



Assistant or Associate Professor
Chemical Extraction of Critical Metals
NSERC Canada Research Chair (CRC) Tier 2
The Robert M. Buchan Department of Mining
Queen's University at Kingston

Queen's University is situated on traditional Anishinaabe and Haudenosaunee Territory.

The Faculty of Engineering and Applied Science at Queen's University, invites applications for a **Tenure-track/Tenure faculty position at the rank of Assistant Professor/Associate Professor**, in the area of *Chemical Extraction of Critical Metals*. The preferred starting date of the appointment is July 1, 2023. The successful candidate will submit an external nomination for a five-year term position as a Tier 2 Canada Research Chair, eligible for renewal once, to a maximum of two five-year terms as a Tier 2 Canada Research Chair.

This appointment is open only to qualified individuals who self-identify as women¹. We welcome and support applications from such candidates who also identify as members of other equity-deserving groups, i.e. Indigenous/Aboriginal peoples, persons with disabilities, racialized/visible minorities, and members of 2SLGBTQ+ communities.

Prior to May 1, 2022, the University required all students, faculty, staff, and visitors (including contractors) to declare their COVID-19 vaccination status and provide proof that they were fully vaccinated or had an approved accommodation to engage in in-person University activities. These requirements were suspended effective May 1, 2022, but the University may reinstate them at any point.

Canada Research Chairs were established as part of a national strategy to foster research excellence (www.chairs-chaieres.gc.ca). The successful candidate must submit an external application to the Tri-agency Institutional Program Secretariat that meets the requirements for the successful nomination of Tier 2 Chair as defined by the Canada Research Chairs Program:

- be an excellent emerging world-class researcher who has demonstrated particular research creativity;
- have demonstrated the potential to achieve international recognition in their field in the next five to ten years;
- have the potential to attract, develop and retain excellent trainees, students and future researchers; and
- be proposing an original, innovative research program of high quality.

Candidates more than 10 years from their highest degree at the time of nomination may have their eligibility for a Tier 2 Chair assessed through the program's Tier 2 justification process. Acceptable justifications are generally limited to breaks in the candidate's research career due to maternity or parental leave, extended sick leave, clinical training, and family care. Please contact research@queensu.ca if you desire more information on the Tier 2 justification

¹ "Women" is used because the CRC Program currently employs the categories of the four federally designated groups (FDG) - Women, Indigenous Peoples, Persons with Disabilities, and Members of Visible Minorities - to monitor progress towards meeting equity goals. Queen's has an under-representation of women among CRC Chairholders. The Tri-Agency Institutional Programs Secretariat (TIPS) has established targets for CRC representation, with staggered deadlines for meeting targets between the period of 2020 to 2029. This initiative follows the provisions for a special program as described by the Ontario Human Rights Commission.

process. In addition, the impact of certain circumstances (including but not limited to parental leave, family responsibilities, illness, disability, research in emerging fields, limited access to resources) that may legitimately affect a nominee's record of research achievement will be given careful consideration when assessing the nominee's research productivity. Candidates are encouraged to provide any relevant information about their experience and/or [career interruptions](#) to allow for a fair assessment of their application.

Your Career with Queen's Engineering

Among our top priorities in the Faculty of Engineering and Applied Science is providing opportunities for early career academics to develop distinguished research and exceptional teaching contributions while fostering an environment where all faculty can thrive. To promote on-going success, there is support for course development and delivery that is provided by the Department, the Queen's Centre for Teaching and Learning, and the Faculty of Engineering and Applied Science. Faculty have access to a range of educational technologies including industry-leading instructional design support offered through the [Engineering Teaching and Learning Team](#). Support for faculty to develop strong research programs includes Special Research Grant opportunities, grant writing workshops and review services, and one-to-one mentorship from experienced colleagues. Queen's Engineering is also committed to increasing the proportion of women in engineering, supported by the recent establishment of [a Chair for Women in Engineering](#). Having celebrated its 125th anniversary, *Queen's Mining* consistently ranks among the world's top Mining Engineering departments, with outstanding laboratory facilities and an unparalleled reputation for the quality of our graduates. In alignment with emerging societal and industry priorities, the department embraces an integrated systems approach to the mining project life cycle, thereby enabling more sustainable raw materials extraction that is safer and more effective, and which further mitigates social, environmental, and economic impacts. Several established faculty members have active research programs on a variety of themes related to the mining value chain, including Geostatistics, Blasting, Ventilation, Geomechanics, Mine Design, Mineral Processing, Metallurgy, Sustainability and Intelligent Mining Systems. The department possesses world class laboratories for teaching and research in blasting, rock mechanics, mineral processing and extractive metallurgy.

Critical Metals have the potential to revolutionize the path towards a net-zero emissions future, and Canada requires a secure domestic source of these metals for its future advancement towards green technology industries. Canada must diversify its sources of critical metals, and emerge as a reliable global supplier of these critical elements. Furthermore, the recently announced path to net-zero emissions by 2050 by the Government of Canada, imposes emissions-reduction targets for the coming decades that are unachievable without significant investment in research in the area of critical metals.

This NSERC Canada Research Chair (CRC) Tier 2 position will leverage existing strengths in extractive metallurgy at Queen's University, helping establish our leadership in the hydrometallurgy of critical metals. It will focus on the extraction of critical metals from primary sources, as well as the recycling of critical metals from end-of-life products such as smart phones and lithium ion batteries, with the aim of developing chemical processing options that improve economic feasibility while also reducing environmental impacts.

The candidate is expected to thrive on research in a truly multidisciplinary domain, spanning Mining Engineering, Chemical Engineering, Materials and Metallurgical Engineering, as well Geological Sciences & Geological Engineering, and Engineering Chemistry. The appointment also has significant implications on the field of public policy, with potential for collaboration with Queen's Institute of Energy and Environmental Policy (QIEEP). The candidate is expected to leverage the current infrastructure and strengths in hydrometallurgy and chemical extraction of metals within the Mining Department at Queen's University, building a world-class high impact research program complementing the existing research strengths of the Department.

The primary academic appointment for this position will be in the Robert M. Buchan of Mining (*Queen's Mining*). Cross-appointment to other relevant academic departments will be encouraged, depending on the area of expertise and research focus of the appointee.

Criteria:

Candidates must have a PhD or equivalent degree completed at the start date of the appointment.

The main criteria for selection are:

- demonstrated academic and teaching excellence;
- evidence of high-quality scholarly output that demonstrates potential for independent research leading to peer assessed publications and the securing of external research funding, commensurate with years since PhD obtained;
- high potential for outstanding teaching contributions at both the undergraduate and graduate levels and an ongoing commitment to academic and pedagogical excellence in support of the department's programs;
- evidence of an ability to work collaboratively in an interdisciplinary and student-centred environment; and
- professional engineering licensure in Canada, or the eligibility to obtain licensure, is a requirement. Note that all forms of engineering licensure in Canada are considered acceptable (e.g., P.Eng., temporary engineering license, provisional engineering license, etc.).

The successful candidate will also be expected to make contributions through service to the department, the Faculty, the University, and/or the broader community. Salary will be commensurate with qualifications and experience.

Queen's University Commitment to Equity, Diversity and Inclusion

Within the Faculty of Engineering and Applied Science, innovation thrives with new perspectives and experiences, and the diversity of our workforce enhances our research and teaching excellence. People from across Canada and around the world come to learn, teach and carry out research at Queen's University. With foundational values of collaboration, respect and diversity, we are committed to embracing an inclusive environment and supporting each member of our community to reach their fullest potential. We encourage those who share our commitments to diversity and inclusion to join our Faculty.

Queen's University is committed to diversity and inclusion and has an employment equity program that meets the goals of the Canada Research Chairs program and the requirements of our collective agreement with the Faculty Association. This appointment is open only to qualified individuals who self-identify as women. We welcome and support applications from such candidates who also identify as members of other equity-deserving groups, i.e. Indigenous/Aboriginal peoples, persons with disabilities, racialized/visible minorities, and members of 2SLGBTQ+ communities. All applicants will be invited to self-identify once they have applied. Self-identification information will be held in confidence by the Human Rights and Equity Office and one specially trained member of the selection committee. 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.

To comply with federal laws, the University is obliged to gather statistical information as to how many applicants for each job vacancy are Canadian citizens / permanent residents of Canada. Applicants need not identify their country of origin or citizenship; however, all applications must include one of the following statements: "I am a Canadian citizen / permanent resident of Canada"; OR, "I am not a Canadian citizen / permanent resident of Canada". Applications that do not include this information will be deemed incomplete.

The University is situated on the traditional territories of the Haudenosaunee and Anishinaabe, in historic Kingston on the shores of Lake Ontario. Kingston's residents enjoy an outstanding quality of life with a wide range of cultural, recreational, and creative opportunities. Visit [Inclusive Queen's](#) for information on equity, diversity and inclusion resources and initiatives.

Faculty and their dependents are eligible for an extensive benefits package including prescription drug coverage, vision care, dental care, long term disability insurance, life insurance and access to the Employee and Family Assistance Program. You will also participate in a pension plan. Tuition assistance is available for qualifying employees, their spouses and dependent children. Queen's values families and is pleased to provide a 'top up' to government parental leave benefits for eligible employees on maternity/parental leave. In addition, Queen's provides partial reimbursement for eligible daycare expenses for employees with dependent children in daycare. Details are set out in the Queen's-QUFA Collective Agreement. For more information on employee benefits, see [Queen's Human Resources](#). Additional information about Queen's University can be found on the [Faculty Recruitment and Support](#) website.

A complete application consists of:

- a cover letter (including one of the two statements regarding Canadian citizenship / permanent resident status specified in the previous paragraph);
- a current Curriculum Vitae (including a list of publications);
- a statement of research interests for the next 5 years;
- a statement of teaching interests and experience (including teaching outlines and evaluations if available);
- a statement identifying their strengths and experiences with respect to increasing equity, diversity, and inclusion in their institutional environment;
- and the names and contact information of three referees.

Review of applications will begin on **March 6, 2023**, and applications will continue to be accepted until the position is filled. Applicants are encouraged to send their application package electronically as PDFs to Julie Sharrard at mine.office@queensu.ca with the subject line "Application for the Chemical Extraction of Critical Metals (CRC Tier 2) Faculty Position", although hard copy applications may be submitted to:

Dr. Julian M. Ortiz,
Associate Professor and Head
The Robert M. Buchan Department of Mining
Queen's University
Goodwin Hall, Room 354
Kingston, ON, Canada K7L3N6

The University will provide support in its recruitment processes to applicants with disabilities, including accommodation that takes into account an applicant's accessibility needs. If you require accommodation during the interview process, please contact Julie Sharrard at mine.office@queensu.ca in The Robert M. Buchan Department of Mining.

Academic staff at Queen's University are governed by a [Collective Agreement](#) between the University and the [Queen's University Faculty Association \(QUFA\)](#), which is posted at <http://queensu.ca/facultyrelations/faculty-librarians-and-archivists/collective-agreement> and at <http://www.qufa.ca>.

Appointments are subject to review and final approval by the Provost. Only nominees external to Queen's University will be considered. (Please note that, for the purposes of this competition, Queen's Term Adjuncts and Adjunct-1s will be considered as external nominees).