa.

**Employment Equity:** We invite applications from all qualified individuals. Queen's University is committed to employment equity and diversity in the workplace and particularly welcomes applications from women, visible minorities, Aboriginal peoples, persons with disabilities, and LGBTQ2+ persons. We have a track record of supporting all our employees and will provide support in recruitment processes for applicants with accessibility needs. If you require accommodation during the application process, please contact Sarah Bernard at [bernards@queensu.ca](mailto:bernards@queensu.ca). All qualified candidates are encouraged to apply; however, in accordance with Canadian immigration requirements, Canadian citizens and permanent residents of Canada will be given priority. Please indicate in your application if you have a valid legal status in Canada.