



McGill

Reference #: 18019A - 180327 & 18020A - 180327

Two Tenure-Track Faculty Positions

Open to rank of Assistant Professor or Associate Professor

Canada Research Chair in Immunoengineering

Canada Research Chair in Artificial Intelligence and Machine Learning for Biomedicine

Tier 1 or Tier 2, according to professorial rank and eligibility

Faculty: Faculty of Medicine

Department/School: Department of Biomedical Engineering

The Canada Research Chair is also open to internal candidates who already hold a tenure-track or tenured faculty position at McGill University.

Position description

The McGill University Department of Biomedical Engineering invites applications for two tenure-track faculty positions open **to early and mid-career applicants** at the **Assistant or Associate Professor level**.

The Department of Biomedical Engineering (<https://www.mcgill.ca/bme/>) at McGill University was the first to be established in Canada. We are part of the Faculty of Medicine and are a research focused unit with activities across the diverse areas of Biomedical Engineering and Bioengineering. We co-administer the Biological and Biomedical Engineering graduate training program (<https://www.mcgill.ca/bbme/>) and we offer a graduate certificate in Translational Biomedical Engineering. As part of the strategic plan, we are embarking on an ambitious recruitment plan to expand the department and develop new areas of research.

The preferred areas of recruitment are:

- (i) **Immunoengineering**

McGill University has launched the McGill Interdisciplinary Initiative in Infection and Immunity (MI4, <https://www.mcgill.ca/mcgill-i4/>) whose mission is to bring together researchers within the McGill

University and Hospital network to develop interdisciplinary approaches to tackle infectious and immune threats to human health. Immunoengineering has been identified as a priority and includes area such as engineering and reprogramming the immune system for preventative health (i.e. smart vaccines) and regenerative medicine, and for treating disease.

There are multiple opportunities to integrate with interdisciplinary networks such as the Centre of Excellence in Translational Immunology linking researchers and clinicians and enabling training and research in basic and translational immunology. Opportunities to collaborate with groups abound within the Department of Microbiology and Immunology at McGill, and at associated hospitals that include Divisions of Infectious Diseases, Allergy and Immunology and Rheumatology at the McGill University Health Centre, the Jewish General Hospital and their affiliated research institutes.

(ii) Machine Learning and Artificial Intelligence for Biomedicine

Montreal is emerging as a global hub for Machine Learning and Artificial Intelligence with major public and private research centres. McGill has identified AI/ML as strategic priority and includes the Centre for Intelligent Machines; the School of Computer Science; the McGill Genome Centre; the McGill Initiative in Computational Medicine; and the Neurohub and Machine Learning platform that is part of the \$84M CFREF grant Healthy Brains and Healthy Lives. ML and AI are buoyed by CIFAR (<https://www.cifar.ca>) that supports AI hubs and researchers across the country including the Montreal Institute for Learning Algorithms (<https://mila.quebec/en/>), co-lead by McGill. Companies such as Google, Facebook, Microsoft and Samsung have converged on Montreal and opened research labs on AI/ML, affording further opportunities for both fundamental and applied research. The successful candidate will thus benefit from an exceptionally rich ecosystem and from a rapidly growing number of faculty and companies working in the areas of ML and AI.

The following areas of ML/AI for Biomedicine are of interest: (i) clinical application, (ii) low level data processing, (iii) sparse data and statistical robustness, (iv) deep learning and interpretability (v) integration of multiple modalities (e.g. molecular, imaging, monitoring, clinical and so on) and (vi) use of ML/AI with new types of biomedical data and applications.

(iii) Outstanding candidates from established and emerging areas of Biomedical Engineering.

The department is planning to grow within established and emerging areas (e.g. mobile health, synthetic biology, etc.) of biomedical engineering (or bioengineering) over the coming years, and outstanding candidates are invited to apply.

If the successful candidate satisfies the specific eligibility conditions of the program, the candidate may be supported by the University for nomination to a Tier 1 or a Tier 2 Canada Research Chair (CRC) in Immunoengineering or Artificial Intelligence and Machine Learning for Biomedicine which provides protected time for research within a full-time academic appointment.

A Tier 1 CRC is a senior chair to be held by a Full Professor or an Associate Professor who will earn a senior promotion within two years of acceptance of the award.

Tier 2 CRCs are for emerging researchers (i.e., individuals who are no more than 10 years from having earned their highest degree). However, career interruptions (e.g., maternity or parental leave, extended

sick leave, clinical training, family care, etc.) will be taken into consideration using the [Tier 2 justification process](#) to review the candidate's eligibility. Potential applicants who are more than 10 years from their highest degree with career interruptions may contact the institution to have their eligibility reviewed through the Tier 2 justification process. The eligibility conditions for the CRCs are found at http://www.chairs-chaire.gc.ca/program-programme/nomination-mise_en_candidature-eng.aspx#s3.

McGill University was founded in 1819 and is consistently ranked among the top 20 public universities in the world and among the top three in Canada. McGill is located in Montreal (<http://www.montrealinternational.com/en/>), a multiethnic city with a sparkling cultural life. Montreal has been selected numerous times as the best city for students in North America. Montreal is safe, housing costs are among the lowest for cities of comparable size, and overall quality of life is outstanding.

Job Duties

Successful applicants will be expected to:

- Develop an independent, externally funded research program of the highest international standards in their own areas of expertise, and in coherence with the Department of Biomedical Engineering and the Faculty of Medicine.
- Acquire funds to supervise graduate students and contribute to teaching.
- Disseminate research findings through peer-review publications, and other knowledge translation and exchange activities.
- Participate in all aspects of McGill's academic mission (i.e.: teaching, supervision of a diverse body of graduate students and involvement in academic and administrative committees).

Qualifications and Education requirements

- Applicants must have a PhD
- An outstanding record of research/scholarly activity, which is demonstrated by the quality of publications in top ranked, internationally recognized, and field relevant academic journals, presentations at significant conferences, and strong endorsements by referees of international stature.
- A commitment to – and in accordance with career stage evidence of – high quality teaching, inclusive pedagogy, and supervision of a diverse student body.
- A commitment to – and in accordance with circumstances a track record in – equity, diversity, and inclusiveness (EDI).
- *Optional:* A record and interest in innovation and translation are an asset

Candidates who do not satisfy the CRC eligibility criteria for either a Tier 1 or a Tier 2 Chair are nonetheless invited to apply for the position.

JOB DETAILS

<i>Job Type:</i>	Tenure-track
<i>Rank:</i>	Open to Assistant and/or Associate Professor
<i>Job status:</i>	Full-time
<i>Salary:</i>	Commensurate with qualifications and experience
<i>Application deadline:</i>	Please submit your application electronically within 30 days of the publication of this posting

APPLICATION PROCESS

Applications must be submitted online at: <https://www.mcgill.ca/medicine-academic/positionsavailable>

The following supporting documents and information are required:

- A. A pdf document uploaded under “curriculum vitae” comprising:
 1. 1-page executive summary including summary CV and key points of research vision
 2. Cover letter
 3. Full curriculum vitae (including statement on (i) three important contributions and (ii) leadership activities)
- B. A pdf document uploaded under “research interests” comprising:
 1. Vision and research statement
 2. Teaching statement
 3. Statement on equity, diversity and inclusiveness (EDI) as related to any or all of curriculum, research, teaching or services.
 4. Any other documents
- C. The names and contact information of three referees. *For Tier 2 nominees at the rank of Assistant Professor who are within three years of their PhD, one referee must be the PhD supervisor.*

For internal applicants only: Supporting documents include a recent curriculum vitae and a statement of research aligned with the designated subject area for the Chair.

COMMITMENT TO EQUITY AND DIVERSITY

McGill University hires on the basis of merit and is strongly committed to equity and diversity within its community. We welcome applications from racialized persons/visible minorities, women, Indigenous persons, persons with disabilities, ethnic minorities, and persons of minority sexual orientations and gender identities, as well as from all qualified candidates with the skills and knowledge to productively engage with diverse communities.

McGill further recognizes and fairly considers the impact of leaves (e.g., family care or health-related) that may contribute to career interruptions or slowdowns. Candidates are encouraged to signal any leave that affected productivity, may have had an effect on their career path. This information will be considered to ensure the equitable assessment of the candidate's record.

McGill implements an employment equity program and encourages members of designated equity groups to self-identify. It further seeks to ensure the equitable treatment and full inclusion of persons with disabilities by striving for the implementation of universal design principles transversally, across all facets of the University community, and through [accommodation policies and procedures](#). Persons with disabilities who anticipate needing accommodations for any part of the application process may contact, in confidence, Professor Angela Campbell, Associate Provost (Equity and Academic Policies) by [email](#) or phone at 514-398-1660.

All qualified applicants are encouraged to apply; however, in accordance with Canadian immigration requirements, Canadians and permanent residents will be given priority.

31-OCT-2018 [Date of Posting]