

# YORK UNIVERSITY STRATEGIC RESEARCH PLAN SUMMARY TOWARDS NEW HEIGHTS 2018-2023

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## OBJECTIVES

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- York seeks national research leadership and international recognition through building on areas of existing strength, fostering the development of new opportunities, and expanding the influence of our work through broadening and deepening our external partnerships and engagement in the generation and sharing of knowledge.
- Over the next five years, these goals will be reflected by increased recognition of our research, scholarly and creative work through enhancement of our ranking in national and international surveys, increased attraction of high quality undergraduate and graduate students and postdoctoral fellows, continued growth in our research income and publication output, quality and diversity, and establishing York as an innovation hub that combines research translation and entrepreneurship with a focus on social justice and building community partnerships.
- In developing its research, the University is committed to critically engaged scholarship, advancing social justice and providing a lasting legacy of benefits to society.

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## RESERACH & RESEARCH TRAINING

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York expects to make its CRC appointments building on existing research strengths and research themes with an emphasis on strategic research opportunities as outlined in the institutional Strategic Research Plan, recognizing that these investments should largely align with areas where the research productivity that underlies our Chair allocations originates. These areas are underpinned by a strong vision of the York community achieving new levels of research leadership. All CRCs are expected to be highly active in the training of graduate and postdoctoral trainees, and to provide leadership in the development of graduate and postdoctoral training programs within their disciplines. Chairs are also expected, as appropriate, to be sensitive to the importance of translating their scholarship, research findings and /or creative activities into tangible benefits to society through the translation and mobilization of the knowledge developed through their scholarship, research and creative programs. Lastly, Chairs should be highly active in pursuing external funding support and research awards, particularly from the Tri-Council. Overall, the CRC program will serve to enhance research capacity and strengthen research around our priority research areas, guided by the Institutional Strategic Research Plan.

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## COMPREHENSIVE RESEARCH STRENGTHS

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York is a leader in research that crosses disciplinary boundaries. The majority of this work is captured across six intersecting research themes. The research, scholarship and creative activity within each theme are informed by disciplines, but are inherently inter- and transdisciplinary in their development and application. These themes reflect areas of research in which we are demonstrating national and international leadership, and are expected to continue to grow and excel over the next five years. York is committed to ongoing investment that will support these research strengths across the institution, which, in turn, will enhance the influence and recognition of our scholarship and creative activities.

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## ADVANCING FUNDAMENTAL INQUIRY AND CRITICAL KNOWLEDGE

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- We strive for international recognition of ground-breaking research that is contributing to the fundamental advancement of knowledge.
- Pure, curiosity-driven research is emphasized across York as foundational to realizing humanity's greatest aspirations.
- University-based research must provide ample space for scholars to explore uncharted territory in their areas of expertise.
- Universities must nurture the drivers of innovative and critical ideas.

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## ANALYZING CULTURES AND MOBILIZING CREATIVITY

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- We strive to expand the profile and recognition of art installations, performance and community engagement through our scholarship.
- Here, we explore culture and creativity at the intersections of social innovation and tradition.
- It addresses York's diverse and strong expertise in the fine arts, as well as a broad spectrum of research in liberal-arts-based disciplines.
- Research includes a focus on the intersection between Indigenous ways of knowing and modern technologies.

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#### BUILDING HEALTHY LIVES, COMMUNITIES AND ENVIRONMENTS

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- We strive for policy impacts and the development of technologies, tools and methods that promote wellness and healthy environments.
- This theme encompasses the study of health, the influence of income inequality, the social determinants of health as well as the health of communities and global health.
- It includes needed changes in health policy, services and systems, as well as research in the biomedical and clinical sciences and population health.

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#### EXPLORING AND INTERROGATING THE FRONTIERS OF SCIENCE AND TECHNOLOGY

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- We strive to be at the forefront of scientific discovery and to lead Canadian universities in technological innovation for the benefit of society.
- Here, we explore the complexity of science and engineering, technological innovation and the fundamental challenges arising in our global ecosystem.
- Disciplines included in this theme are mathematical and information sciences, humanities and social sciences, health sciences, law, environmental studies, and science and technology studies.

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#### FORGING A JUST AND EQUITABLE WORLD

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- We strive to provide leadership in scholarship impacting policy nationally and internationally, surrounding issues of equity, justice and sustainability.
- Research in this theme extends from understanding the global and international environment to exploring identity, human rights, citizenship and the movement of peoples.
- Research focuses on challenges posed by the social, economic and environmental transitions shaping human activity.

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#### INTEGRATING ENTREPRENEURIAL INNOVATION AND THE PUBLIC GOOD

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- We strive to foster innovation that enhances society's capacity to sustain livelihoods and contribute to economic growth, while supporting the public good.
- Innovation relies on the entrepreneurial spirit, but at York, our practice and study are animated and framed by principles of social justice and the public good.
- Research under this theme involves disciplines such as business, engineering, ethics and law, corporate governance, sustainable economic development and human rights.

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#### OPPORTUNITIES FOR THE STRATEGIC DEVELOPMENT OF RESEARCH

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Within the breadth of outstanding research at York, there are some more focused areas, where we see specific opportunities to further accelerate research growth and success. These five areas of opportunity are timely and address some of the most important challenges that we currently face and are propelling York ahead of the curve in rising to meet newly emerging challenges. Over the next five years we see opportunities to significantly advance research strengths within our six themes as well as particular research opportunities in five strategic areas. Development of these opportunities brings together varied perspectives, disciplines and understandings that deliver innovative achievements and address emerging challenges. Strategically, by committing to supporting and building these areas of opportunity, through the recruitment of outstanding new researchers and students, the development of cutting-edge infrastructure, and the promotion of engaged collegial and collaborative research we are enhancing York's national and international leadership in areas of research highly relevant to Canada's future.

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## DIGITAL CULTURES

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Over the next five years, York will be guiding the beneficial application of high-performance computing associated with big data. We will also extend our recognized leadership and build upon our influence in technological and cultural developments in the entertainment sector. For example, researchers are promoting critical discourse in the digital media art, while through the BRAIN (Big Data Research, Analytics and Information Network) Alliance, they are creating new access to the analysis and visualization of big data. In doing so, we will build on our existing collaborations and continue to strengthen the industry-academic partnerships in the cultural and entertainment sectors.

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## HEALTHY INDIVIDUALS, HEALTHY COMMUNITIES AND GLOBAL HEALTH

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York will, over the next five years, address challenges, and export and translate health care solutions, locally and globally – those that affect health and health equity, being mindful of underlying cultural, social, legal, environmental and economic perspectives. From biomolecular engineering to the health of populations, and from healthy aging to global child health, researchers will fully realize the potential of, and accelerate the success of, recently launched initiatives such as the Dahdaleh Institute for Global Health Research and Vision: Science to Applications (VISTA). Over the longer term, York maintains its aspiration for a new kind of medical school to focus on integrated interdisciplinary care.

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## INDIGENOUS FUTURITIES

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Indigenous futurities acknowledges the power of research that embraces future potential and past reality as integral to sound, contemporary work. In the next five years, Indigenous leadership in York's collaborative, community-referenced research will create a unique space to support contributions to Indigenous knowledges and theory within the academy. As truth, reconciliation and justice assume their rightful place for both Indigenous and non-Indigenous scholars working within Canadian universities and globally, York is committed to respectful, relevant, Indigenous-informed and Indigenous-led research, scholarship and related creative activity.

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## INTEGRATION OF ARTIFICIAL INTELLIGENCE INTO SOCIETY

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Over the next five years, York researchers will become leading intellectual voices on how artificial intelligence (AI) will affect culture, living, economics and identity. Our work will guide the adoption of AI in a manner that improves the human condition with scholars from across the humanities, social sciences, health and law, studying the moral, ethical and legal implications of AI adoption. We will build on our leadership in visual perception technologies, space exploration, robotics and manufacturing technologies, along with remote sensing, intelligent information systems and cognitive analytics. Research will take on a strong interdisciplinary approach in which technological innovation will be informed by human actions.

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## PUBLIC ENGAGEMENT FOR A JUST AND SUSTAINABLE WORLD

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Research in this area will, over the next five years, address emerging issues in urban, rural and wilderness environments. Across the University's disciplines, our scholars are recognized as world leaders in research on the origins, nature and consequences of inequality and oppression, as well as key environmental and societal challenges. Researchers are coming together in interdisciplinary teams and working to tackle an expanding range of issues including migration and strategies for youth homelessness; engineering solutions for water and energy security; and responding to natural and human-made disasters with an internationally leading simulation centre for emergency management.

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## CHAIR INVESTMENT, EXPECTATIONS & SUPPORTS

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York is committed to utilizing its CRCs to build research capacity through the recruitment of outstanding new researchers to the University, enhancing our research profile, and recognition, and attracting top graduate students and postdoctoral fellows. In order to maximize the opportunities for strengthening our priority research areas and building our

complement, York is placing an emphasis on attracting outstanding researchers from around Canada and the World to its Canada Research Chairs.

Holders of Canada Research Chairs at York will be internationally recognized or emerging leaders of scholarship, research and creative activities (SRCA). As such, there is an expectation on the part of the University that CRCs will exhibit leadership in promoting the overall development of SRCA at York that extends beyond their personal research programs.

All CRCs are expected to be highly active in the training of graduate and postdoctoral trainees, and to provide leadership in the development of graduate and postdoctoral training programs within their disciplines. Meeting these expectations will be a key internal consideration when considering Chair renewal.

At York we are committed to using the CRC program, and other internal research support tools, to build our research capacity and leadership across our areas of research opportunity. York recognizes that these investments should largely align with areas where the research productivity that underlies its Chair allocations originates. The SRP will also be used as a primary resource to determine how York will maximize its infrastructure investments through CFI support. York's internal prioritization and review processes for institutional projects including CFI are guided by the SRP to ensure that York maximizes its investments in meeting its infrastructure needs. It is expected that the majority of CFI investment at York will be in areas of opportunity and strength that are identified in the SRP.

Among other initiatives, we are building a base of collegially engaged mentorship and have developed support that will assist researchers in the successful development of strategic partnerships, and the execution of large partnership and large institutional funding projects. Additionally, York strongly supports the development of research and scholarship and does so through a number of support programs that are accessible to all researchers, for both individual and collaborative projects.

The University is dedicated to continuing its tradition of engaged scholarship, as faculty members continue to develop relationships with external partners in community, industry and other post-secondary institutions to further its collaborative mandate. York boasts a number of collaborative research initiatives that both build on and demonstrate leading expertise in several of our priority research areas and allow our CRCs to engage in world-class research. Some recent examples of large-scale initiatives include working with TRIUMF (Canada's National Laboratory for Particle and Nuclear Physics), the ATLAS collaboration at CERN (the European Organization for Nuclear Research), and the T2K collaboration in Japan that is seeking out and studying the elementary particles. Further, York's Advanced Disaster and Emergency and Rapid Response Simulation (ADERSIM) program is collaborating with academic institutions and governments internationally to develop preparedness for emergency response and to understand the migration of disease across borders. York is the lead organization on several large health and wellness research collaborations working with prominent industry, academic and healthcare organizations, advancing healthcare technology, training programs and enhancing patient safety. York also leads joint initiatives with top researchers, key stakeholders and institutions in the non-profit sector and government, focusing on effective long-term solutions to homelessness within urban settings. These are just some examples of how the institution is committed to partnering, networking and collaborating to develop and maintain our areas of opportunity.

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## EQUITY, DIVERSITY AND INCLUSION

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York University's Academic Plan, as well as numerous policies and collective agreements, enshrine York's strong commitment to equity and affirmative action in the promotion of all minority groups protected under the Ontario Human Rights Code including women, visible minorities, persons with disabilities and Aboriginal Peoples in all of its appointment procedures.

Following the CRC Secretariat's direction issued last spring 2017 mandating that those institutions with an allocation of five or more Chairs develop their own Equity, Diversity and Inclusion Action Plan (CRC EDI Plan). In response, York University struck a committee to develop its institutional plan. The [committee membership](#) included representation from the FDGs; current CRC chairholders; faculty members with expertise in equity/diversity/inclusion issues; and University administrators with responsibility for implementing the CRC program. Through consultations with stakeholders, including subject matter experts, representatives of the FDGs, York faculty members and administrators, as well as an examination of documents, policies and publications, including the CRC's [Equity, Diversity and Inclusion Practices](#), the committee developed an [institutional plan](#) and accompanying [appendices](#). For a concise overview of what you need to know about

York University's CRC Equity, Diversity and Inclusion Action Plan, see [this document](#). This plan was submitted on December 15, 2017 to the CRC Secretariat for review and approval. Once approved, the components of the plan will be monitored by the Office of the Vice-President Research & Innovation (VPRI). The VPRI team will work with Faculties and hiring units to ensure that the points of the plan are enacted, reviewed regularly and adapted appropriately based on the impact on the measurable equity/diversity targets contained within the plan.

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## PLANNING AND APPROVAL

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Within the context of regular complement planning, guided by the Institutional Strategic Research Plan, York will undertake institutional consultations across the York community to identify interest in recruiting Chairs within the potential focus areas that would most benefit from the infusion of CRCs. In those areas in which recruitment is agreed upon, Faculties will advertise the availability of Chairs broadly and will recruit in accordance with all of the University's procedures and practices for the hiring of faculty members. Potential CRC candidates will be nominated for a Chair via the Provost who makes a final recommendation on Chair nominations to the President for approval.

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## CRC ALLOCATION

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All of York's Chairs are allocated within either broad research themes or specific areas of opportunity. In addition to a SSHRC Tier 2 chair and an NSERC Tier 2 chair available for allocation, York's Chairs are allocated as follows (June 2018):

**Digital Cultures:**

3 SSHRC Tier 2: School of Arts, Media, Performance and Design (AMPD)

**Health Individuals, Communities, Environments and Global Health:**

1 CIHR Tier 1- Science  
3 CIHR Tier 1- Health  
1 CIHR Tier 1- Science/ Health  
1 NSERC Tier 1- Science  
1 NSERC Tier 1- Health  
1 NSERC Tier 2- Science  
1 SSHRC Tier 1- Health  
1 SSHRC Tier 1- Education

**Just and Sustainable/ Equitable World:**

3 SSHRC Tier 1- LA&PS (Liberal Arts & Professional Studies)  
3 SSHRC Tier 2- LA&PS  
1 SSHRC Tier 2- Education

**Indigenous Futurities:**

1 SSHRC Tier 2- Osgoode Hall Law School

**Artificial Intelligence:**

2 NSERC Tier 1- Lassonde School of Engineering  
2 NSERC Tier 2- Science

**Entrepreneurial Innovation:**

1 SSHRC Tier 1- Schulich School of Business  
1 SSHRC Tier 2- Schulich School of Business

**Frontiers of Science and Technology:**

2 NSERC Tier 1- Science  
3 NSERC Tier 2- Science  
1 NSERC Tier 2- Lassonde School of Engineering

**Cultures & Creativity**

1 SSHRC Tier 2- LA&PS