



# Indigenous.Link

Canada's fastest growing Indigenous career portal, Careers.Indigenous.Link is pleased to introduce a new approach to job searching for Indigenous Job Seekers of Canada. Careers.Indigenous.Link brings simplicity, value, and functionality to the world of Canadian online job boards.

Through our partnership with Indigenous.Links Diversity Recruitment Program, we post jobs for Canada's largest corporations and government departments. With our vertical job search engine technology, Indigenous Job Seekers can search thousands of Indigenous-specific jobs in just about every industry, city, province and postal code.

Careers.Indigenous.Link offers the hottest job listings from some of the nation's top employers, and we will continue to add services and enhance functionality ensuring a more effective job search. For example, during a search, job seekers have the ability to roll over any job listing and read a brief description of the position to determine if the job is exactly what they're searching for. This practical feature allows job seekers to only research jobs relevant to their search. By including elements like this, Careers.Indigenous.Link can help reduce the time it takes to find and apply for the best, available jobs.

The team behind Indigenous.Link is dedicated to connecting Indigenous Peoples of Canada with great jobs along with the most time and cost-effective, career-advancing resources. It is our mission to develop and maintain a website where people can go to work!

Contact us to find out more about how to become a Site Sponsor.

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# Job Board Posting



Careers.Indigenous.Link

Date Printed: 2024/07/19

## POST DOCTORAL FELLOW - CRITICAL MINERAL EXTRACTION

<b>Job ID</b>	<b>62004-4346</b>	
<b>Web Address</b>	<a href="https://careers.indigenous.link/viewjob?jobname=62004-4346">https://careers.indigenous.link/viewjob?jobname=62004-4346</a>	
<b>Company</b>	McMaster University	
<b>Location</b>	Hamilton, ON	
<b>Date Posted</b>	From: 2024-04-29	To: 2050-01-01
<b>Job</b>	Type: Full-time	Category: Education

### Description

Position: Post-Doctoral Fellow

Area: Critical mineral extraction and integrated deep geological repository performance evaluation

Timeframe: 1.5 years with the possibility of extension, depending on progress and funding

Start date: Fall 2024 (negotiable)

Salary: \$60,000/year plus benefits

Application Deadline: Applications will be evaluated on a rolling basis until the position is filled. Description: Applications are invited for two postdoctoral fellows to work on projects that couple sustainable critical mineral extraction with accelerated carbon mineralization and develop an integrated near-, far-field, and biosphere repository performance evaluation under the supervision of Dr. Adedapo Awolayo at McMaster University. These projects are in collaboration with Rockburst Technologies Inc. (RBT) and Ultra Safe Nuclear Corporation (USNC) and aim to understand the processes governing CO<sub>2</sub> mineralization during critical mineral (lithium, nickel, copper, and platinum-group elements) extraction from magmatic and ultramafic rocks and radionuclide-water-rock interaction for an integrated repository performance evaluation. A successful candidate for any of these positions will: (a) characterize the rock and in-situ fluid properties to evaluate critical mineral extraction efficiency, CO<sub>2</sub> mineralization potential, and radionuclide migration (b) perform elevated temperature-pressure laboratory experiments to examine the rate of carbon mineralization based on the scheme and scale of mineral ore pulverization (c) utilize numerical models to optimize carbonation rates and pulverization efficiency and integrate near- and far-field radionuclide transport; and (d) employ and develop data-driven machine learning models to calibrate the modelling efforts and adapt this approach to conduct techno-economic assessment. The successful candidate(s) will have the opportunity to work on other active research projects at McMaster University (<https://www.eng.mcmaster.ca/faculty/adedapo-awolayo/>). Successful candidate(s) will have routine access to the McMaster Research & High-Performance Computing and Digital Research Alliance of Canada clusters and hydrogeologic, geochemical, and reactive transport modelling software, as well as an extensive suite of experimental and analytical tools for characterizing water-rock-gas interactions. Candidates should have a PhD in Geoscience, Petroleum, Nuclear, Mining, Civil, Environmental, Chemical, or Reservoir Engineering, or a related field. The ideal candidate will have experience characterizing rock mineralogy and/or physical properties, or using numerical models to simulate fluid flow and chemical reactions in geologic formations. Knowledge and experience in machine learning are also valuable. The position generally requires excellent communication and interpersonal skills, as well as intellectual independence. Major Duties/Responsibilities: Characterize rock flow properties and reactivity in the context of carbon mineralization, mineral ore pulverization, and the evolution of radionuclides of interest. Experimentally or numerically simulate the fate of injected or released fluids, including generating confidence intervals and conducting uncertainty propagation and quantification, and sensitivity analysis. Interact with collaborators (RBT and USNC) on project specific milestones and deliverables. Present and report research results in peer-reviewed journals and to funding agencies in a timely manner. Maintain a safe, collegial, interactive, and welcoming research environment.

Application details: Interested applicants should contact Dr. Adedapo Awolayo ([awolayo@mcmaster.ca](mailto:awolayo@mcmaster.ca)) to apply and/or inquire for more details. Attach in ONE single PDF document the four documents listed below: a CV accompanied by a list of publications; unofficial academic transcripts; a 2-page cover letter that expresses your interest in this position and summarizes your previous research experience; the contact information of two referees who are familiar with your research and academic experience.

Send the application package to [awolayoa@mcmaster.ca](mailto:awolayoa@mcmaster.ca). We will continue to review applications until we fill the position, but we will only contact those selected for interviews. About McMaster University: In alignment with McMaster's institutional vision of fostering the representation of equity-seeking groups at all levels of academic life, we are committed to promoting and maintaining a research ecosystem that nurtures inclusive excellence. Recognizing the critical role that diversity plays in harnessing creativity and innovation and the importance of building inclusive and collegial teams within our community, the University seeks qualified candidates who share our commitment to equity and inclusion, who will contribute to the diversification of ideas and perspectives, and especially welcomes applications from indigenous (First Nations, Metis, or Inuit) peoples, members of racialized communities, persons with disabilities, women, and persons who identify as 2SLGBTQ+. McMaster is Canada's most research-intensive university and is one of only four Canadian universities ranked among the top 100 in the world by the Times Higher Education World University Rankings for 2022. McMaster has a vision to achieve international distinction (for creativity, innovation, and excellence as a research-intensive, student-centred university) to push our World to a Brighter World. McMaster Civil Engineering has a reputation for innovative programs, cutting-edge research, leading faculty, and aspiring students.

For more information, visit McMaster University for POST DOCTORAL FELLOW - CRITICAL MINERAL EXTRACTION