McMaster University, Department of Electrical and Computer Engineering

McMaster University is located on the traditional territories of the Haudenosaunee and Mississauga Nations and, within the lands protected by the Dish with One Spoon wampum agreement.

Position Description

McMaster University’s Faculty of Engineering invites applications for a tenured position at the rank of Assistant, Associate, or Full Professor in the Department of Electrical and Computer Engineering. The Department of Electrical and Computer Engineering, located on the main university campus to begin on July 1, 2024.

The department is interested in candidates with specialized expertise at any interface between electrical and computer engineering and the health sciences but with a particular interest in medical imaging technology. The ideal candidate will have experience working with interdisciplinary research teams, demonstrated innovation (e.g., patents, start-ups, etc.), and have a research program that aligns with the Faculty strategic priority area of biomedical technology.

Our aim is to recruit a candidate who will take a leadership role in driving the Faculty's strategic priority of imaging research and establish a competitive research program. The candidate will be expected to develop multiple research interactions and collaborations, including government and industry, and with colleagues across the University, including the Faculty of Engineering and the Faculty of Health Science.

Potential research expertise includes applicants with a strong background in imaging technology (e.g. MRI, CT, PET/SPECT and/or ultrasound) and have demonstrated expertise in emerging areas in biomedical engineering such as MRI pulse sequence development, RF coil engineering, real time image co-registration for interventional procedures, applications of compressed sensing with medical image acquisition, PET/MRI, SPECT/MRI, and/or theranostics. The successful candidate will also be integrated into the new Centre for Integrated and Applied Medical Imaging (CIAMI) which houses state-of-the-art research-dedicated GE HealthCare CT and 3T MRI systems. In addition, there is a research-only GE 3T MR750 at one of the McMaster teaching hospitals. Both MR scanners have MNS capabilities and current X-nuclei work includes 31P, 23Na, 129Xe, 19F and 13C. Preferably, the candidate’s research interests will align with one or more of the following research areas:

a. Development of Magnetic resonance imaging (MRI) and/or in vivo MR spectroscopy and/or multinuclear imaging technology.

b. Computed tomography acquisition and dose reduction using machine learning.

c. Improvement of nuclear medicine (PET and/or SPECT) image acquisition and reconstruction.

d. Multimodal medical imaging (e.g. PET/MRI, SPECT/MRI).

The successful applicant must have a PhD in electrical and computer engineering or biomedical engineering, and have a professional engineering designation in Ontario, or another province in Canada. The applicant must also demonstrate a record of excellence in teaching and research and a willingness and ability to contribute to the department’s collegial and collaborative intellectual
community as well as university-wide inclusive excellence goals and priorities. Research excellence will be reflected in the potential to develop an internationally renowned research program, to mentor graduate students, to foster existing collaborations and initiate new ones, to acquire external research grants, and to disseminate their research through high quality peer-reviewed publications. Relevant research and development experience in industry would be an asset. The successful applicant is expected to enrich the learning environment for our students in a variety of ways, such as innovative methods for course delivery and curriculum evolution, as well as contribute to and enhance the culture of the department.

McMaster Engineering has a reputation for innovative programs, cutting-edge research, leading faculty, and aspiring students. With over 210 faculty members, along with approximately 8,000 undergraduate and 1,400 graduate students, we have earned a strong reputation as a centre for academic excellence and innovation. Discover more of what McMaster Engineering and the Hamilton area have to offer academic professionals and their families by reviewing our Information Guide highlighting our research excellence, family-friendly resources and rich local culture. Opportunities for continuous personal and professional growth are also made available through our Faculty's Fireball Academy and the MacPherson Institute.

Commitment to Inclusive Excellence

The diversity of our workforce is at the core of our innovation and creativity and strengthens our research and teaching excellence. In keeping with its Statement on Building an Inclusive Community with a Shared Purpose, McMaster University strives to embody the values of respect, collaboration and diversity, and has a strong commitment to employment equity. 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 First Nations, Métis and Inuit peoples, members of racialized communities (“visible minorities”), persons with disabilities, women, and persons who identify as 2SLGBTQ+.

We invite all applicants to complete a brief Diversity Survey as part of the application process. It takes approximately two minutes to complete. All questions are voluntary, with an option to decline to answer. All information collected is confidential and will be used to support efforts to broaden the diversity of the applicant pool and to promote a fair, equitable and inclusive talent acquisition process. Inquiries about the Diversity Survey may be directed to hr.empequity@mcmaster.ca

Job applicants requiring accommodation to participate in the hiring process should contact the Office of the Dean of Engineering at 905-525-9140 ext. 24900 to communicate accommodation needs.

How to Apply:

Please click on this link to apply to the position. This will involve registering for a user account and subsequent submission of materials through the University's electronic portal. The Job Opening number is 55836 and materials should be addressed to: Dr. Mohamed Bakr
Applications will be accepted until the position has been filled. The application must include:

1) A letter of application demonstrating how the candidate meets the selection criteria outlined above and describing, if applicable, the impact that career interruptions may have had on research productivity (1-2 pages)
2) Curriculum vitae
3) Statement on research interests (1-2 pages)
4) A selection of recent research publications (3)
5) Statement on teaching interests and philosophy (including evidence of teaching effectiveness)
6) Statement on contributions to inclusive excellence in teaching, research, and service, including a description of how you will advance the University's commitment to building an inclusive community and to fostering a culture which embraces and promotes the rich diversity of the campus community (2 pages)
7) The name, title, phone number, and email address for at least three (3) referees who are not in a conflict of interest. Letters of reference are not required at the time of application. The Department will request letters of recommendation from referees at later stages of the search process.

NOTE: Incomplete applications will not be given consideration. The effective date of appointment is negotiable, but July 1st, 2024 is preferred. All applicants will receive an online confirmation of receipt of their application; however, only short-listed applicants will be contacted for interviews.

All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be given priority. To comply with the Government of Canada's reporting requirements, the University gathers information about applicants' status as either a permanent resident of Canada or Canadian citizens. Applicants need not identify their country of origin or current citizenship; however, all applications must include one of the following statements:

Yes, I am a citizen or permanent resident of Canada
OR
No, I am not a citizen or permanent resident of Canada

Vaccination Policy Statement

The University is committed to providing and maintaining healthy and safe working and learning environments for all employees, students, volunteers, and visitors. The University’s Vaccination Policy-COVID-19 Requirements for Employees and Students (the "Vaccination Policy"), requires all McMaster community members, including employees, accessing a McMaster campus or facility in person to be fully vaccinated or to have received an exemption from the University for a valid human rights ground. While the Policy will be currently paused, this Policy may resume quickly and on short notice, as informed by public health advice and direction. Should it become necessary in future to resume the
Policy, all community members will need to demonstrate compliance at that time. The University will continue to follow the guidance of public health organizations to define fully vaccinated status. Further information is available at the following link: https://covid19.mcmaster.ca/vaccination-mandate/

More information on the University's Health and Safety framework is available online at: https://hr.mcmaster.ca/resources/covid19/.

Direct any inquiries about this position to Ms. Shelby Gaudrault (gaudraus@mcmaster.ca).

Internal and External Vaccination Policy

The University is committed to providing and maintaining healthy and safe working and learning environments for all workers, students, volunteers and visitors. Effective October 18, 2021, all McMaster community members, including employees, accessing a McMaster campus or facility in person are required to be fully vaccinated or to have received an exemption from the University for a valid human rights ground. This is a term and condition of employment. As defined by the provincial government, people are considered fully vaccinated two weeks after their second dose in a 2-dose series. Vaccines approved by Health Canada or the World Health Organization will be recognized. The University will continue to follow the guidance of public health organizations to define fully vaccinated.

Effective September 7 through to October 18, those employees who are not fully vaccinated will participate in rapid testing twice per week, pending assessment of a human rights exemption or being fully vaccinated. Processes for confidentially disclosing vaccination status, completing testing, and review of human rights exemptions have been developed and you will be advised further upon hire. The vaccination requirement has been adopted as part of the University's efforts to keep our community safe, and based on the evidence which is demonstrating that vaccination is one of the most significant measures that can be taken to protect student, staff, faculty and community members.

Further information is available at the following link: https://covid19.mcmaster.ca/campus-health-safety/#tabcontent-vaccination . More information on the University's Health and Safety framework is available online at https://hr.mcmaster.ca/resources/covid 19/.

Questions regarding the above requirements or any accommodation requests through the recruitment process can be directed to your human resources contact.