

# Strategic Research Plan

2015 - 2022



The University of Manitoba (UM) is a driving force of innovation, discovery and advancement. Fueled by curiosity and determination, we are committed to building a better tomorrow, propelled by the transformative work we do today.

Since 1877 we have been Manitoba's largest and only research-intensive university. As a member of the U15, we proudly take our place among the top research universities in Canada. Our researchers explore complex problems that impact our province, our country and our world, including infectious diseases, Arctic research, climate change, global public health, human rights, social justice and sustainability.

Our place in Canada's research landscape is unique. We are located on the lands of Anishinaabeg, Cree, Oji-Cree, Dakota and Dene Peoples and on the homeland of the Métis Nation. Our connection to the agricultural and natural landscapes of the Canadian West, Arctic and to local and Indigenous communities is elemental in our research focus. UM's diverse academic and research programs spark inspiration, imagination and possibility. Our strategic partnerships build powerful connections leading to collaboration and innovation in our world-class facilities.

UM's significant research contributions are nationally and globally recognized with more than \$200 million in funding annually. UM holds 50 Canada Research Chairs, one Canada Excellence Research Chair (CERC), one senior Canada 150 Research Chair and one CERC Laureate.

The 2015-2022 Strategic Research Plan is a road map, intended to guide and inspire UM to create opportunities for research excellence, explore Indigenous ways of knowing and being and foster an outstanding student experience into the future.

#### STRUCTURE OF THE PLAN

While the Strategic Research Plan (SRP) recognizes and supports the importance of a full spectrum of impactful research, scholarly activities and creative works, it also reflects a number of core thematic and signature areas for enhancement. These were determined through intensive consultations and chosen based on their uniqueness, their potential to draw on strengths from across UM that combine teaching, research, scholarly activities and creative works, public service activities and their relevance to provincial priorities in today's rapidly changing society. The plan also includes a deployment process and strategy for the Canada Research Chair, Canada Excellence Research Chair, Canada First Research Excellence Fund and Canada Foundation for Innovation programs to enhance our research capabilities.

Signature areas related to themes were identified based on established strengths and were assessed by metrics such as:

- Relevance to issues of priority provincially, nationally and internationally
- Impact on society
- Contributions to discovery and innovation
- Attraction of resources
- Prominent research leadership
- Significant collaboration and engagement.

These signature areas will continue to drive institutional initiatives and investment, ensuring the research enterprise continues to be at the leading edge of discovery and innovation and translates these discoveries to

real-world advancements and widely applicable knowledge. Integrated planning enables us to identify our greatest areas of strength when considering highly specific and complex large-scale funding opportunities, thereby maximizing our chances of success and the potential impact of funding received. UM will frequently review its strategic themes and signature areas to ensure they support new knowledge that addresses the needs of our communities at home and on the global stage. As such, the SRP will be a 'living document' that addresses new challenges and opportunities as they arise.

Within the core strategic research areas of this plan, described below, three research themes have been identified as cross-cutting. These areas of inquiry transcend the boundaries of multiple themes, bringing together researchers across disciplines and faculties/colleges/schools to address pressing questions facing Canadian and global societies.

Understanding and communicating information - Researchers in this area are taking on research
questions relating to large-scale, complex and multi-dimensional data in new and innovative ways.
Their research addresses all aspects of complex data, including collection, movement, extraction and
representation, analysis, visualization and application. They are working on questions in areas such
as sensing, data mining and human-computer interaction are revolutionizing the way we acquire,
engage with and understand information.

The area transcends the fields of mathematics, statistics, physics, computer science and engineering, where the foundations for acquisition, analysis, extraction and visualization of information have been established. This theme also underlies research that seeks new ways to deal with information across UM from the arts and humanities to medical research. The future will require robust research to develop new mathematical, statistical and computational techniques and new sensing systems that have a wide variety of applications.

- Indigenous research Research for, with and by Indigenous peoples is an important cross-cutting dimension of UM scholarship and is an area of great contemporary relevance given the historical and developmental consciousness shared by Indigenous and non-Indigenous peoples and communities in Manitoba, Canada and the world. We are committed to research in partnership with Indigenous peoples, organizations and communities in a spirit of collaboration and reconciliation. Researchers engaging in Indigenous scholarship disseminate knowledge in innovative ways, employing cutting-edge methodologies while cultivating relationships with external stakeholders. They engage with their respective work in ways that honour Indigenous ways of knowing and being, with the intent to repair past harms and build relationships in both the present and the future.
- Sustainable systems for resilience communities Fundamental research on Sustainable Systems for Resilient Communities is crucial to the future of Manitoba and Canada in the context of changing climate and increasing resource scarcity. Researchers in this area examine questions of sustainability with three main foci: economic, social or equity-based and environmental; each with unique perspectives, along with key overlaps that allow for interdisciplinary investigations. This commitment to building sustainable communities within our region bridges UM's strengths in discovery-driven scientific research and interdisciplinary areas including water systems, Arctic research, sustainable food production and research into sustainable buildings and energy systems. Noteworthy strength in the interdisciplinary area of community resilience exists at UM's Natural Resources Institute.

#### RESEARCH THEMES

## **Arctic System Science and Technology**

Over the past 25 years, UM has emerged as one of the leading research institutions in the world in the field of Arctic System Science and Technology. At the core of this development is the Centre for Earth Observation Science (CEOS). CEOS has earned national and international recognition in fundamental research and technological development focusing on the physical, biological, geological and biogeochemical processes operating within a rapidly changing Arctic system. CEOS has seen major investments and growth in personnel and infrastructure, which has led to research partnerships with other faculties within UM that transcend traditional divisions among academic disciplines in the sciences, engineering and social sciences. These partnerships uniquely position UM to create innovative and complementary programs of research to meet the needs of society in the decades ahead.

Researchers in this theme area bring a holistic perspective to research which increasingly emphasizes the interconnectivity of the natural environment, resource development, people and policy in the Canadian and circumpolar Arctic, as well as teleconnections to temperate regions on the Earth. Increasing political and economic interest in the Arctic, including the rapid expansion of development and resource extraction, demands such an integrated research vision that takes into account both the human and natural environments. This research has an immediacy generated by our province's geographic connection with the Canadian Arctic. Supporting the sustainability of northern communities is a concern at the heart of Arctic System Science and Technology research. Collaborative relationships with Arctic Indigenous communities and peoples who carry the knowledge needed to guide research in culturally sensitive and effective directions are central to the practice of research in the region. Researchers are also working to enhance the collection and dissemination of information on the Arctic environment, such as the physical character of sea ice in multiple locations, to investigators located around the world. This research links this area with leaders in electrical and computer engineering working in fields such as remote sensing which will enable greater access to such information. By connecting researchers in areas such as Arctic governance, policy and security and the culture and Traditional Knowledge of Arctic Indigenous people with our team of researchers in climate change, sea ice and oceanography, UM is ideally placed to provide the interdisciplinary expertise needed to effectively carry forward Canada's vision and role in the Arctic into the future.

#### **Culture and Creative Works**

Living in a city widely known for its vibrant creative community and cultural diversity, researchers at UM deepen our knowledge of the human enterprise. By asking who we are, where we come from and where we are going, researchers search for meaning in our histories and seek critical awareness in and of our cultural differences. The search is accomplished through investigation, intuitive findings, historical research, critique and reflective action that inspire us to invent, innovate, design, compose, perform and transform. Human culture and creative expression are enriched by looking at the world collaboratively and through multiple lenses – a rich understanding of the human mind, cultural narratives, social interactions, language, law, commerce and our built environment and in the production of creative work that engages our senses and summons the essence of our humanity. The combined study and expression of our intellectual and creative capacity dare us to think differently about how we learn, teach and live together.

The creative process invites collaborations, which cross over disciplines and involves close working relationships among academics, students, organizations and communities locally, nationally and globally. At UM, collaborative research, scholarly and creative works are at the heart of activities in the Faculties of

Architecture, Arts and Music, the School of Art and also reaches into the Asper School of Business and Faculties of Education, Engineering, Kinesiology and Recreation Management, Law, Science and Social Work. Areas of investigation into complex data include UM's nationally recognized Archival Studies Program and studies of cross-cultural communication, as well as research on digital culture and media and human-computer interaction. Significant facilities supporting this area include the Centre for Creative Writing and Oral Culture, which engages with both Indigenous and non-Indigenous artists and storytellers to record and archive existing creations and produce new and innovative works. Combining fine arts, engineering and architectural design, the Centre for Architectural Structures and Technology seeks new concepts on building technology through exploration of materials, tools and methods. The new 70,000 square foot ARTlab is central to creative growth at UM by providing researchers with access to specialized studios and digital technologies for experimentation and study. The rich collections of the gallery in the School of Art and of the Architecture and Art Library provide a strong basis for research in art and architectural history. The Taché Arts Project, a new state-of-the-art 158,000 square foot facility, will soon be the heart of a new visual and performing arts hub with dedicated studios, exhibition and concert spaces.

#### **Fundamental Research**

Fundamental research underpins many of the results from applied disciplines that directly impact our daily lives. Fundamental research is broad at UM, spanning the majority of our faculties, disciplines and fields, whether in the natural, life or social sciences, humanities, fine arts or beyond and features numerous research strengths, both discipline-specific and inter- and trans-disciplinary. Researchers ask critical questions such as what are the origins of the universe and all forms of life in it? They build on the tradition of the classical sciences to enhance the ability to fathom our place in the world and our interactions with it. They use a multitude of modern tools and techniques, including experimental, qualitative, archival, analytical and computational to explore and understand phenomena from the incredibly large to the exceptionally small, from the concrete to the abstract.

Researchers at UM have garnered widespread recognition for their extensive accomplishments, as well as for international collaborations and leadership in many areas of fundamental research ranging from molecular and structural biology, sub-atomic and astrophysics to ecology, predictive modelling and simulation and archaeology, Canadian history and linguistics. Fundamental research at UM has much to offer including its perspectives and contributions to other specific and cross-cutting research themes and three identified research signature areas. Researchers at UM have expertise across areas such as environmental chemistry and biochemistry, Indigenous history and culture, ecology, host-pathogen relationships and the understanding and modelling of disease spread, to name a few, which provide the holistic foundation to address complex problems. Never has this been more important than it is now, as we must face the challenge of fully understanding human activities from multiple perspectives to ensure that they, are collectively sustainable and do not negatively impact the viability of the planet.

## **High Performance Materials, Structures and Processes**

Materials and materials processing are major components of the Canadian manufacturing sector, contributing half of the business research and development to its economy. In keeping with its importance to Canada, researchers at UM are major contributors to established, multi-disciplinary research on areas of materials science and materials processing that cover the entire spectrum of research and technology development from basic sciences to industrial applications.

Innovative infrastructure at UM allows for fundamental research into mineral structures and complex chemical reactions at a molecular level. This unique infrastructure also supports research surrounding the

chemical, structural and morphological nature of surfaces and bulk materials, as well as provides tools for microsystems fabrication. These facilities, along with the Manitoba Institute for Materials (MIM), which fosters networking and engagement among researchers in different disciplines, are foci of collaboration within UM and with other academic institutions and industry, MIM has evolved from being a virtual organization to a world-class facility, possessing a suite of state-of-the-art material characterization infrastructure. From characterization of minerals to materials physics, nano-materials, biomaterials, bioprocessing, advanced manufacturing, microelectronics, sensors and medical textiles, UM researchers are collaborating with local, national and international colleagues, industries and governments to improve materials and processes used in aerospace, health, biomedical engineering, manufacturing and sustainable resource processing. Researchers are also creating innovative technologies that conserve resources, reduce harm to the natural environment and create a healthy built environment. Research into energy and power production systems, clean technology, sustainable infrastructure, structural health monitoring, efficient transportation, low carbon environments and high-performance designs for energy efficiency and efficient waste management systems will continue to improve the sustainability of local communities. Collaborative research on sensors, applied electromagnetics and telecommunications supports UM's cross-cutting theme of understanding and communicating information.

## **Human Rights and Social Justice**

Winnipeg and Manitoba have a deep history of social justice and human rights activism, with the influence of the social gospel movement, the struggle for women's suffrage, the impact and legacy of the Winnipeg General Strike and efforts to address issues of Indigenous justice and reconciliation all contributing to a contemporary focus on this critical research area. With national and international attention currently focused on the Canadian Museum for Human Rights, UM is well placed to encourage research, scholarly work and creative activities around human rights in Canada and abroad. It is now home to the National Centre for Truth and Reconciliation (NCTR), which houses the archives of the Truth and Reconciliation Commission of Canada (TRC) and has become a national site for human rights research and engagement with Indigenous communities. Researchers at UM engage extensively with knowledge development and dissemination and are responsive to the growing field of Indigenous self-determination, a part of which is the revitalization, growth and celebration of Indigenous worldviews, knowledge, languages and practices. Social or equitydriven research on sustainable communities also finds home in this area, including research on environmental rights and socially just markets, organizations and forms of work. The focus of researchers on human rights and social justice crosses disciplinary boundaries. These collaborations find a home in and are supported by the Arthur V. Mauro Centre for Peace and Justice, the Centre for Professional and Applied Ethics, the Centre for Human Rights Research, RESOLVE, Ongomiizwin – Indigenous Institute of Health and Healing, the Centre for Environmental Health Equity, and the Canadian Journal of Human Rights. Together, these resources are putting Winnipeg and UM on the map internationally, as a recognized leader in human rights research and education.

A number of key concepts help to illustrate the broad themes of human rights and social justice. Researchers working on human rights are interested in individual and collective rights and domestic and global applications of rights; they examine the tensions that arise from competing rights, theories of rights and rights norms, contestation of rights and efforts to address violations of human rights. Specific areas of research at UM include gender and sexuality, disability, migration, citizenship, genocide, environmental rights such as water stewardship, Indigenous rights, race and ethnicity. Researchers working on issues of social justice explore equity and access to social opportunities, including work, health care, education and other social benefits, the continuum of marginalization and oppression to societal inclusion and participation, social movements, socially just and safe organizations and markets, applied ethics, peace building, conflict resolution and violence and redress. Much of this research is transdisciplinary and

collaborative, stressing the importance of praxis and transformation. The knowledge arising from this work is disseminated both through traditional research articles and conferences as well as through public outreach, commentary in popular media, advocacy and creative works.

## **Integrative Research in Health and Well-being**

Improvements to the health and well-being of individuals, communities and diverse populations are achieved by weaving together disciplinary and community knowledge in an iterative process of synthesis and evolution. Engaged in this process are governments, university faculties, government-funded organizations (e.g., health authorities and hospitals, the public education system), industry, research institutes, not-for-profit organizations and communities. At its foundation, the health and well-being of the population is critically dependent on basic, clinical, health system and population-based research and on effective integration of the knowledge it generates into healthcare practice. In this regard, UM is a leader in fostering such integration of knowledge, driven by the principle of collaboration across all faculties and with our partners.

To realize the vision of leading integrative research in health and well-being, UM created the Cores and Clusters Programs. The Cores Program is intended to provide faculty and partners with access to state-of-the-art infrastructure to support all four of the research pillars of the Canadian Institutes of Health Research. UM is actively investing in research within these cores to constantly evolve their science. The Clusters Program is our engine for the integration of health and well-being research within a given field of study. Clusters are comprised of multidisciplinary, multi-pillar researchers who consolidate their strengths and engage patients and decision makers, to address a specific gap in health research. They are intended to emerge, evolve and end as specific issues are identified and addressed, thus creating a flexible and responsive mechanism for researchers to participate in teams that benefit from and expand their expertise. By creating teams of researchers focused on an overarching theme in an interdisciplinary and multi-institutional manner, we are supporting transformational research that advances Manitoba researchers as national/international experts in a field. Moreover, it is intended that clusters will allow teams to lead or be part of national/international research networks of excellence. Most importantly, our clusters are addressing research questions that are relevant to the health and well-being of Manitobans.

## Safe, Healthy, Just and Sustainable Food Systems

Effective local and global food systems must yield safe, nutritious, culturally-appropriate and affordable food for all in a manner that addresses the health of our agricultural and other ecosystems, minimizes negative impacts on the environment and contributes to developing strong communities and economies. This vision is challenged by the changing climate, demography and widening inequalities in domestic and international markets. UM possesses and cultivates the expertise to help build safe, healthy, just and sustainable food systems that are economically viable and can adapt to the rapid change our province, nation and the world are experiencing today. Research on improving and strengthening food systems at UM is a key component of its commitment to research that will support sustainable and resilient communities. Our researchers in this area are nationally and internationally recognized for contributions made to an improved understanding of the intimate connection of food systems to the environment. Agricultural and food production activities both affect and are affected by the local, regional and global environment. UM programs link pioneering natural and social sciences research in an integrative food systems approach. University researchers seek to understand the social, cultural, political, ecological and economic factors that shape our diverse food systems and to optimize nutrition for the health of individuals and communities. Their research integrates the perspectives of multiple faculties and disciplines and is broadly supported by government and industry. Food and nutritional security exists when people have access to sufficient

amounts of safe and nutritious food required to support growth, development and an active and healthy life. Researchers working in this area link fields in the natural and social sciences, engineering and health research to address issues related to food and nutritional security and food sovereignty. Research into sustainable food systems is supported by the National Centre for Livestock and the Environment, which provides a national resource and sample and data archive related to the interactions of crop and livestock production and the environment. A safe, healthy food supply is essential for maintaining societal and economic well-being and stability. Food safety and nutrition research at UM occurs at the Richardson Centre for Functional Foods and Nutraceuticals and the Canadian Centre for Agri-Food Research in Health and Medicine. The Canadian Wheat Board Centre for Grain Storage Research supports research into grain quality and safety, including research on machine vision for grain imaging and quality monitoring, which relates to UM's cross-cutting theme of understanding and communication of information.

## **Sustainable Water Management Systems**

UM's expertise in the management of water quantity and quality at the regional-, watershed- and farm-scales is contributing to the long-term sustainability of our land, rivers and lakes. Researchers are generating new knowledge and technology critical to Manitoba's agricultural, energy and fishing sectors, community development and sensitive ecosystems with the support of government and industry. By participating in national climate networks, water researchers contribute to the physical understanding and modeling of the water cycle and extreme weather at various scales of time and space. This higher resolution climate modeling, coupled with expertise in water management systems at farm and watershed-scales, will reduce vulnerability to climate change and extreme weather events through the generation of novel technologies to mitigate flood risks, drought conditions and acute water pollution problems and through the improved ability to anticipate changes and their impact. Sustainable water management practices draw on research addressing the interface of land and water, river ice engineering, turbulence, fluid movement and dynamics, building design as well as the hydrologic, biological and atmospheric sciences. Our institutional leadership in combining technical expertise in water and wastewater expertise with Indigenous knowledge, language, law and methodological skills training, will address the growing needs of remote and Indigenous communities striving to improve living standards.

Water resources in Canada and Manitoba play a crucial role in driving the economy, advancing social welfare and quality of life. Water is used in production agriculture, manufacturing, hydropower generation and for human consumption with increasing competition between these sectors. Poor management of waterways and water quality can result in salinization of agricultural lands, algal blooms in lakes and flooding in urban areas, the adverse effects of which have been well researched and continue to be researched at all levels by UM researchers. The provincial government and other stakeholders are working towards an effective long-term integrated watershed management plan that reflects the province's diverse landscape, in order to maintain a healthy and sustainable watershed community. Environmental areas encompassed by this research include energy and power production systems, emerging or clean technology, biotechnology, the integration of performance systems, extreme weather environments and climate hazards, sustainable materials, water systems and flooding and the exploration of bio-regions in Northern and Southern Manitoba. The impacts that these important emerging research, environmental and industrial activities may have on ecological systems and the diverse organisms found within them are critical to the ongoing sustainability of Manitoba's prairies and the northern communities. UM is well positioned to lead this research through integrated co-ordination across existing and emerging areas of strength.

## SIGNATURE AREAS (established areas of excellence)

## **Arctic System Science and Climate Change**

UM is home to internationally renowned programs of research in Arctic science, climate change and its effects on Arctic sea ice. Ongoing major investments and partnerships in this area, including a Canada Excellence Research Chair in Arctic Ice, Freshwater Marine Coupling and Climate Change, a Senior Canada 150 Research Chair in Climate Sea Ice Coupling, the Amundsen research vessel, the Sea-Ice Environmental Research Facility, the BaySys Hudson Bay System Study, the newly constructed Churchill Marine Observatory, the Expedition Churchill partnership and co-leadership in the ArcticNet Networks of Centres of Excellence and the Arctic Science Partnership, have cemented UM's place as a world leader in this field. As the realities of global temperature increase and melting sea ice become increasingly apparent, research in this area is crucial to understanding, mitigating and adapting to the effects of a changing climate on Canada's Arctic and the world.

## **Immunity, Inflammation and Infectious Disease**

Bolstered by the presence of the National Microbiology Laboratory and a training program in infectious diseases, UM researchers are receiving international recognition for their leadership in immunity, inflammation and infectious disease research. Basic and translational research related to allergy and asthma, inflammatory bowel disease, multiple sclerosis, rheumatoid arthritis, transplant immunology, sexually transmitted diseases, human immunodeficiency virus (HIV), sepsis, emerging infections and antimicrobial resistance is transforming our understanding of the relationship of the immune system and inflammation to disease, and is leading the way to new treatments and vaccines for existing and emerging infectious diseases.

## **Population and Global Health**

UM has built a world-leading team of researchers in the areas of population and global health, with highly developed networks of international partnerships and collaborations. The Institute for Global Public Health (IGPH) has been at the forefront of basic and applied research in HIV prevention with an established reputation of innovative work in maternal, neonatal and child health, including the health of Indigenous populations, both in Canada and globally. Notably, IGPH is leveraging key partnerships to advance maternal and child health with the Children's Hospital Research Institute of Manitoba and to advance Indigenous health with Ongomiizwin – Indigenous Institute of Health and Healing. The Manitoba Centre for Health Policy has been an international leader in the development of health services and population health research, including the impact of social, economic and regional factors on health and social outcomes. Researchers are working within Manitoba, Canada and across continents to better understand the effects that the actions and characteristics of individuals, communities and populations have on health and are engaged in the development of effective public health strategies and interventions for communicable and chronic disease prevention.

#### MEASURING THE PLAN'S SUCCESS

Given the outline of the Plan's objectives, measures of success will include indicators of:

- Research capacity-building through recruitment and retention of outstanding faculty
- Networking, partnership and collaboration (local, national, international, within and between disciplines/sectors)

- Recruiting top students and providing outstanding training opportunities
- Knowledge dissemination and translation

## DEPLOYMENT OF CANADA RESEARCH CHAIRS AND CANADA FOUNDATION FOR INNOVATION ALLOCATIONS

Calls for chair proposals are issued jointly by the Vice-President (Research and International) and the Vice-President (Academic) and Provost. Calls for infrastructure proposals are issued by the Office of the Vice-President (Research and International) to deans and directors of faculties/colleges/schools and affiliated institutions. Units submit proposals based on their research strategic plans, taking into account UM's Strategic Research Plan 2015-22 and the research and research training themes and signature areas outlined in the plan. Chair proposals are reviewed by UM's Selection Committee consisting of the Vice-Provost (Academic Affairs), the Associate Vice-President (Research), the Vice-President (Research and International) and the Provost and Vice-President (Academic), with the VPRI as chair of this committee. Infrastructure proposals are reviewed by UM's CFI Advisory Committee, also taking into account institution-wide planning initiatives and makes recommendations to VPRI, who makes the final decisions on proposals to be submitted in consultation with the senior executive committee. UM recognizes the significance of these resources in its ability to attract and retain outstanding faculty and to establish world-class facilities in its continuing pursuit of research excellence.

#### PLANNING AND APPROVAL PROCESS OF THE PLAN

UM's Senate Committee on University Research endorses the Strategic Research Plan, which is then forwarded to Senate for discussion. The plan is subsequently approved by UM's President and Vice-Chancellor, who, as stipulated in the Canada Research Chair (CRC) Program Guide, is accountable for the plan. This plan was developed through a process of extensive consultation with UM's faculties/colleges and schools and the research community, including the network of Associate Deans (Research)/Research Liaison Officers.

### DESIGNATED GROUPS IN RELATION TO CRC NOMINATIONS

UM is committed to and continually acting upon the principles of equity, diversity and inclusion (EDI). Our EDI plan has been accepted by the Canada Research Chairs Secretariat (CRSC) and we have not only met but have exceeded targets for designated groups. Our commitment to the core principles of EDI is an ongoing one to integrate EDI into all the activities of the UM. The issue of excellence and equity are addressed by ensuring that recruitment and retention processes are, as far as possible, free of barriers to nominating members within the designated groups of women, persons with a disability, Indigenous Peoples and visible minorities to CRC positions particularly in disciplines/fields where they are under-represented in terms of these positions. This includes:

- Ensuring efforts are made to have an appropriate balance of designated groups on all search committees
- Including a statement in CRC advertisements that particularly encourages members of designated groups to apply; mandatory training of all search committee chairs on processes and issues related to equity and diversity
- The appointment of the Associate Vice-President (Research) to all search committees; and the review by the Office of the Vice-President (Academic) and Provost of all search processes to ensure that each has adopted a proactive approach to the identification of qualified members of designated groups for CRC positions