

Call for candidates

Professor in Low Carbon Concrete Engineering

N° 06943

Posting period: April 11 to May 31, 2024

JOB DESCRIPTION: Professor

LOCATION: Main Campus

STATUS: Regular

ADMINISTRATIVE UNIT:

Faculty of Engineering

Civil and Building Engineering Department

SCHEDULE: Full time tenure-track position



The [Université de Sherbrooke](#) (UdeS) is seeking applications for a position as professor in low carbon concrete engineering. This is a full-time tenure track position in the Civil and Building Engineering Department of the Faculty of Engineering.

About the Faculty of Engineering

The UdeS [Faculty of Engineering](#) is a leader in education and applied research. Recognized for its dynamism in collaborative research, it stands out particularly in terms of technology transfer and concrete impacts on society.

It is also a faculty on a human scale, which favours rigorous and complete training of its students, particularly through the alternating [study and internship program](#). In a friendly and highly collaborative environment, discovery and innovation are strongly encouraged.

To foster its long-term growth, the Faculty of Engineering is particularly focused on interdisciplinary initiatives and emerging fields. The Faculty of Engineering has several research centers as well as the [Interdisciplinary Institute for Technological Innovation](#) (3IT), a part of the Integrated Innovation Chain along with the [Institut quantique](#) (IQ) and the [Centre de collaboration MiQro Innovation](#) (C2MI).

[Discover all the advantages of a career at the UdeS Faculty of Engineering, in the heart of the Eastern Townships!](#)



About the Department


The faculty members of the [Civil and Building Engineering Department](#) is active in the fields of materials such as concrete, structures, water resources, geotechnics, the environment, life cycle assessment, building energy efficiency and integrated building design. The Department offers master's and doctoral programs that enable students to work in state-of-the-art laboratories under the supervision of internationally renowned researchers. The Department's facilities include over 2,000 square meters of laboratories for structure and material testing, a concrete pilot plant, three large reaction walls, two test slabs, state-of-the-art testing equipment, environmental laboratories, building energy efficiency laboratories, an external hydraulics and hydrology complex, and a 2,000-square-meter scale-up center for the manufacture of large-scale concrete specimens. The Cement and Concrete Research Group of the Université de Sherbrooke (GRCB) is made up of 4 professors and their teams who share their expertise in the field of concrete materials: physicochemistry, microstructure, durability and rheology. Over time, this shared expertise has led to the development and deployment of tomorrow's materials, such as: (ultra-)high performance concretes, concretes containing alternative supplementary cementitious materials such as glass powder ([SAQ Chair in the valorization of glass in materials](#)) and fluid concretes with adapted rheology ([NSERC Industrial Chair on the development of fluid concretes with adapted rheology](#)).

Expertise

The position is open to senior and junior researchers seeking excellence and the opportunity to work with a motivated team in a large-scale facility. The candidate will be expected to participate in teaching and conduct fundamental and applied research in any of the following areas:

- Cementitious materials science and technology
- CO₂ sequestration by carbonation/mineralization of concrete
- Development of alternative cementitious solutions
- Evaluation and optimization of fresh and hardened concrete properties
- Modeling, artificial intelligence and machine learning applied to materials
- Up-Scaling low-carbon solutions
- Other fields related to low-carbon concrete

The candidate will contribute to the development of the new Center of excellence in low-carbon concrete at UdeS. The objective of the center is to generate a combination of innovative transformational technologies to enable significant GHG reductions for the cement and concrete industry. These technologies include low-carbon concretes, alternative cementitious materials, carbon mineralization, engineered fillers, mine waste residues and clays.



The collaborative approach of the hub will combine the expertise of GRCB professors and a wide network of public and private partners, including cementitious materials producers (conventional and alternative), concrete producers, construction contractors, building owners, cities and ministries.

The candidate will be hired as co-director of this hub, and will thus be called upon to co-direct activities. The candidate will also be expected to participate in funding applications to funding agencies to complement that of the industrial partners.

Functions

- Teach at the undergraduate and graduate levels.
- Develop fundamental or applied research activities.
- Supervise graduate students.
- Participate in university life.
- Contribute to community service.

Requirements

- Hold a doctorate in a relevant discipline
- Have an interest in and aptitude for teaching, university pedagogy and skills development.
- Have an interest in research (disciplinary, interdisciplinary), innovation and knowledge transfer.
- Be able to plan, organize and develop a project independently.
- Demonstrate an ability to supervise graduate students.
- Have previously published in peer-reviewed journals.
- Demonstrate the ability to establish and maintain good interpersonal relationships, collaboration and teamwork skills.
- Demonstrate leadership qualities, initiative and excellent ability to communicate and interact effectively and smoothly with various internal and external partners.
- Ability to comply with the requirements of [responsible research conduct](#).
- Have the ability to **teach in French** or to achieve this ability within a reasonable time frame.
- Be a member of the *Ordre des ingénieurs du Québec* (OIQ) or have the qualifications to become a member and commit to becoming a member within 5 years.



The working conditions are governed by the collective agreements in force.

Regular, full-time, tenure-track position,

Anticipated start date: September 1, 2024.

Equity, diversity and inclusion

The Université de Sherbrooke (UdeS) values equity, diversity, equality and inclusion in employment within its community and invites all qualified individuals to apply, particularly women, members of visible and ethnic minorities, Aboriginal peoples and [persons with disabilities](#) in compliance with the Quebec Act respecting equal access to employment in public bodies. The screening and assessment tools can be adapted according to the needs of persons with disabilities who request them, and this, in complete confidentiality. The Université de Sherbrooke also encourages people of all sexual orientations and gender identities to apply. Priority will be given to Canadians and permanent residents. [Learn more about equity, diversity and inclusion at UdeS.](#)

Application process


The deadline for submitting applications is **May 31, 2024**.

Review of applications will begin on June 1st, 2024 and will continue until the position is filled.

We invite you to submit your application electronically by clicking on the "[Postuler](#)" button.

Please combine the following in one pdf document: (please provide complete files)

1. Your curriculum vitae;
2. A letter of motivation;
3. A proposal for a research chair program (2 pages) describing the problem, objectives, methodological approach, links with your previous work, as well as the training of highly qualified personnel (students, research staff, etc.). The adequacy with the strategic plan of the Université de Sherbrooke and the Faculty of Engineering should also be explained. Funding opportunities (granting agency programs, companies, etc.), as well as the collaborations and networking envisaged should be described;
4. A description of your vision of teaching (2 pages) including the [courses](#) to which you could contribute and/or that you would like to develop and the teaching methods that you advocate;
5. A one-page text on equity-diversity-inclusion (EDI) that presents specific actions already taken or planned to promote EDI (i) in the training of new staff (recruitment, mentoring, career development); (ii) in the realization of research projects; and (iii) in the involvement in university



life. We invite you to consult the [guide to submitting an EDI text](#) (in French). The Faculty is interested in individuals whose research, teaching, and community involvement demonstrate the importance it places on diversity in higher education;

6. Reprints from the most relevant recent contributions (maximum 3).

In addition, please have **three external referees** each send a letter of recommendation directly to the contact information below:

Dean of the Faculty in Engineering
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