

CANADA RESEARCH CHAIR TIER 2, ARTIFICIAL INTELLIGENCE FOR COMPLEX HEALTH DATA

Artificial Intelligence for Complex Health Data, Canada Research Chair, Tier 2
Department of Community Health Sciences & George and Fay Yee Centre for Healthcare Innovation
Max Rady College of Medicine, Rady Faculty of Health Sciences
Position Numbers 27188 and 27189

The University of Manitoba (UM) invites applications for a Tier 2 Canada Research Chair, a tenure-track position at the rank of assistant or associate professor, in the area of Artificial Intelligence (AI) for Complex Health Data.

The Government of Canada has established the CRC program to enable Canadian universities to foster world class research excellence. The proposed CRC aligns with the University's strategic research plan that identifies Understanding and Communicating Information (cross-cutting research theme) and Integrative Research in Health and Well-being (thematic research area) as the targeted areas.

THE POSITION

The proposed Chair will hold an academic appointment with the Department of Community Health Sciences (CHS), Max Rady College of Medicine, Rady Faculty of Health Sciences (http://umanitoba.ca/faculties/health_sciences/medicine/units/chs/) and be situated within the Data Science Platform of the George & Fay Yee Centre for Healthcare Innovation (CHI; <https://chimb.ca/pages/6-data-science>). A cross-appointment with another relevant UM department could be facilitated.

CHS is a research and training-intensive department that has 48 full-time faculty members, including 10 Canada Research Chairs, and over 90 graduate students. The department has active research and educational programs in epidemiology, biostatistics, and the health-related social sciences that aim to create and apply novel concepts and methods of population-based health sciences in the practices of population health, public health, and preventive medicine. CHI, a joint initiative of the Winnipeg Regional Health Authority (WRHA) and the University of Manitoba, is the home of Manitoba's CIHR-funded Strategy for Patient-Oriented Research (SPOR) SUPPORT Unit. CHI's vision is to be a catalyst for healthcare providers, healthcare decision makers and healthcare researchers in Manitoba to generate and facilitate the use of knowledge to improve the health of Manitobans within a sustainable framework. Its mission is to ensure that the latest research and evidence are translated into improvements to care and outcomes for Manitoba patients. The Data Science Platform within CHI is home to 25+ faculty, staff, and graduate students with expertise in biostatistics, bioinformatics, and clinical research database management who conduct independent methodological research, lead training initiatives, and provide methodological expertise in collaborative and interdisciplinary research. The Data Science Platform offers exceptional opportunities for the proposed Chair to develop an innovative research program, and engage in collaborative research with leading research groups and Centres with information-rich environments, such as the Manitoba Centre for Health Policy (MCHP), the Institute for Global Public Health and the Statistics Canada Manitoba Research Data Centre (RDC). MCHP is one of UM's premier research units housing an ever-expanding set of electronic datasets that include a globally unique combination of individually-linkable de-identified clinical and health services administrative databases, and province-wide databases from education, social services, justice and other sectors. IGPH researchers and their global partners conduct large-scale applied public health and program science intervention research while maintaining a dynamic data platform that contains over 240 datasets from five countries: India, Kenya, Nigeria, Pakistan and Ukraine. The RDC houses a wide variety of national surveys, many of which can be linked with administrative databases. The proposed Chair will have opportunity to collaborate with units that have many types of health and social data in order to develop AI solutions for real-world challenges.

Responsibilities:

The successful candidate is expected to develop and lead an independent research program that focuses on building knowledge and research capacity in the use of computational and statistical AI techniques to extract useful information from multiple types of health data; and to engage in collaborative research using advanced AI methods and tools to improve understanding of the value that can be derived from health data for basic, clinical, population health, and/or health services scientific domains.

The successful candidate will have teaching responsibilities at the undergraduate and graduate levels, and is expected to supervise Master's and PhD students and post-doctoral fellows, and contribute to the development and delivery of short courses at CHI. The successful candidate will be responsible for enhancing the interdisciplinary training environment at the Rady Faculty of Health Sciences and in CHS with the focus on building trainee technical skills in approaches to analyze, describe, visualize and model complex health data. There are also opportunities to participate in the NSERC-funded VADA (Visual and Automated Disease Analytics) Program, which trains Master's and PhD students for positions working with chronic and infectious disease data and who have backgrounds in computer science, biostatistics, mathematics, health sciences, information technology, and the social sciences.

Qualifications:

The successful candidate must have a PhD or equivalent degree in a relevant quantitative discipline, such as data science, computer science, engineering, mathematics, biostatistics, public health, or epidemiology, with research expertise in the use of statistical and/or machine-learning models and methods in applied clinical or population health sciences. Necessary qualifications for the position include evidence of research quality and productivity as demonstrated by a track record of strong research activity and academic output, and a record of mentorship of undergraduate, graduate and/or postdoctoral level trainees. Rank and salary will be commensurate with qualifications and experience.

A successful candidate is expected to be selected no later than August, 2021, after which a Tier 2 CRC nomination application will be prepared, and expected to be submitted in October 2021. Chairs are awarded by the Tri-agency Institutional Programs Secretariat after a rigorous evaluation, and award decisions are expected in the spring of 2022. The appointment will be conditional on a successful Canada Research Chair nomination, and is expected to begin on July 1, 2022.

Applicants must be exceptional emerging scholars with less than 10 years of experience as an active researcher since obtaining their terminal degree at the time of nomination. Tier 2 Chairs are valued at \$100,000 per year (includes salary and research funds) for 5 years with an option to renew once, and a research stipend of \$20,000 per year during the first 5-year term. New CRC awardees are also eligible to apply for infrastructure support from the Canada Foundation for Innovation (CFI). Applicants who are more than 10 years from having earned their highest degree, and where career breaks exist, such as maternity, parental or extended sick leave, clinical training, etc., will have their eligibility for a Tier 2 Chair assessed through the program's Tier 2 justification process. Please contact the UM's Office of Research Services (researchgrants@umanitoba.ca) office for more information (www.umanitoba.ca/research/ors/).

The University acknowledges the potential impact that [Career Interruptions and Personal Circumstances](#) can have on an applicant's record of research achievement. We encourage applicants to explain the impact of any such interruption(s) in their submission. Measures will be taken to ensure that these leaves are given careful consideration during the evaluation process. The CRC Nomination Selection Committee will receive equity training that includes instruction on how to recognize and combat unconscious, implicit, overt, prejudicial and other kinds of bias. The Canada Research Chairs website also provides full program information including details

on eligibility criteria at: www.chairs-chaires.gc.ca/program-programme/nomination-mise_en_candidature-eng.aspx

EQUITY STATEMENT

The University of Manitoba is strongly committed to equity and diversity within its community and especially welcomes applications from women, racialized persons, Indigenous peoples, persons with disabilities, persons of all sexual and gender identities, and others who may contribute to the further diversification of ideas. All qualified candidates are encouraged to apply; however, Canadian citizens and permanent residents will be given priority.

If you require accommodation supports during the recruitment process, please contact UM.Accommodation@umanitoba.ca or 204-474-7195. Please note this contact information is for accommodation reasons only.

The University of Manitoba, founded more than 140 years ago, is located in Winnipeg, and is the region's largest research-intensive university. The university community is comprised of close to 30,000 students, 9,000 faculty and staff, and over 140,000 alumni. A vibrant, prairie city with a population exceeding 700,000, Winnipeg boasts world-class arts and entertainment, professional sports teams and an affordable, balanced lifestyle; for more information, visit www.tourism.winnipeg.mb.ca.

Application materials, including reference letters, will be handled in accordance with the Freedom of Information and Protection of Privacy Act (Manitoba). Please note that application materials may be provided to participating members of the search process.

APPLICATION PROCESS

Consideration of applications will begin on June 7, 2021. Review of applications will continue until the position is filled.

Application materials should include:

- a cover letter outlining the candidate's qualifications and how they fulfill the above-listed criteria;
- a curriculum vitae (including examples of significant research contributions);
- a 3-5 page summary of the proposed research program envisioned for the Tier 2 Chair including: rationale; description of originality and innovativeness; research objectives and methods; anticipated outcomes; significance; potential to attract funding and contribute to training; potential impact on the broader community; and engagement with research users.
- a statement on the candidate's strengths and experiences in increasing Equity, Diversity and Inclusion in previous institutional environments;
- a teaching statement that documents the candidate's experience in and approach to training and mentoring diverse students, and the candidate's teaching philosophy;
- names and contact information of three referees.

Please send applications by email to: Dr. Sharon Bruce, Head, Department of Community Health Sciences, Rady Faculty of Health Sciences, University of Manitoba
E-mail: Shannon.Turczak@umanitoba.ca

Please refer to Positions Numbers 27188 and 27189 in the subject heading of your email.