

MSc position – geomicrobiology of wetlands contaminated with mine tailings



The McBeth Geomicrobiology Group in the Department of Geology at the University of Regina is recruiting for a full-time MSc position to begin in May or Sept 2023. Our research group studies microbial communities and their influence on metal(loid) solubility in mine waste materials and contaminated environments. The project is in collaboration with colleagues at Saint Mary's University in Halifax, NS. The stipend for the successful candidate and project funds are provided through an NSERC Alliance grant and Dr McBeth will apply for additional support for the student through the NSERC CREATE INSPIRE program:

<https://artsandscience.usask.ca/synchrotron-sciences/>

The successful applicant(s) will primarily be based at the University of Regina in Regina, SK where they will learn how to use high-throughput amplicon sequencing to characterize microbial communities in environmental samples. In Summer 2023, the student will assist with setting up mesocosm studies in wetlands in Nova Scotia working with collaborators from the Dynamic Ecology and Environmental Health Research (DEEHR) Group led by Dr Linda Campbell. In addition to their studies of the wetland and mesocosm microbiology, the student will also study the biogeochemistry of elements such as iron and arsenic in samples from the field site using synchrotron techniques at the Canadian Light Source synchrotron in Saskatoon, SK. Sequencing and synchrotron skills are not required for applying for this position, we will provide the training you need – you just need to bring a sincere interest and willingness to learn!

The student on this project will have opportunities to interact with a dynamic and collaborative community of researchers at URegina, Saint Mary's University, and USask during their program. The successful candidate will be provided with opportunities to network and gain transferable skills to prepare them for the job market after graduation, and there is potential for the student to participate in an industry internship as part of their program. For further information on the McBeth Geomicrobiology group and other grad positions open within the group please visit our website here: <https://uregina.ca/~jma414/>

Qualifications and Eligibility Criteria:

General:

- The applicant is required to be legal and available to study in Canada by May 1, 2023 (preferred) or Sept 1, 2023.

Education:

- The applicant is required to have an undergraduate science degree in Geology/Earth Science or Biology/Microbiology with an undergraduate average of at least 70% and ideally above 82%.
- The applicant is required to have above average grades in geochemistry and mineralogy undergraduate coursework in the case of geoscience students, or in their chemistry and microbiology courses for biosciences students.
- Refer to the URegina Faculty of Graduate Studies and Research webpage for further information on educational requirements for application to URegina: <https://www.uregina.ca/gradstudies/future-students/index.html>

Experience:

- Demonstrable interest in environmental remediation and interest in the influence of microbes on biogeochemical cycles
- Basic laboratory experience or field experience would be beneficial but is not required
- field and/or industry experience would be an asset but is not required

Skills:

- Motivated, reliable, and well-organized
- prepared to work in a team-oriented and multidisciplinary research environment
- Fluent in written and oral English communication. If English is not the applicant's first language the graduate school requires a minimum IELTS score of 6.5 overall
- Ideally, the student will have a Canadian driver's licence

To apply:

Enquiries about the project and applications should be addressed to Dr Joyce McBeth and sent to: mcbeth.geomicro@uregina.ca. Please begin subject line with "Geomicro Position Grad Applicant [your name]". Please ensure you meet the required eligibility criteria above before applying; those who do not meet the required eligibility criteria will not be considered for this position. Applications should contain the following documents (pdf format):

- Cover letter (1-2 pages) including:
 - (1) your undergraduate and other postsecondary educational background with in-major average(s) for final two years of program(s);
 - (2) description of your career interests, goals, and educational background and how they match up with the project,
 - (3) what do you hope to achieve during graduate studies, both personally and professionally;
 - (4) your availability to begin MSc studies (e.g., available to begin May 1, 2023 or Sept 1, 2023),
 - (5) indication of whether you are a domestic (Canadian Citizen or PR) or international applicant and what your present status is for studying in Canada;
 - (6) where you saw the advertisement for the position.
- Transcript(s) (official transcripts not required for initial application)
- Resume or CV
- List of three references (letters from references are not required up front).

Application consideration will begin immediately and will continue until the position is filled. Incomplete applications may not be considered. Shortlisted applicants may be asked for additional documents (e.g., language test scores where applicable, examples of written work).

Diversity statement:

The University of Regina is committed to an inclusive workplace that reflects the richness of the community that we serve. The University welcomes applications from all qualified individuals, including individuals within the University's employment equity categories of women, persons with disabilities, members of visible minorities, Indigenous persons, individuals of diverse gender and sexual orientation and all groups protected by the Human Rights Code.