

Joint PhD Position in Groundwater Research: Development of Stable Isotope Method for Sulfolanes

Morwick G360 Institute for Groundwater Research, University of Guelph & Earth Science Department, University of Gothenburg

The Morwick G360 Institute for Groundwater Research at the University of Guelph (Canada) and the Earth Science Department at the University of Gothenburg (Sweden) are seeking a highly motivated and talented PhD candidate to join our collaborative research team. This position offers a unique opportunity to develop a stable isotope method to determine the environmental fate of sulfolanes, an emerging contaminant with significant implications for groundwater quality.

Position Overview:

Title: Joint PhD Candidate

Locations: Morwick G360 Institute for Groundwater Research, University of Guelph, Guelph, Ontario, Canada & Earth Science Department, University of Gothenburg, Gothenburg, Sweden

Duration: 4 years (Full-time)

Start Date: December 2024 (flexible)

Research Project:

The successful candidate will engage in a cutting-edge research project focused on the development and application of a stable isotope method for tracing the environmental fate of sulfolanes. Sulfolanes are commonly used industrial solvents known for their persistence and mobility in groundwater systems. The project aims to:

- Develop and validate a stable isotope method for the accurate analysis of sulfolanes in groundwater and other environmental matrices.
- Investigate the degradation pathways, sources, and transport mechanisms of sulfolanes using isotopic signatures.
- Collaborate with industry stakeholders and regulatory bodies to address groundwater contamination issues related to sulfolanes.

Responsibilities:

- Design and conduct laboratory experiments to develop the stable isotope method for sulfolanes.
- Analyze environmental samples and interpret isotopic data to understand the fate and transport of sulfolanes.
- Work collaboratively with a multidisciplinary team of researchers, including hydrogeologists, chemists, and environmental scientists, across both institutions.
- Split time between the University of Guelph and the University of Gothenburg to leverage the unique expertise and facilities at both institutions.
- Present research findings at national and international conferences.
- Publish results in high-impact peer-reviewed journals.

Qualifications:

- A Master's degree in Environmental Chemistry, Hydrogeology, Geochemistry, or a related field.
- Strong background in stable isotope analysis, with experience in isotope ratio mass spectrometry (IRMS) being highly desirable.
- Proficiency in laboratory techniques and instrumentation related to stable isotope analysis.
- Excellent problem-solving skills and the ability to work independently and as part of a team.
- Strong written and verbal communication skills.
- A passion for environmental research and a commitment to groundwater sustainability.
- Willingness and ability to travel and conduct research in both Canada and Sweden.

Application Process:

Interested candidates should submit the following documents to mg360@uoguelph.ca

- A cover letter outlining your research interests and relevant experience.
- A detailed CV including a list of publications and presentations.
- Contact information for three academic or professional references.
- A copy of academic transcripts.