

YORK UNIVERSITY

Strategic Research Plan: 2023-2028

KNOWLEDGE FOR THE FUTURE: FROM
CREATION AND DISCOVERY TO APPLICATION



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LAND ACKNOWLEDGMENT

We recognize that many Indigenous Nations have longstanding relationships with the territories upon which York University campuses are located that precede the establishment of York University. York University acknowledges its presence on the traditional territory of many Indigenous Nations. The area known as Tkaronto has been care taken by the Anishinabek Nation, the Haudenosaunee Confederacy, and

the Huron-Wendat. It is now home to many First Nation, Inuit and Métis communities. We acknowledge the current treaty holders, the Mississaugas of the Credit First Nation. This territory is subject of the Dish with One Spoon Wampum Belt Covenant, an agreement to peaceably share and care for the Great Lakes region.

FOREWORD

For the past several years, countries have faced the tremendous task of managing a global pandemic with the impacts of the pandemic still widely being felt. From reimagining health care systems to facing new realities such as increased remote work and the acceleration of the digitalization of our economy, the issues we face are wide and far-reaching. While the world is still in the midst of tackling the COVID-19 pandemic and adapting to the many socio-economic changes that it has brought, the pandemic has mobilized researchers at York to help lead and contribute to the global effort to overcome the pandemic by investigating the immediate impact of COVID-19, as well as the long-term implications for society. Moreover, York researchers are also tackling a myriad of other salient local and global developments –from the war in Ukraine sparking the fastest-growing refugee crisis since the Second World War to issues of affordability in Canada – our researchers are addressing a wide range of pressing issues to drive new insights.

As a comprehensive research-intensive institution, York has a proud tradition of interdisciplinary scholarship and the pursuit of discovery and innovation. Its commitment to excellence brings together a rich diversity of perspectives with a strong sense of social responsibility that is making a difference to the world around us. Supporting the University Academic Plan 2020-2025: *Building a Better Future*, this Strategic Research Plan 2023-2028: *Knowledge for the Future: From Creation and Discovery to Application* lays out a vision for accelerating the growth and supporting the development of our research, scholarship and creative activity over the next five years. It is a plan that seeks to reaffirm and advance York's commitment to research excellence and to the development and application of new knowledge to create positive change in our local and global communities. This plan showcases the depth and breadth of research at York – research that is innovative; advances critical inquiry and scientific discovery; examines our beliefs and perceptions; and seeks to impact the social, cultural and economic development of our country and beyond.

The York community has shown an enthusiastic response to the planning process and provided valuable feedback highlighting their aspirations for scholarly research in the context of the overall academic mandate of the University. In this plan, these aspirations provide guidance for the growth and development of research at York over the next five years. By implementing this research plan, we aspire to create opportunities for the entire University to engage in dialogue on emerging big ideas that have the potential to lead to positive change on a large scale. By proactively inciting discussion on emerging issues of societal importance, including the UN Sustainable Development Goals (SDGs), involving leading minds representing a broad range of expertise, perspectives and experience, we remain committed to enhancing the well-being of the communities we serve.

EXECUTIVE SUMMARY

Led by the Office of the Vice-President Research and Innovation (VPRI) and guided by a dedicated Strategic Research Plan Advisory Committee (see Appendix A), the Strategic Research Plan 2023-2028: *Knowledge for the Future: From Creation and Discovery to Application* was developed through a broad process of collegial engagement with our academic community. This plan lays out a vision for accelerating the growth and supporting the development of our research, scholarship and creative activity over the next five years and can be read as four sections.

The first section of this plan highlights York University's mission, research vision and research excellence, with decolonizing research and diversity and inclusivity in research and scholarship underscored as two key pillars of research excellence at the University.

The second section of the plan showcases the depth and breadth of research at York, which is reflected by the University's six intersecting areas of research strength:

- Advancing Fundamental, Discovery and Theoretical Research and Scholarship
- Illuminating Cultures and Cultivating Creativity
- Building Healthy Lives, Communities and Reimagining Futures
- Reaching New Horizons in Science, Technology and Society
- Pursuing Justice, Equity and Sustainability: From Urban Dynamics to Global Challenges
- Elevating Entrepreneurship Through Socially Responsible Innovation

The research, scholarship and creative activity within each theme are informed by disciplines but are inherently inter- and transdisciplinary in their representation 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.

At the same time, there are a select number of more focused areas where we see specific opportunities to further accelerate research growth and success. The third section highlights six areas of opportunity that are timely and provide particular opportunity to build York's research success. Each of the following foci transects our areas of thematic strength, bringing in expertise from around the University:

- Digital Cultures and Disruptive Technologies
- Healthy Communities, Equity and Global Well-being
- Indigenous Futurities
- Climate Action for a Sustainable Planet
- Social Justice, Peace and Equitable Relations
- Inter- and Transdisciplinary Research Innovation

The final section of the plan outlines the University's commitment to a strategic combination of broadly based and focused investments to enable research success – this includes continued efforts and investments to support the development of all innovation opportunities, through supporting industry and community engagement and partnerships, knowledge mobilization, entrepreneurship and commercialization. In five years, we expect to have strongly advanced our reputation and trajectory as an internationally leading, research-intensive, comprehensive Canadian university, making a difference in communities and improving society.

MISSION

The mission of York University is the pursuit, preservation, and dissemination of knowledge. We promise excellence in research and teaching in pure, applied and professional fields. We test the boundaries and structures of knowledge. We cultivate the critical intellect. York University is part of Toronto: we are dynamic, metropolitan and multi-cultural. York University is part of Canada: we encourage bilingual

study, we value diversity. York University is open to the world: we explore global concerns. A community of faculty, students, staff, alumni and volunteers committed to academic freedom, social justice, accessible education, and collegial self-governance, York University makes innovation its tradition. *Tentanda Via*: The way must be tried.

RESEARCH VISION

This plan seeks to advance York's research vision – to aspire to better understand the human condition and the world around us, and to employ the knowledge we gain in the service of society and the health of the planet. York is committed to excellence in research and scholarship in all its forms. Informed by a strong commitment to shared values, including the promotion of social justice, diversity, equity, the public good, social engagement and global citizenship, we believe

that intensive engagement in research is a core institutional value that permeates the fabric of the University, and it is this foundation on which York's vibrant and exciting academic environment is built. This plan focuses on advancing the frontiers of knowledge through scholarship and research of the highest quality. This is reaffirmed through York's commitment embedded in its [mission, vision and values](#).

RESEARCH EXCELLENCE

From its inception to our present standing as a diverse and comprehensive research and teaching institution, York has focused not only on new discoveries and the creation of new knowledge but also on how this knowledge can be used to benefit cultures and societies as broadly as possible. Research at York has seen remarkable growth, with an expansion of world-leading research, scholarship and creative activity in the fine arts, social sciences, humanities, education, law, science and business. This is accompanied by rapidly growing leadership in health and engineering that is broadening and deepening York's engagement with and impact on our communities.

York researchers have played key roles in many of the important discoveries and influential scholarship of the past six decades. Some examples include space instrumentation for the exploration of Mars; impacting the way we think about youth homelessness; understanding the changes brought about by colonial expansion on Indigenous societies; advancing understanding of biological and computer vision; studying the formation and development of language policy; generating new insights into brain development in children; examining lifelong learning linked to brain performance; encouraging civic dialogue through performance and public art; working to improve the global plight of refugees; shaping future thought on suburbanization and today's ecological crisis; mapping the spread of infectious diseases through mathematical modelling; and using law to address social inequalities.

York scholars have achieved the highest recognition in their fields and follow in the tradition of our many accomplished scholars. They include over 150 Royal Society Fellows and new Members of the College, and 25 Distinguished Research Professors. York scholars have been inducted and named as Killam Prize winners, Guggenheim Fellows, Humboldt Fellows, Fulbright Scholars and Trudeau Foundation Fellows. They have been recognized with the E.W.R. Steacie Fellowships (now known as the Arthur B. McDonald Fellowships) and

Governor General's Awards and have received a range of disciplinary honorifics and prizes for their books, lectures and other scholarly achievements. York's allocation of 38 Canada Research Chairs, which are complemented by over 50 York Research Chairs and over 30 named Chairs and Professorships, demonstrates the University's support for its faculty and their research excellence across disciplines. The work of our scholars enriches the teaching, research and overall learning environment for our students – our next generation of leaders and thinkers.

Notably, research at York is strongly engaged internationally and has significant global impact. York boasts some of the world's top researchers contributing to over 150 topic areas with nearly 35% of our publications in the top 10% of journals worldwide. Ranked prominently within the influential Times Higher Education Impact Rankings, York places 33rd in the world in meeting the United Nations SDGs, positioning York among the top 6% of universities worldwide for the last several years. Further, over the last 10 years, York has been top ranked among Ontario universities for our global collaborative research publications. Within the next five years, we expect to increase the scope of our international leadership recognition by at least 10% and significantly increase our rankings across all topic areas.

The York community understands the importance of translating discovery into action and seeks to engage the world around us in collaborative, participatory and partnered research that is inclusive, builds long-term relationships and brings tangible benefits to the communities with which we work. York has seized on these opportunities and has made long-term investments in supporting participatory and collaborative research and scholarship that reaches from Toronto and its region, across Canada and around the world. Currently, York has over 300 active partnerships with international institutions that enables the movement and exchange of researchers and trainees.

Leading examples of the international reach of York's research include the York-led Refugee Research Network bringing together Canadian and international scholars in the study of refugee and forced migration issues; a York-based global partnership of feminist urban researchers studying, educating and advocating around women's livelihoods in eight cities in the Global South; utilizing artificial intelligence (AI) and data science models in helping to predict viral transmission of disease and mitigate new infections in the developing world; the establishment of Connected Minds: Neural & Machine Systems for a Healthy, Just Society for creating an international hub of expertise in socially responsible research and technology to optimize societal benefits and mitigate risks of human-machine interactions; the United Nations Economic Commission for Europe (UNECE) establishing the Toronto Centre of Excellence on Youth Homelessness Prevention at York to assess the state of youth homelessness and prevention in the 56 member states of the UNECE. Similarly, some significant health and science projects are driven by research collaborations with international partners, such as our partnership with Qatar University and other partners in leading the development of the first International Cardiac Rehabilitation Registry program; and our long-standing collaborations with the European Organization for Nuclear Research (CERN), NASA, and the European Space Agency.

We enhance our impact locally and globally through the graduates we prepare and the research, scholarship and creative activity we create. York takes an integrative approach to teaching and research - undergraduate and graduate students, as well as postdoctoral fellows, enjoy the active mentorship of internationally recognized scholars, and are provided access to cutting-edge research infrastructure and an exciting and engaged environment for the pursuit of discovery. York hosts one of the largest cohorts of graduate students in the country, and York's graduate and postdoctoral fellows are key drivers of the University's research excellence and scholarly success – from trainees to professor emeriti, we are committed to the continued support of researchers across the lifespan.

York has a strong commitment to supporting our continued growth and application of our research, scholarship and creative activity through focused planning documents, including the UAP 2020-2025. As emphasized in its "Six Priorities for Action," the UAP describes the continued growth and acceleration in our research, scholarship and creative activity as key to the overall success of the institution. Furthermore, the UAP makes strong commitments to expanding the success of research at York over the next five years, with a focus on deepening York's research contributions in addressing complex and pressing issues, such as those highlighted by the United Nations SDGs. Additionally, York's Open Access Policy reinforces our commitment to the democratization of knowledge by making our research widely accessible through an open access repository. As the importance and prominence of research, scholarship and

creative activity continue to intensify at York, this Strategic Research Plan provides the next level of detail in articulating our strategy for translating our research ambition into successful outcomes and contributions.

COMMITMENT TO DECOLONIZING RESEARCH

York is committed to diversity of thought and strives to pursue inclusive excellence by decolonizing research and ensuring that our researchers are committed to a global mindset, ethical judgment, and critical integration of diverse ideas and worldviews. Founded in 1959 on the traditional territory of the Anishinabek Nation, The Haudenosaunee Confederacy and the Huron-Wendat, York acknowledges our colonial roots and recognizes that decolonizing research requires intentional examination of the ongoing colonial processes, practices and Western ways of thinking that continue to delegitimize and devalue Indigenous knowledges and Indigenous peoples at York University. York values the achievements of Indigenous scholars and students in research, teaching and learning. We are committed to addressing ongoing barriers deeply rooted in colonial practices and policies that govern research policies and procedures (including, for example, grant administration, ethical review and grant adjudication), that may conflict with Indigenous research methodologies. All peoples have greatly benefited from Indigenous knowledges, languages and ways of knowing and being. Accordingly, York continues to interrogate our ways of functioning critically and systematically in all aspects of the academy that inadvertently or otherwise interfere with our commitment to supporting, recognizing and valuing Indigenous knowledges and Indigenous scholars.

Furthermore, York's emphasis on interdisciplinarity provides national and international leadership in the promotion of new approaches to research and scholarship. In particular, York is committed to working with Indigenous communities (First Nations, Inuit and Métis) and York-based Indigenous scholars to deepen our understandings of respectful forms of research engagement, development and application. The UAP affirms York's commitment to the Indigenous Framework in its "Six Priorities for Action," including building stronger relationships with Indigenous communities. In the Winter 2023 term, the Office of the Vice-President Research and Innovation (VPRI) will launch the first fully Indigenous Research Ethics Board, led and advised by Indigenous members, with the aim of providing oversight and ethics review into research involving Indigenous peoples (First Nations, Inuit and Métis). To further support Indigenous members of York's community, this plan identifies Indigenous Futures as an opportunity to advance social, cultural, artistic, policy, legal, economic and justice areas that holistically shape Indigenous experience. York remains committed to building community partnerships in research and to facilitating research that respects Indigenous approaches to knowledge and learning.

COMMITMENT TO DIVERSITY AND INCLUSIVITY IN RESEARCH AND SCHOLARSHIP

This plan reaffirms York's long-standing commitment to the values of equity, diversity, inclusion and social justice. York believes that our diverse community, research excellence and commitment to collaboration facilitates responses to complex challenges that serve the public good and create positive change in the communities we serve. We acknowledge that creating positive change requires that all members of our diverse community are equally valued and recognized and feel a sense of belonging, common purpose and shared responsibility to enrich and support each other's work.

As we build on our strengths across areas of research, scholarship and creative activity, we recognize that the nature of our respectful relationships with each other is paramount for our ongoing success. As such, we aim to nurture an equitable and inclusive environment where all members of the York community experience a strong sense of belonging and well-being. This includes cultivating equitable and inclusive research environments in which the intersecting social relations of power are continually analyzed and challenged. This also includes meaningful and genuine research partnerships with communities in the cities and urban regions of which we are a part.

Meanwhile, York is continuing to create and sustain diverse research teams and encourage research programs in equity-deserving communities. This involves the continued support of scholarship for equity-deserving groups, the Dimensions Charter, and the advocacy and work related to Tri-Council funding and programs. As outlined in the UAP, we are also continuing our actions to support reconciliation and transformation through our Indigenous Framework and intensifying our systematic efforts to embed human rights, equity, diversity and inclusion training across the University.

RESEARCH AREAS OF STRENGTH: COMPREHENSIVE RESEARCH ENGAGEMENT ACROSS THE INSTITUTION

York is providing nationally and internationally recognized research leadership across six broad intersecting areas:

- Advancing Fundamental, Discovery and Theoretical Research and Scholarship
- Illuminating Cultures and Cultivating Creativity
- Building Healthy Lives, Communities and Reimagining Futures
- Reaching New Horizons in Science, Technology and Society
- Pursuing Justice, Equity and Sustainability: From Urban Dynamics to Global Challenges
- Elevating Entrepreneurship Through Socially Responsible Innovation

Each area includes a broad segment of scholarship and is built upon a number of research strengths, where York maintains research excellence and forms the basis for York's recognition as a leading Canadian research institution. York is committed to ongoing investment that will support these research areas across the institution, which, in turn, will enhance the influence and recognition of our scholarship and creative activity more broadly. In highlighting these key research themes, we continue to strategically support our traditional research strengths and advance our research vision.

ADVANCING FUNDAMENTAL, DISCOVERY AND THEORETICAL RESEARCH AND SCHOLARSHIP

A primary function of universities is to train critical minds, to inspire new generations and to encourage questioning of the fundamental values and assumptions of our world. The promotion of critical scholarship that challenges common assumptions and questions mainstream values facilitates understanding of the world as we see it. Research at York begins with appreciating the importance of fundamental inquiry, theoretical research and creative scholarship to advance social, scientific and technological developments for solving complex societal problems. Throughout the University, scholars are investigating the world that surrounds us: from the investigation of cells to discovering the cosmos; from the study of moral, political and legal philosophy to pure mathematics; from the investigation of molecular and subatomic interactions to exploring the human brain; from the poetic representations of data and generative systems in light and sound to the novel use of artificial agents in interactive environments; from the study of Indigenous life, cultures and traditions to the critical examination of the origins and reproduction of the nation-state, political institutions and

non-state systems of governance; from the separation of neuroscience and computational vision, to their integration to yield novel insights into how we perceive and interact with the world around us.

While York values the benefits of applied research and development, we recognize that fundamental scholarship, systematic examination, and the development of creative works and scholarly activities remain essential to the advancement of knowledge that moves from discovery to invention and back again, requiring a model that transcends disciplinary boundaries and facilitates collaboration. At York, the advancement of fundamental discovery research and theoretical research is sought through the formulation and exploration of critical questions that push the boundaries of traditional modes of inquiry and scholarship. In the social sciences and humanities, a critical approach embraces reflective assessments of society, cultural change and ways of knowing. To advance critical social and cultural theory, researchers are exploring historical change; political activism; the social and economic transformations of societies within Canada and around the world; and how culture has been and continues to be a crucial means of expression and an avenue for creative problem solving. Other forms of fundamental research in social sciences range from engaging in the study of work, employment and labour in the context of a constantly changing global economy; deepening our understanding of urbanization processes and the city lives and landscapes that are created; enhancing knowledge of issues related to a variety of transnational phenomena that are rapidly changing society, law and governance; and emphasizing community-engaged scholarship, real-world and needs-driven research, and evidence-based training for effective emergency management.

Critical scholarship at York is a hallmark of the institution and is apparent in the research conducted in the natural sciences, engineering, arts, humanities and social sciences. Across disciplines, the profound dedication to equity is reflected in research devoted to understanding and transforming attitudes towards constructs of race, class, identity, gender and power differentials in a range of social, political, educational, ecological and economic formations. Through a critical lens, researchers at York are exploring the effects of the global movement of people, by displacement or through growing diasporas and the rapidly changing urban regions of which the University is an integral part. Researchers are exploring language acquisition and theories of linguistic variation, and educational models that help us understand more clearly the role of language in multicultural societies. By pushing the boundaries of innovative form and expression in the visual and performing arts, researchers probe cultural attitudes towards

race, sexual identity and marginalized groups. Indigenous languages and knowledges as vital sources of insights for our world and for future generations are an essential aspect of this research.

York displays strong research leadership in discovery-based science across physics, chemistry, pure mathematics, biology, psychology and other disciplines. Astrophysics researchers use observations and theory to study the origin and evolution of structure in the universe, including the role that dark matter plays and how galaxies take shape. Using lasers to trap and hold individual atoms, quantum optics researchers are measuring atomic energy states with unprecedented precision, so that even the reliability of fundamental constants can be tested. York's high-energy physicists are bringing leadership to large-scale international initiatives through TRIUMF (Canada's National Laboratory for Particle and Nuclear Physics), the ATLAS collaboration at CERN (the European Organization for Nuclear Research), the Deep Underground Neutrino Experiment (DUNE), the Main Injector Neutrino Experiment to study ν -A interactions (MINERvA), and the T2K collaboration in Japan that is seeking out and studying the elementary particles of which everything is comprised, including neutrinos, antimatter, the Higgs boson and magnetic monopoles. Fundamental research in physics, mathematics and other natural sciences at York has formed the basis of future technologies and toolsets that results in solutions for real-world problems. For example, innovative and critical advances in pure mathematical concepts in analysis, probability, and image and signal processing continue to yield novel health, finance and AI applications and technologies.

Biological research at York extends from molecules to cells, organisms, populations and ecosystems. York researchers are pushing the boundaries of genomics and proteomics to more fully understand how the expression of genes is regulated and to determine the structure and function of proteins and other macromolecules encoded by the genome. Other fundamental bioinformatics research ranges from investigating how growth factors, hormones and microRNAs regulate oocyte maturation and placental development and how their dysregulation contributes to the pathogenesis of preeclampsia, to developing novel techniques to extract mammal DNA from the air that we breathe. Our academics working as a part of York's Centre for Vision Research focus on the intersection of biological and computational vision, and work in close collaboration to yield an integrated understanding of visual perception that spans from basic mathematical and computational principles to how these principles are implemented in biological mechanisms. These fundamental investigations support novel applications ranging from visual aids for people with disabilities to new generation autonomous robots for navigating unknown terrains.

Physiological, metabolic, behavioural, biochemical and genetic processes are being investigated in different model systems, including yeast, filamentous fungi, insects, fish, bees and mice. Researchers in chemistry and biology are elucidating the structure of molecules and proteins by nuclear magnetic resonance spectroscopy, X-ray crystallography and mass spectrometry, and are making original contributions to chemical biology and organic, inorganic and physical chemistry, while others are exploring the fundamentals of animal behaviour and cognition, including migration patterns and how animals adapt to and interact with their environments. Other critical research activities in natural sciences include studying brain function, mapping and wiring, predicting the effects of environmental stressors, such as climate change, invasive species and habitat alteration on ecosystems, and studying the genetics and evolution of social insects to guide the conservation of native pollinators to improve their health.

ILLUMINATING CULTURES AND CULTIVATING CREATIVITY

As an important contributor to the advancement of creative work and scholarship in the arts and culture in Canada, York is an emerging leader in the conception of new media and design of digital technologies and a groundbreaker in cultural production and creative research. This dynamic creativity is complemented by the creation of original and experimental works of art, the science of human experience, the analysis of media and culture, and the implementation of new technologies that increasingly shape everyday lives. York researchers are investigating the future narrative of emerging forms of cultural expression, interactive storytelling, mobile media, entertainment and gaming, immersive education and training, gallery installations and interactive cinema, including 3D cinema and stereography.

The significant breadth and scope of scholarship in communications and cultural studies, fine arts, design, interactive arts and other digital humanities, computing science and engineering, philosophy and environmental studies, literature and linguistics and creative writing, draw together a community of researchers who cut across traditional disciplinary boundaries to facilitate dynamic collaborations in arts-and-culture-related research creation. This includes the internet of things, social media, 3D simulations and animation; artistic theories and cultural impact; interactive art and immersive environments; the implementation of participatory design, maker methods, physical computing, digital fabrication, wearable computing and creative coding for the creation of novel digital forms. It also includes the expansion of emerging virtual reality (VR), augmented reality (AR) and mixed reality media; the application of expertise in audio-visual signal processing, AI and robotics towards new conceptions of responsive

living environments; design and development of assistive technologies and other project-based research that integrates scientific investigation and creative expression into new critically computational futures.

York's Sensorium engages in research creation, curatorial and scholarly projects ranging from performance, media environments and ecologies; future cinema and next generation gaming; and social practice and community engagement based on interdisciplinary collaboration. Research creation in performance, explores the spectrum of performance, focused on the intersection of the human body and adaptive media systems. Work in this cluster traverses theories of multisensory experience, applications of sensing technologies, open-ended participatory artificial life environments and the intersection of machine agents and the performing arts. Research-creation in future cinema and next-generation gaming involves the creation of new stories for new screens, researchers who are developing integrated, performance-based and networked media projects, ranging from interactive documentaries, AR and VR, large-format media, and pervasive games alongside site-specific interventions, to develop digital technologies that are expanding the affective and cinematic geographies of contemporary media cultures. Within social practice and community engagement, researchers are exploring how digital and communication-based media can be creatively used to foster social and political change with a focus on cyber-activism, virtual reality in human rights work, and building community connection and dissent through social media.

Research in these areas depends increasingly on engineering technologies and is complemented by AI research conducted in the Centre for Artificial Intelligence and Society (CAIS) and the York University Libraries. Researchers at York's Social and Technological Systems Lab combine robotics engineering and interactive product design to develop solutions and interventions for the aging population, people with dementia and interactive learners. York's research librarians advance our research culture and reputation by providing leadership in evolving data-driven research methodologies used in digital scholarship and in managing research data to maximize accessibility. York University Libraries are actively exploring how to better extend this infrastructure into new modes of capturing, managing and exploiting information and large sets of data, and developing new ways to visualize and understand this data to support new forms of cultural expression. York's Motion Media Studio, an interdisciplinary studio space at Cinespace, enables access to state-of-the-art technology, such as markerless motion-performance capture, AR, VR, and immersive environments and motion simulation.

At York, creative cultural production is complemented by the critical study of cultural traditions, production and performance practices, including Indigenous narratives and storytelling. The focus of research collaboration with

Indigenous communities centers on decolonizing education, strengthening community and cultural reclamation, and exploring Indigenous methodologies through visual storytelling. Digital storytelling is also helping to advance the understanding of Indigenous student achievement and the processes of decolonizing and indigenizing schools. For example, linguistics scholars have been assisting in the development of language policy as it affects public education in Nunavut, and they are providing insight into how language policy has led to the threats experienced by francophone cultures in Ontario and Quebec. In anthropology, researchers critically explore how people are subjected to, participate in and contest the processes of living in a world that is interconnected by powerful economic, cultural and technological forces. Historical scholars examine the forces and thinking that have shaped cultures in the past as a starting point for acting and thinking in the present, while the politics of contemporary, popular and more traditional forms of cultural expression are examined from a current political science, sociological and communications perspective. In theatre, York researchers have traced the genealogical development of performance studies in Canada and are providing leadership in major international research projects from Bali to South Africa.

Researchers are exploring art, digital media and globalization to better understand how artists in different cities contribute to the development of new cultural and informational landscapes. Scholars in this area are documenting new cultural formations and community-based cultures – from urban parks to transitory performances in neighbourhoods and virtual spaces on the internet. Design researchers imagine new intelligent user interfaces for the future that inform our understanding of communications technology in the world today. Practice-based research in dance is focusing on dance science, including the psychological aspects of injury as well as prevention research, and motor learning and motor control, while other types of scholarship is focusing on dance history and criticism. York's music scholars are engaging in highly recognized investigations, integrating academic studies and studio training across a wide range of musical cultures and traditions. Ethnomusicological research creation is exploring the lived experience and the ongoing significance of music in defining the self and community within a context of global destabilization. Other researchers are exploring the intersections of cinema and media with technology and art; examining intellectual property law, regulation and policy issues, and rights management; and developing a deeper understanding of management practices across the creative arts and cultural industries.

BUILDING HEALTHY LIVES, COMMUNITIES AND REIMAGINING FUTURES

York researchers are focusing on improving the understanding of the structural, systemic and individual factors that drive health outcomes, keeping people healthier for longer and redefining and advancing new ways to create positive change. Our researchers are shaping the future of the health and well-being landscape by increasing fundamental knowledge, translating knowledge and enhancing practical applications. Supporting pioneering work allows researchers to improve the understanding, prevention and treatment of disease and injuries, with an emphasis on advancing the most promising practices for access to care, cost, accountability, administrative efficiency and effectiveness, while focusing on advancing equity and improving health care outcomes. A sampling of health-related research at York includes biomedical discovery; healthy aging and age equity; Indigenous understandings of healthy environments; exploring links between urbanization and pandemic outbreaks; the promotion of mental, creative and physical health; critical examinations of disabilities; the social determinants of health; analyses of global health and global health governance; health informatics and disease modelling; bioethics; exploring bullying behaviours; health equity within nursing research; kinesiology; nutrition; health policy and management; clinical psychology; neuroscience; and situating wellness in the contexts of history, culture and the lived environment. This expansive approach to health research is making a significant contribution towards UN SDGs such as SDG 3 (Good Health and Well-Being) and SDG 11 (Sustainable Cities and Communities) that focus on improving the overall health and well-being of individuals, communities and environments.

York's growing reputation as a leader in global and transdisciplinary health research is reflected in the establishment of our strong global health links, such as those formed through the WHO Collaborating Centre on Global Governance of Antimicrobial Resistance (WHOC) at York as part of York's Global Strategy Lab, working to address transnational health threats and social inequalities. In addition, York supports six health-specific Organized Research Units (ORUs) that seek to both inform and transform policy, planning and practice such as York University's Centre for Aging Research and Education, drawing on lessons from the pandemic to address gaps in long-term residential care, transitioning patients from hospital to home or redefining what it means to age well in urban centres.

A sampling of York's integrative health research extends from the laboratory to the community, from cells to society. For example, researchers working in the Centre for Vision Research (CVR) are advancing understanding of how the human brain works and contributing to improved rehabilitation for stroke patients and patients with head injuries and new treatments for vision loss. As well, our researchers are offering

new routes of investigation and insight into the genetic, molecular and cellular neurobiology and environmental effects on brain development in children with autism. Interdisciplinary teams within the Muscle Health Research Centre (MHRC) are generating new insights and elucidating interactions between health, nutrition and disease, including relationships between diabetes, stress and physical activity, optimizing mitochondrial health and developing strategies to manage hypoglycemia and muscle wasting. In the biomedical sciences, research ranges from bioengineering that is improving medical device technology (improving diagnosis and screening), to interdisciplinary approaches designed to improve understanding and treatment of severely debilitating and chronic conditions, including a broad range of neurological health disorders, concussion, dementia and more within York's Centre for Integrative and Applied Neuroscience (CIAN). Two other examples from within the wide spectrum of health-related research activities are the Dahdaleh Institute for Global Health Research, which is developing novel solutions for planetary health, global health and humanitarianism, and global health foresighting; and the Krembil Centre for Health Management and Leadership, which is advancing the calibre of management and leadership in the burgeoning health industry. Additionally, York researchers are advancing discoveries in cancer research, such as identifying cancer biomarkers and developing new therapies to enhance the quality of life for patients with cancer and their families.

Our researchers are working to address discrimination by monitoring the human rights of persons with disabilities worldwide, along with health-related inequalities for all people, including those who face increased health risks. Others are focusing on enhancing literacy and educational involvement and well-being among marginalized populations, including Indigenous peoples, women, rural populations, persons with disabilities, economically disadvantaged groups, immigrants, and ethnic and cultural minorities. Child and youth research produces leading scholarship on youth homelessness, mental health, education and relationships and development of infants, children, youth and diverse families. Others are looking to break down Western paradigms of health care and remove systematic barriers for Indigenous and other communities. With a focus on promoting wellness, healthy aging and improving quality of life, health scientists with the MHRC are exploring critical questions involving muscle health and its metabolism, and engineers are designing technologies for the aging population, improving mobility and quality of life. Other areas of health-related research include the influences of air and water quality on human health; the association of sustainable growth on individual and population health; the use of biomolecular interactions to diagnose and treat diseases; and women's health, sexuality, including the intersection of LGBTQ2S sexuality, gender, and human rights.

Capacity-building partnerships that bring together clinicians, patients and researchers in a collaborative way are integral to York's health-focused research. For example, we are partnering to advance digital health solutions, health informatics, integrated electronic health records, as well as providing health solutions to inform policy and improve outcomes for patients while influence clinical decision making. Building on these areas, York is developing new programming in health intelligence, health informatics and a new data science program to provide our students with the skills they need to succeed in navigating the future of health care. Other partnerships include working with neighbouring full-service hospitals and community-based health care service networks to enhance training, research and innovation, and exploring ways to improve safety in the health care system through enhancing patient-centred care.

The COVID-19 pandemic has had a profound impact on all facets of our health and health care systems, rendering visible the structural barriers to health inequity. York researchers continue to be active in examining many of the different angles and impacts of the pandemic – as a transnational health threat underscoring the interconnected nature of health, from disease modelling and migration to substantial impacts on our mental and physical health. Neuroscientists and psychologists are studying how wearing protective masks may affect our ability to recognize faces and scientists are informing public behaviour on effective mask choice and personal protective equipment in guarding against infections. York researchers continue to study the underlying social determinants of health that drive inequality and accelerate illness and disease transmission across the world. They are examining and providing a broader understanding of intersecting issues, including global health governance, social engagement and social justice in overcoming health inequities within countries and between the Global North and Global South. Our researchers are utilizing AI and data science models in helping to predict viral transmission and assisting local health authorities in mitigating new infections in the developing world. Studies are looking at outcomes of the pandemic response and recovery phase linking pandemic stigma to negative psychological, economic and health outcomes for certain diaspora communities in globalized urban centres. As well, research is enabling advocacy for mental health support for frontline workers, informing policy to help mitigate gender-based violence associated with the pandemic, and supporting differentially affected racialized populations and communities.

Our researchers are providing a critical voice in the debate over health care reform in Canada. They are addressing privatization, healthy aging, the erosion of universal health care, worker shortages and inequities in health care. The recent pandemic has intensified this debate and floodlit these challenges. Conducting wide-ranging investigations on systemic issues like racial bias in the health care system is key to gaining a better understanding of the diverse Canadian

population and helping to inform decision makers on creating a more responsive and compassionate system. This includes a focus on how institutions shape the experiences of people who use them. Additional research on larger age equity issues, a systematic analysis of the increasing levels of privatization within our long-term care system, and promoting improved policies and practices that affect conditions and wages for care workers are three areas contributing to positive change through important and impactful research.

REACHING NEW HORIZONS IN SCIENCE, TECHNOLOGY AND SOCIETY

York is internationally renowned for its interdisciplinary approach to solving complex problems facing our world today. We pride ourselves for sustaining a framework for socially responsible and inclusive research by co-creating research goals with multidisciplinary academic-community teams, while striving to predict the impact of scientific developments and emerging technologies on society. Our researchers develop solutions that address large-scale challenges, ranging from environmental sustainability, water sanitation, and clean energy to youth homelessness prevention, modelling and mitigating pandemic spread, and disaster and emergency management. They also inform social decision making by recognizing that solutions to complex contemporary grand challenges have multiple interacting natural, social, scientific and technical features. York assigns high priority to understanding these complex issues, researching practical solutions and communicating our expertise to science and non-science academics, practitioners, policy makers and entrepreneurs, as well as the public at large.

York is home to 31 ORUs, which serve as synergistic hubs for participatory research programs that bring together expertise from across disciplines spanning science, technology, society and the arts. The recently inaugurated CAIS unites researchers who are collectively advancing state-of-the-art theory and practice of AI systems, law, governance and public policy. Their research focuses on AI systems that address societal priorities in health care, smart cities and sustainability, and that are fair, explainable, reliable and trusted. Likewise, the CIAN aims to explain the biological basis of human behaviour in health and disease. In collaboration with researchers from the CVR, they are integrating the fields of visual psychology, computer vision, robotics and visual neuroscience as they investigate new models of human visual mechanisms and the ways that will lead to visually intelligent machines. York University has a strong history of impactful research activities in water-related fields through its interdisciplinary collaboration with external academic, government and industrial stakeholders. The One WATER ORU engages in interdisciplinary world-class research on sustainability, water education, AI, resource recovery and reuse as well as their environmental and societal implications.

York is making significant contributions to support the policy-making process and advance societal change. Through a range of inter and transdisciplinary research initiatives that foster strong relationships with governmental agencies, stakeholders and communities, initiatives such as CIFAL York, a part of the United Nations Institute for Training and Research, serves as a hub for knowledge exchange and capacity building among government officials, the private sector, academia and civil society. Through community-engaged scholarship, real-world and needs-driven research, and evidence-based training, the York Emergency Mitigation, Engagement, Response, and Governance Institute (Y-EMERGE) is also working to transform the way societies understand, analyze, manage and govern crises, disasters and emergencies. Meanwhile, with the goal of placing youth homelessness and prevention onto public policy agendas everywhere, the Toronto Centre of Excellence on Youth Homelessness Prevention, established by the United Nations Economic Commission for Europe (UNECE), assesses the state of youth homelessness and prevention in the 56 member states of the UNECE through engaged international research.

York is an international leader in space science, engineering, geomatics and environmental sciences research. Researchers are leading the contribution of scientific instruments for space missions supported by the Canadian, American and European space agencies. This research involves the development of space flight instruments, planetary exploration and Earth observation. Our researchers in the Centre for Research in Earth and Space Science (CRESS) have led the Canadian contributions to NASA's Phoenix mission to Mars and NASA's OSIRIS-REx mission. These researchers are also involved in NASA's Mars Curiosity Rover mission and, leading the Canadian part of NASA's OSIRIS-APEX mission. York has recently launched the Microsystems Technologies and Application (CREATE-MTA) program that aims to address the need for innovation in microsystems technologies, which play a critical role in various areas such as aerospace avionics, environmental monitoring, health and safety, and flexible and printed electronics. Our ESSE researchers are leading investigations into mass and volume reduction for rocket-launching satellites, self-sustained medical support for human spaceflight and biopharmaceuticals.

York researchers also have an established track record of leadership in atmospheric research with observations to investigate the processes of climate, weather and air quality, as well as broad engagement in the environmental monitoring of air, water and biodiversity. York's Centre for Bee Ecology, Evolution and Conservation (BEEc) is home to a network of leading interdisciplinary researchers who are fostering critical research to better understand these vital organisms, help secure their health, and impact policies and environmental management for the long-term sustainability of bees and the dynamic ecosystem services they provide.

Scholars in the humanities and social sciences expand our critical understanding of science and technology by exploring their social, cultural, political, philosophical and material dimensions. This research offers unique interdisciplinary perspectives on both the historical development and contemporary challenges of scientific and technological practices and discourses. Researchers from across the University are collaborating on projects in the development of technologies in the digital arts, computing and engineering. Further, with the development of new technologies come new legal issues and rapidly evolving legal and social norms. York's legal scholars are exploring the complex legal and governance issues surrounding intellectual property, AI and technology law, and interacting with their colleagues in science and engineering. For example, the Institute for Technoscience and Society (ITS) is a research hub focusing on the relationship between technoscience and society, and cultivates comparative and transnational research, collaboration, policy-thinking and practice. Additionally, IP Osgoode explores legal governance issues at the intersection of intellectual property (IP) law and technology, considering issues of access, privacy, and ethics, as well as intersecting areas of contract, health, labour, Indigenous, environmental, constitutional, corporate and international law, all within a variety of disciplines, from business and sciences to the arts.

In mathematics and statistics, researchers are undertaking leading-edge studies that focus on applications in both the sciences and health sciences. They are developing new mathematical models for the prediction of disease transmission and the geosimulation of how a disease spreads, and they are coordinating several academic-industrial collaborations in data mining, neural networks, pattern recognition and vaccine mathematics, modelling and manufacturing. Significant contributions to this research are being made by researchers in the life sciences, with emphasis on biochemistry and molecular biology, cell biology, ecology and population biology, genetics and animal and plant science, and mathematics. Researchers in chemical and physical sciences are pushing the boundaries of nanotechnology and advancing the fields of synthetic chemistry, drug discovery and materials science.

PURSuing JUSTICE, EQUITY AND SUSTAINABILITY: FROM URBAN DYNAMICS TO GLOBAL CHALLENGES

Guided by both the UAP and York's sustainability goals, our researchers draw on the strengths of our diverse and inclusive community to approach justice, equity and sustainability through a holistic lens of collaboration, innovation and knowledge mobilization. As York continues to pursue inclusive excellence by decolonizing research, Indigenous scholars at York are sharing their knowledge with allies and are forging new Indigenous understandings of the natural

world and of reconciliation in a world still largely dominated by settler institutions. Through socially engaged projects and partnerships, our researchers are asking critical questions that probe the nature and possibilities for justice, equity and sustainability in local and global contexts. This has allowed York researchers to make great contributions to UN SDGs such as SDG 10 (Reduced Inequalities), SDG 11 (Sustainable Cities and Communities) and SDG 16 (Peace, Justice and Strong Institutions). The creation of the new Faculty of Environmental and Urban Change has signaled the centrality of these concerns in York's research profile.

The nature and scale of existing societal and environmental challenges require a broad spectrum of research approaches that result in positive change. York researchers are pursuing collaborative, integrative and solution-oriented research on environmental issues at multiple campuses in various countries and through international research partnerships that traverse borders and span social sciences, humanities, arts, natural sciences, law, business and engineering. For example, York has initiated global research collaborations to search for ways to challenge the inequities that produce uneven anti-microbial resistance across the world. We create original scholarship that squarely addresses the relationships between urban food insecurity, poverty and housing crises and translate research findings into change-oriented and accountable public policy. In addition to cutting-edge sustainability initiatives on York's Keele and Glendon campuses, our EcoCampus at the Las Nubes Biological Reserve in Costa Rica provides an important link to the surrounding communities and acts as a living laboratory where issues of neo-tropical conservation, education and eco-health are explored.

York researchers are studying water quality in Canadian aquatic environments and investigating threats to these habitats. They are examining the health impact of climate on vector-borne and waterborne diseases; analyzing water degradation due to plastics in lakes and other water sources; predicting climate change patterns using insect sub-fossils; studying the migratory patterns and health of forest songbirds; and studying invasive insects within ecosystems under threat. York is a research leader in the biodiversity and conservation of bee populations that are vital to the pollination of wild plants and crops, which in turn produce food for human consumption. Ecologists and environmental scientists study the effects of multiple environmental stressors on different ecosystems and develop computer models to predict these effects. This research advances our understanding of how climate change, urban development, contaminants and invasive species threaten the North American landscape and the biodiversity that is essential to human existence.

York researchers lead tool and process development to advance the measurement of Ecological Footprint and Biocapacity, to help reduce Canada's overall carbon footprint, and build sustainable energy sources of the future. This

includes implementing York's Energy Management Plan to accelerate greenhouse gas emission reductions from the University's central utilities and deep retrofits to buildings, and the development of power and renewable energy systems and materials for green infrastructure, such as micro- and nano-structure bio-materials. Critical research is being conducted in engineering that is focused on various waste to energy initiatives, for example, reducing carbon emissions by extracting energy and other resources from wastewater, developing low carbon building materials, and developing novel engineering tools to better plan and operate energy and transport systems, including researching other promising advancements like hydrogen fuel.

As an urban university with internationally recognized expertise in urban design, planning, housing and sustainable transportation to facilitate and integrate city life, York researchers are engaging with challenging issues related to urban sprawl and the politics of environmental integrity in urban settings. By bridging social and environmental research and public policy, York leads the world in research on suburban development globally as an approach to examining governance, land use, migration, infrastructure and daily life. York researchers are focusing on urban immigration gateways, like Toronto, looking to enhance the social, economic and political inclusion of newcomers to Canadian cities, and they are investigating gendered urban insecurities in the urban Global South.

Scholars at York are also investigating the ethical implications of climate change, including the responsibilities we have for future generations. Issues of cultural citizenship, community and the environment are being explored by researchers through a range of experimental and creative practices that emphasize public art installations and scholarly publications that examine urban development, Inuit culture and climate change. York researchers are also exploring climatic and environmental change in Europe, the Americas, Africa and Asia across various historical periods and showing how these shifts have had profound social, economic and political effects over time. As Canada continues to strive to reach its goal of net-zero emissions by 2050, York researchers have engaged in research that addresses the justice dimensions of the transition to a greener economy, contestation over extraction, new energy systems and the distribution of pollution burdens affecting marginalized communities and vulnerable populations, including through the development of ecological footprint indicators. Moreover, as advances in information technologies have fostered a digital world that involves all aspects of the society, our researchers are delving into promoting justice and sustainability of the digital world by addressing challenges shaping human activity and changing the way we live. The emerging data economy presents unique challenges and opportunities, including difficulties in data valuation, a conflict between the public good and private gain, and an ever-increasing potential for biased data analytics.

Legal scholarship probes important environmental, equity and human rights issues in Canadian and global environmental law, including those related to Indigenous peoples and the environment. This work is complemented by research on natural resources law; the impact of resource development on constitutionally protected Indigenous rights and treaty rights; ethical investment; governance for sustainability; and sustainable finance. The theoretical and practical implications of law's role in a just, equitable and sustainable society underscore all this work. York researchers are established international leaders in research on equity and intersectional relations of inequality and oppression. These include anti-poverty analysis in Canada and in the Global South; politics and processes of racialization; workers' rights and labour organizing; inclusive approaches to gender and sexuality; as well as critiques of ableism and its resulting inequalities. Feminist research at York examines national and transnational issues, applying analyses of race, gender, sexuality and other axes of difference to labour markets, individual workplaces, transitional justice, colonial violence and much more.

Our researchers also examine global migration as a barometer of inequality and violent conflict. York researchers focus on the violation of fundamental human rights, such as the loss of security and livelihoods abroad and the search for temporary work in Canada to feed their families back home. Researchers of forced migration probe the adjudication of refugee claims of those who claim asylum in Canada, including the discrepancies in our refugee determination system. York is a world leader in migration research on all fronts, but with a particular focus on those in precarious circumstances. Refugee-related research in international forums and in immigration policy thrives at York where strong ties to research centres and international organizations abroad have been forged over decades of collaboration. York researchers address the violence, conflict and impacts of war in all their forms. These include addressing transnational criminal relations and human rights violations, and their affect on migration and the security of refugees, who are the remnants of global geopolitics amid war and humanitarian emergency.

ELEVATING ENTREPRENEURSHIP THROUGH SOCIALLY RESPONSIBLE INNOVATION

York fosters a thriving community of scholars who are passionately interested in how socially responsible innovation can improve our economy and our planet. With the increasingly entrepreneurial nature of the University, York continues to create breakthrough innovations by aligning its research with societal and market needs. Entrepreneurship research at York is conducted within a broader community setting that emphasizes social justice. Our exploration of factors that contribute to the technological developments, market innovations and the performance of entrepreneurial ventures is balanced by research that critically questions

the assumptions underpinning market capitalism, neoliberal political models, Eurocentrism and bourgeois culture. Along with leading scholars in social and market-based innovation, entrepreneurship and business management, York boasts several of the world's leading critics of contemporary capitalist society who are exploring the violence of capitalist, colonial and patriarchal states, societies and economic systems, and the nature of the structures of governance that instantiate and sustain these inhumane inequities from the local to the global stage. Rather than being incompatible, these two research areas generate a productive tension that, in turn, yields a unique perspective on the development and implementation of responsible innovation.

Entrepreneurship has clear ties to economic performance, yet entrepreneurial innovation is far from being restricted to goals driven only by the profit motive. Entrepreneurs increasingly seek ethical pathways to develop and conduct business in a manner that contributes to the well-being of society. Responsible innovation requires governing technological, scientific and economic development in a conscientious manner. York researchers strive to illuminate the conditions that can foster such responsible innovation: many are recognized as world leaders in research regarding sustainability, corporate social responsibility, business ethics, social enterprise and social sector management. The COVID-19 pandemic, as well as a range of other global developments, has given new urgency to extending our understanding of how business can be conducted responsibly given the complexities of contemporary social and economic conditions. For instance, through our globally recognized Centre of Excellence in Responsible Business (COERB), York researchers are creating and disseminating new knowledge about the social, environmental, ethical and political responsibilities of business.

As attention to environmental, social and corporate governance (ESG) issues has become a critical priority for organizations, researchers at York are well positioned to advance knowledge regarding rapidly evolving ESG challenges and practices. This research is focused on creating new knowledge about the social, ethical, environmental and political responsibilities of organizations, and how critical issues facing organizations can be addressed. Scholars from across the humanities, social sciences, law and business are engaged in tackling critical, interconnected issues in this regard, such as examining how ESG factors and climate risks intersect with relevant policies and laws in Canada, including the impact on Indigenous communities and the duty to consult.

This same ethos informs our research into extractive industry practices, the adoption of new technologies (including AI), international intellectual property regulation, and trade and investment agreements. Still other initiatives examine labour standards and relations, and probe how public policy can

promote socio-economic equality for workers both in Canada and abroad. The Global Labour Research Centre (GLRC) at York engages in the study of work, employment and labour in the context of a constantly changing global economy. Research into venture capital, finance, private equity, real estate and infrastructure occurs alongside research into the cultural, social and economic challenges of human migration, settlement and diasporas. At the Lassonde School of Engineering, there is an emphasis on engineering that brings a sense of the public interest and corporate responsibility to professional practice, which is reflected in the creation of research programs exploring transportation networks, energy solutions and the development of new devices and technologies.

Through Innovation York, the University has launched several initiatives that include York University's pan-institution entrepreneurship hub with over 14 different programs, building a unique entrepreneurial community. All these programs are delivered through YSpace: ELLA, Ontario's first accelerator focused on women-led businesses; YSpace Digital, offering a variety of online supports and services; YSpace Markham, a physical incubator supporting growth-ready ventures; and YSpace Georgina, with entrepreneurial resources and collaboration space located in the Northern York Region. York also partnered with the Black Creek Community Health Centre to create the Black Entrepreneurship Alliance, focused on creating entrepreneurial support and upskilling opportunities. Our entrepreneurial programming is establishing York as both a recognized leader and an entrepreneurial hub, delivering unique programs that are first of a kind in the industry. York now operates Ontario's first food and beverage accelerator and Ontario's first women-led professional services ventures, as well as Northern Ontario's first entrepreneurial hub. These initiatives have worked towards maximizing the commercial, economic and social impacts of research and innovation; from helping to reduce the gender equality gap in entrepreneurship to creating opportunities for all entrepreneurs, these initiatives are exemplars of socially responsible innovation at York.

A common thread through all of York's initiatives is our collaborative approach to knowledge creation and social and commercial innovation, according to which academic researchers work with community partners, the private sector and policy makers to advance and promote social consciousness and enhance business and economic practices. York researchers exhibit leadership that fosters innovation and enhances society's capacity for building sustainable livelihoods while supporting the public good and contributing to our regional economy. Founded by York, Research Impact Canada, a pan-Canadian network of 23 institutions, hospitals and research organizations, is a national leader in the practice of creating social value and impact from research, knowledge and innovation. These initiatives have greatly

contributed to UN SDGs, including SDG 9 (Industry, Innovation and Infrastructure) and SDG 12 (Responsible Consumption and Production).

RESEARCH OPPORTUNITIES: COMPELLING OPPORTUNITIES FOR THE STRATEGIC DEVELOPMENT OF RESEARCH

Within the breadth and diversity of cutting-edge scholarship at York, there are many areas where scholars have coalesced to provide enhanced opportunities for leadership and recognition through strategic investment in more focused collaborative activities. These are complemented by emerging areas of research that are underpinned by a strong vision of the York community achieving new levels of research leadership in ways that bring a unique York perspective to solving some of the world's most compelling challenges. Some opportunities are driven by new frontiers of fundamental inquiry, while others reflect the convergence of strong academic interest and external opportunities that can have a transformational effect on society. All of which reflect the ability of York to make unique contributions.

Development of these opportunities brings together varied perspectives, disciplines and understandings to deliver innovative achievements and address emerging challenges. Strategically, by committing to supporting and building these areas of opportunity, we are positioning ourselves to further enhance the profile and deepen the recognition of York's ground-breaking scholarship that informs our academic programming. Some opportunities were initiated in our 2018-2023 SRP and have the potential to further enhance the University's profile. Other new opportunities reflect the progress of our scholarship and the evolving world around us in areas where York researchers have the potential to excel:

- Digital Cultures and Disruptive Technologies
- Healthy Communities, Equity and Global Well-being
- Indigenous Futurities
- Climate Action for a Sustainable Planet
- Social Justice, Peace and Equitable Relations
- Inter and Transdisciplinary Research Innovation

DIGITAL CULTURES AND DISRUPTIVE TECHNOLOGIES

The digital revolution that we are currently witnessing has been referred to as the Fourth Industrial Revolution, as this new stage of human development has been enabled by extraordinary technological advances comparable with and, in some cases, even exceeding those of the first, second and third industrial revolutions. This era of embedded connectivity is distinguished by the widespread, rapid and common use of technology throughout society; these rapid technological advances continue to merge the physical, digital and biological worlds in a manner that creates both promising opportunities and potential risks. With the continued

upsurge of social media platforms, the expansion of complex algorithms, and the growth of data sets, the scope and level of activity of this digital revolution continues to accelerate while its implications are still being fully understood. Digital technologies have given rise to vast new industries; enabled the development of various forms of AI and machine learning; and transformed means of communication, ways of learning and cultural industries – thereby disrupting notions of culture, society, knowledge and citizenship in highly significant ways. Consequently, there is a continued need for research on the digital world at the intersection of the arts, sciences, computing, law and engineering, pushing technological boundaries while critically investigating the social, cultural and legal impacts and the ways in which it is shaping and changing human activity and interaction.

AI-related research at York has gained considerable momentum over the past five years, with research ranging from the development of novel computer vision systems in science and technology for deployment on handheld and robotic devices as well as other intelligent agents, to new brain-inspired AI systems, through application to smart cities, data analytics, disaster management, emergency planning and disease transmission models, to novel legal and governance frameworks. Currently, more than 140 faculty members are engaged in AI-related and digital cultures research at York, contributing to both technological applications of research as well as an interconnected transdisciplinary approach. York's program offerings are reflective of this with both undergraduate and graduate programs in digital cultures, digital media and related areas, which are being offered jointly by the Lassonde School of Engineering and School of the Arts, Performance, Media and Design. Likewise, Health Studies offers programming on health informatics, eHealth, health policy and health management, and the School of Information Technology offers programs on non-standard applications of AI, such as fintech (cryptocurrency, algo-trading), cybersecurity and technological sustainability.

York researchers are also working to advance the development and implementation of digital technologies to ensure their equitable and ethical adoption, as well as exploring how the increasingly digital world influences the way we live, interact and conduct business. For example, our researchers are exploring AI and digital technologies within the digital media contexts and legal frameworks through IP Osgoode (Osgoode Hall Law School's Intellectual Property Law and Technology Program) and the IP Innovation Clinic (innovation-to-society intellectual property legal clinic). Other scholars from across the humanities, social sciences, health, engineering and law are addressing the potential risks of emerging disruptive technologies, including AI, and their effects on

governments, public policy, labour markets, sovereignty, personal and national security, human health and health systems, as well as the challenges they pose to our sense of individual identity, collective humanity, equity and human rights. Work in this area also explores research creation in immersive environments such as virtual and augmented reality; the impact of digital usage in a variety of community settings, including Indigenous communities; how digitally based forms of knowledge and expertise are emerging online; and how digital gaming can inform education. Importantly, this holistic approach is characterized by a deep engagement with community, industry partners, public agencies and international organizations focusing on the impacts and applications of digital technologies. This work is aided by the rich offerings and supports of the Digital Scholarship Centre and the Media Creation Lab provided by the York University Libraries, which provide a gateway to equitable access to those researchers who want to engage with digital cultures and disruptive technologies. Further, coordinating investment and promoting interdisciplinary interactions will propel research and strengthen industry-academic collaboration in these areas. We will continue building our cutting-edge digital arts and technology research and continue our existing collaborations with some of Canada's most prominent digital media hardware and software companies.

As technological advances foster new systems, impacting many dimensions of society, we have identified the integration of disruptive technologies into society as a critical area for accelerated research over the next five years. One critical opportunity will be guiding the ethical, legal, sociological and technical development of the rapidly expanding technology, including AI, high-performance computing that is associated with the challenges of big data, as well as technological literacy that all societies face today. Beyond AI, we will extend our leadership in new disruptive technologies (including health informatics, Beyond 5G, advanced VR, nano, cybersecurity, and smart cities) as well as their applications in social sciences, humanities, health and other STEM fields; interfaces and content creation, scientific inquiry, design, policy development and critical discourse in digital media. We will further our recognized leadership at the interface of an expanding cluster of creative industries in film, television, informatics, data visualization games and app development. Moving forward, York will continue to advance key recommendations outlined in our AI task force's November 2021 report, titled *Fostering the Future of Artificial Intelligence: Report for the York University Task Force on AI & Society*, to further advance York as a future global centre of excellence for AI-related initiatives and research. Support in this area will leverage York's current success in digital media, AI, data science and the broader impacts of innovation on society, encouraging continued innovation to sustain our leadership.

HEALTHY COMMUNITIES, EQUITY AND GLOBAL WELL-BEING

As the greatest public health challenge in more than a century, the COVID-19 pandemic has transformed our lives, our world, our economy and our health care system. The pandemic has placed our health care system under enormous stress and has worsened long-standing issues, such as lack of access to primary care in communities across Canada, health human resources planning and staffing constraints, patient backlogs and the adoption of new technologies. From addressing long-standing issues to reimagining health care systems, the issues we face are broad and far-reaching.

As we continue to tackle COVID-19 and adjust to the many socio-economic changes that it has brought, our researchers have aimed to better understand the changes that are needed in our health care system. The pandemic has had a particularly devastating impact on long-term care homes – researchers are investigating the conditions of care and the state of the health care labour force and especially those working in long-term care. Health care providers have turned to online tools to deliver services remotely during the pandemic, causing a rethink of how digital innovation can be used in health care but also causing increased inequities for vulnerable communities. Consequently, researchers are examining how to adapt eHealth for a broader population and strengthen the ability to detect and respond to public health events and emergencies.

Moreover, given the emerging challenges from the pandemic, health care management is in a state of flux with growing demand, less access and challenges to delivery. There is a need to optimize access to the right care, promptly, and in the right place, geographically. As such, York researchers are working to improve efficiencies around patient wait times and health care staffing shortages using advanced AI tools. Meanwhile, researchers in the humanities and social sciences are examining the structural- and system-level barriers and drivers of access to health care.

Aging and increasingly diverse populations, together with the growing complexity and personalization of health care, are driving the search for health care solutions that emphasize wellness and disease prevention to minimize the need for medical intervention. Increasingly, medical advances are transforming acute conditions such as neurodegenerative diseases, HIV infection and cancer into long-term chronic conditions that must be treated and monitored over decades. In alignment with the UN Decade of Healthy Ageing (2021-2030), to provide long-term, sufficient levels of care, smart regulations and innovative solutions to improve quality and outcomes is closely linked with the strengths of York's health research, which focuses on accountability in the public system and community health and wellness, emphasizing York's commitments to equity and social justice.

In the developing world, health inequities and challenges affect far greater percentages of people. In addition to learning how to export and translate health care solutions globally to respond to challenges, there is a pressing need to extend the partnership with developing nations to empower global health care solutions and break down historically vertical models for their transmission and adoption. York researchers are crossing disciplines where studies of health intersect with the social sciences, health sciences and natural sciences, along with assistance from engineering and computer science to address problems that have interconnected global implications affecting health of populations, while always being mindful of underlying cultural, social, legal, environmental and economic perspectives.

Health research has gained considerable momentum and recognition over the past five years through the individual achievements of researchers and the successful launch of major initiatives, as well as collaborations across a wide range of disciplines. Examples include the following: Vision to Science Applications (VISTA) that bring together the visual sciences and their application and societal impacts; Connected Minds: Neural & Machine Systems for a Healthy, Just Society, which has over 200 researchers working to address the rapidly emerging “techno-social” collective and examining the benefits and risks to communities; the Health Care Ecosphere that is leading the development and commercialization of personalized health care solutions and health technologies that evolve traditional health prevention and management; York University Centre for Aging Research and Education that is pursuing responses to changes and challenges from aging at a community and individual level; and the Dahdelah Institute for Global Health Research, whose researchers pursue solutions to global health challenges with a focus on governance, policy and management systems to fully realize benefits.

Over the next five years we are committed to expanding research that focuses on the social determinants of health, health care regulations, digital health, health outcomes and the promotion of wellness. From biomolecular engineering to the health of populations, from biomedical to social work and health law, and from healthy aging in communities to global child health rights, researchers will accelerate their individual success and will fully realize the potential of recently launched initiatives. In addition, we will pursue new partnerships across health care, social services, natural sciences, engineering and global health sectors to extend the leadership and influence of our research. With the opening of a new campus in Markham in 2024, we expect to further enhance our focus on community engagement, while new directions in bioengineering research will be launched with the continuing expansion of our engineering programs.

The development of our engaged health research programs is expected to build on York’s ability to address Ontario’s evolving and unmet clinical and community health care needs. A key driver in this research is the school of nursing with a vibrant socially minded collegium of diverse researchers who make as their central goal the health and well-being of individuals, families and communities. Over the longer-term, York maintains its aspiration for a new kind of medical school to focus on integrated interdisciplinary, team-based family primary care, community health and wellness through the lifespan. Informed by demographics, health care gaps and the evolution of medicine, our emphasis is on the integration of primary care physicians within the context of the broader health care and wellness promotion teams. As a partner in the Vaughan Healthcare Centre Precinct (VHCP), York is well positioned to advance health care practices and outcomes through local and global partnerships.

York is also deeply committed to fostering innovative approaches, technologies and perspectives to solve problems and promote global economic and social well-being. Building off the success of our entrepreneurship hub YSpace, York is committed to supporting social innovation and the translation of new knowledge to decision and policy makers, as well as the commercialization of innovations developed within the VHCP through start-up venture creation and growth programs. The tremendous wealth offered by the surrounding disciplines at the University will provide unique perspectives and innovative approaches to solving some of the most pressing questions in health promotion and practice, disease and injury prevention, and health care delivery.

INDIGENOUS FUTURITIES

Deeply rooted in history, futurities recognizes that the future, despite its intangibility, is directly impacting us today.¹

Indigenous futurity considers how Indigenous revivals might be viewed as expressions of “futurity,” operating in resistance to those assumptions that consign Native American [Indigenous] peoples and lifeways to the past.²

York University has a long-standing commitment to access, inclusion, equity and diversity. In a time when truth, reconciliation and justice are dominating public discourse about Indigenous issues and when Indigenous communities in Canada and around the world are facing severe health, social, legal and societal challenges, the need for research that imagines the future has never been greater. Learning from Indigenous ways of knowing, ways of being, worldviews and laws, futurities research will contribute to changing lives and will significantly affect nations, communities and individuals.

¹ Paul Kuttner, “Futurism, Futurity, and the Importance of the Existential Imagination,” Cultural Organizing (blog), May 17, 2017. Accessed February 11, 2018.

² Sean Teuton, “Indigenous Futurity,” in *Native American Literature: A Very Short Introduction* (New York: Oxford University Press, 2018), chapter 7. Accessed April 20, 2023, <http://www.veryshortintroductions.com/view/10.1093/actrade/9780199944521.001.0001/actrade-9780199944521-chapter-7>

Indigenous Futurities will help research make a positive impact on Indigenous communities, with a strong focus on the importance of First Nations, Inuit and Métis communities. As a recognized global leader in socially engaged research and knowledge mobilization, York is committed to building community partnerships in research. As a part of “The Indigenous Framework” (2017), York pledged to “*facilitate research that is relevant to Indigenous life and respects Indigenous approaches to knowledge and learning.*”³ York’s researchers are positioned to collaborate with local and global Indigenous communities on research that will contribute to improving community life while enhancing cultural, economic and environmental sustainability. Never losing sight of history, this research opportunity simultaneously insists on consideration of our relationships to Indigenous futures and the ways they will continue to influence and shift the emphasis in current research and innovation.

York is home to a large group of scholars who include faculty, postdoctoral fellows and undergraduate and graduate students, both Indigenous and non-Indigenous, whose research exists in relation to Indigeneity. These scholars engage in a range of contexts and topics from the epistemological to the environmental, from the mathematical to the methodological, exploring interrelations across disciplinary boundaries and borders. Recent Indigenous research initiatives are focusing on circumpolar cultural sovereignty, including collaboration with Inuit, Alaska Native and Sami communities; community engagement on mining and extraction in Baffin Island, Northwest Territories and Yukon Territory; the role of youth in health promotion, and the legal and environmental interrogation of just and equitable relationships; the interactions between Indigenous and non-Indigenous laws; the histories of Métis, First Nations, Inuit and Native-American relationships with colonialism; Indigenous language policies, art and education; Indigenous knowledge systems and their various applications in diverse contexts that include water and environmental governance, environmental justice, forest policy and management, and sustainable development; and urban Indigenous education and communities. Most significant, Indigenous researchers have made major contributions to the scholarship of Indigenous ways of knowing. This opportunity area will further support and enhance these existing initiatives and foster deeper engagement with these and other developing research projects.

While York University’s context has changed over the last five years, we remain publicly committed to our ongoing efforts to address barriers to Indigenous research,⁴ and to reach a level of research excellence. The following accomplishments have been made since 2018:

- In 2021, York launched the Centre for Indigenous Knowledges and Languages (CIKL), an organized research unit committed to Indigenous approaches for the environment, education, languages and decolonizing research. Researchers at CIKL are examining a broad range of topics: climate justice issues facing Indigenous peoples, proliferating beadwork as a form of knowledge mobilization, supporting Indigenous-led conservation, and enhancing the protection of water and Indigenous water governance.
- In 2022 (ongoing), York provided additional supports to CIKL to fund an associate director and a full-time coordinator.
- York developed an action plan to address recommendations in the report “Decolonizing Research Administration: An Evaluation of Indigenous Research at York University.”⁵ This action plan is being implemented jointly by the Vice-President Research and Innovation and the Vice-President Equity, People and Culture in development with the Indigenous Council at York.
- In 2023, Senate approved the creation of Canada’s first dedicated Indigenous Research Ethics Board involving community members and including Elders and youth.
- Starting in 2023, York invested in Indigenous Research Seed Grants and has made a commitment to invest for three years.
- York created the Indigenous Incentive Grants and Indigenous Scholarly Events and Outreach Grants.
- York hired an Associate Vice-President Indigenous Initiatives and has committed to hiring an Indigenous Research Support Specialist.
- York hired Indigenous Provostial Postdoctoral Fellows and is accepting applications for additional postdoctoral fellows going forward.
- With guidance and input from Indigenous Council and CIKL, Knowledge Mobilization (KMB) York developed a tool to help non-Indigenous researchers engage with Indigenous communities.

Indigenous-related research consistently references community: whether within an urban context, a nation or a global community. An Indigenous worldview insists that within

³ York University, “The Indigenous Framework for York University: A Guide to Action” (2017), emphasis added. Accessed April 20, 2023, <https://indigenous.yorku.ca/framework/>

⁴ “A Statement on York’s Commitment to the Indigenous Framework and Decolonizing Research,” York University, May 24, 2022. Accessed April 20, 2023, <https://yfile.news.yorku.ca/2022/05/24/a-statement-on-yorks-commitment-to-the-indigenous-framework-and-decolonizing-research/>

⁵ Sean A. Hillier, “Decolonizing Research Administration: An Evaluation of Indigenous Research at York University,” York University, November 18, 2019. Accessed April 20, 2023, https://www.researchgate.net/publication/344798162_Decolonizing_Research_Administration_An_evaluation_of_Indigenous_Research_at_York_University

a community all relations matter and having good relations with all of Creation is foundational to healthy communities. As community-based research, the focus covers a broad spectrum of lands and territories and insists on acknowledging specificity of context. Notions of relationship-building, reciprocity of process and outcome, respectful engagement with each other and relevance of the work to those involved in the projects are integral to the research. This opportunity encompasses post-colonial interests, trans-Indigenous theory, and other forward-looking community-referenced, reciprocally beneficial research.

Over the next five years, the focus of this research opportunity will be on Indigenous Futurities and will include social, cultural, artistic, legal, policy, economic and justice areas that holistically shape Indigenous experience. Collaboration in exploring Indigenous and non-Indigenous approaches in these areas, while understanding the need for Indigenous researchers to take the lead, will mark the distinctiveness of York's approach. The intent of this opportunity is to ensure that Indigenous-related research includes a commitment to listening to and learning from Indigenous peoples' knowledges, laws, ecology, spiritual practices and experiences. The commitment of researchers to participate in imagining the future while never losing sight of the past will enhance our commitment to the import and role of research in creating the future we desire.

CLIMATE ACTION FOR A SUSTAINABLE PLANET

In Canada and around the globe, climate action is no longer a matter of political debate or individual conviction – it is an existential threat that demands a research and evidence base to enact change. As human population and activities grow, there are ever-greater pressures on our environment and societies from climate change, loss of biodiversity, pollution and the proliferation of disease. These challenges contribute to increasing inequalities and creating new disparity among peoples and countries. The climate crisis is urgent; social, economic and infrastructure impacts will continue to accelerate if we do not act now. We must pave a stronger path towards a more sustainable planet and addressing the emergencies and disasters along the way. In further elevating York's contributions to UN SDG 13 (Climate Action) over the next five years, York will invest in research to concretely address this climate crisis, building on and expanding its knowledge and experience related to climate change to meet this challenge. We will apply our expertise on disaster response and humanitarian emergencies to acute weather events caused by global warming here in Canada and abroad, paying careful attention to and including those historically marginalized from these activities as partners and

as beneficiaries. As noted above, York's new research centre, Y-EMERGE, has been created to capture and consolidate this world-renowned expertise.

Across disciplines, York scholars are recognized as world leaders in research on the root causes, expression and consequences of inequality and oppression. The underlying factors driving the climate crisis and the manifold consequences of key environmental and societal challenges are a concentrated focus of research at York. So too are sustainability efforts to achieve net-zero emissions on our campuses and off. York has developed a new Sustainability Framework to ensure sustainability is a critical part of both scholarly and social and cultural sphere of York's campus and community. The framework sets out a more synergetic and coordinated effort between on-campus sustainability related activities, including teaching, research, and practice. These goals will be achieved through new technologies for energy, transportation, home construction and heating, urban planning and regulatory innovation to incentivize a smaller carbon footprint. Above all, research in this area strives to inform and enhance law and public policies that shape the behaviour of governments, public and private organizations, and individuals.

Growth in individual and collaborative scholarship at York in this area over the past five years has been remarkable. York's research partnerships and networks that examine elements of the climate crisis extend far beyond the borders of Toronto and Canada, into Global South and Global North countries and their civil societies. York's new Faculty of Environmental and Urban Change represents an interdisciplinary response to the climate crisis, in which researchers spanning the sciences, social science, humanities and visual arts are addressing understandings, impacts and solutions in relation to climate change.

Any major societal or environmental challenge – whether food insecurity, global warming or species demise – does not affect everyone or everything equally. For example, humans will experience different consequences from non-human animals in relation to habitats under threat; and one's nationality, ethnonational identity, class, gender, ability and location within historically salient colonialism will shape one's relationship to the climate crisis, with those who have historically been negatively affected becoming even more adversely affected.

Researchers are collaborating on interdisciplinary and broader transdisciplinary teams across York but also with partners across the world to tackle a range of climate-related issues: some use big data to probe the political and social pressures on the migration of peoples and the challenges faced by refugees; others have built an international network exploring and exchanging relevant solutions for youth homelessness and child welfare; and still others are examining the evolving regimes of precarious work in Canada and through studies of employment and labour in the global economy. The design

of cities to be resilient, inclusive and sustainable is a huge challenge that York researchers are addressing through applied work with community partners and the City of Toronto, and across the country with partners addressing gendered and racialized challenges of employment, housing, health and much more. Social scientists and engineering researchers collaborate on sustainability around transportation, meshing this analysis with equity in underserved communities, renewable energy research, and exploration of business ethics, the social economy and corporate social responsibility scholarship at York.

Building on this base over the next five years, research in this area will inform and address emerging issues in urban, rural and wilderness environments on local, national and global scales. This research will include the preservation of ecosystems, landscapes and species; address the challenges of emission and pollution; and maintain a sustained focus on human-animal interactions. York's commitment to UN SDG 16 (Peace, Justice and Strong Institutions) reaffirms our research momentum on issues of governance and human rights, with implications not only for Indigenous reconciliation, global migration and diplomacy but also extractivism, cultural genocide and reparations in the wake of violence. Economic prosperity and ameliorating poverty remain squarely on York's research agenda, along with related issues of security in all its forms. York will continue to lead Global North countries with its global network of researchers addressing youth homelessness with new projects that engage Indigenous partners and issues of homelessness among First Nations.

York remains committed to developing new knowledge and solutions to achieve a just, equitable and sustainable future with and for Canadians and with communities across the world. To supplement our sustainability research at the Keele and Glendon campuses as well as the EcoCampus at the Las Nubes Biological Reserve in Costa Rica, research partnerships that cross borders and engage communities will be a major focus of the University's new Markham campus. Research at this campus will focus on directly engaging the surrounding cities, organizations and residents in developing and fostering collaborative partnerships with businesses, social services and regional schools. We plan to continue investing in our whole-institution approach to sustainability, embedding sustainable principles in every aspect of university life and generating knowledge that integrates the social, cultural, economic and environmental dimensions of complex sustainability challenges at scales ranging from the local to the global.

SOCIAL JUSTICE, PEACE AND EQUITABLE RELATIONS

York was founded on a mission of social justice. With our long-standing commitment to the values of equity, diversity and inclusion, we are working together to create an equitable

and inclusive scholarly environment that aims to create an equitable and inclusive society. This is critical in achieving inclusive excellence, where a multiplicity of research, perspectives and lived experiences creates positive change towards a more innovative, just and sustainable world. York's tradition of scholarship has been defined by a critical discourse in which the pursuit of discovery, innovation and engagement with broader society is achieved with a focus on social responsibility, community engagement, equity and justice. These values and core principles are shared by our research community and serve to strengthen and underpin our research priorities.

This commitment has set a rich context for the profile of inclusionary research and scholarship that forms the core of our research enterprise and helps to shape our future direction as a dynamic, metropolitan and multicultural university open to the world. York conducts wide-ranging research examining historical and contemporary dynamics of cultural diasporas, promoting an understanding of experiences as part of a larger global community, within a network of ORUs that contribute to several UN SDGs: SDG 5 (Gender Equality), SDG 6 (Decent Work and Economic Growth), and SDG 10 (Reduced Inequalities). York boasts a rich assortment of inclusionary research among its 31 ORUs, exploring a range of racial, moral, religious, political, feminist, Indigenous, age-related, environmental and legal philosophies, as well as an examination all forms of discrimination and promotion of human rights. Research on decolonization and reconciliation focuses on reconfiguring settler-Indigenous-state relationships incorporating Indigenous methods of truth-telling and principles of restorative justice. This critical inquiry allows us to consider voices otherwise silenced by historical or contemporary injustice or marginalization. Further research in these areas study our conceptions of diversity and the methods needed to explore it, contributing to the shaping of identification and identity. For example, recent seminal research at York examines the ways in which accessible and equitable opportunities in education and employment account for the lived experiences of marginalized community members. Other researchers are contributing in areas such as digital inequality and injustice and addressing social-economic and cultural divides produced by differentiated access to information technologies. Further research is considering the environment and emerging inequalities among specific communities, including our understanding and support of Indigenous climate leadership and governance, specifically through a feminist and gendered lens to help amplify voices of Indigenous women and youth.

This is further borne out in York's approach to integrating large scale transformative and structural changes to the way York hires and adjudicates research opportunities. Inspired by a need for change, York has created a system that invites research excellence from those who are typically overlooked and disadvantaged when it comes to research opportunities

in academia. Places of Online Learning for the Adjudication of Researchers Inclusively and Supportively (POLARIS) is a first-in-Canada online training program to reduce unconscious bias and systemic barriers that offers rich and informative tools. This system supports both EDI practices and fosters better awareness and education among faculty as we seek to diversify our research collegium.

York is also supportive of an equitable and inclusive campus environment. In addition to POLARIS, York has been active in supporting emerging Black and Indigenous researchers as well as addressing structural barriers in research through the York Black Research Seed Grants and the Indigenous Research Seed Grants. York is working towards a research culture that interacts in positive and respectful ways with Indigenous people and Indigenous knowledges, as well as making room for Indigenous research and Indigenous forms of disseminating research. York is implementing an action plan to decolonize research and research administration with the input and guidance of the Indigenous Council at York, and York's Vice-President Equity, People and Culture. This includes the chartering of the Centre for Indigenous Knowledges and Languages (CIKL) and providing additional administrative supports, and the approval of York's Indigenous Research Ethics Board. These activities will be supported by creating the position of an Indigenous Research Support Specialist. In addition, the VPRI has provided additional research funding for ORUs with an EDI mandate, including the Harriet Tubman Institute for Research on Africa and Its Diasporas, the Centre for Research on Latin America and the Caribbean (CERLAC), and the Centre for Feminist Research (CFR). Furthermore, York's community-informed Decolonization, Equity, Diversity and Inclusion Strategy (DEDI) 2022-2027 will help to strengthen and coordinate existing efforts at York by providing a guiding framework to drive change through localized strategies and actions across the institution.

While fostering inclusionary scholarship, it is vital that we support knowledge creation that will have a positive impact on the communities we serve and build the profile and reputation of all equity-seeking groups. Within the VPRI, the Knowledge Mobilization Unit (KMb) and Entrepreneurship program have established strong relationships with the Jane Finch community organizations, including the TD Community Engagement Centre. Further, York's faculty and librarians have long supported the Jane Finch Community Research Partnership, a long-standing collaboration that advances strong communities and an approach of reciprocity, equity and inclusion. Our deep roots in the York Region include a history of ongoing collaborations with the United Way Greater Toronto that focus on community organizations serving the needs of traditionally marginalized communities. One example is the community-campus knowledge mobilization collaboration with the Community Music School of Toronto (formerly the

Regent Park School of Music), which has flourished into a donor-funded Research Chair in Community Based Music with funding dedicated to ongoing and emerging collaborations.

In building on our commitments to decolonization, equity, diversity, inclusion and societal justice, we will continue to enhance and support our research efforts over the next five years, informing critical discussions of the sources and nature of inequalities and oppressions; in turn, these initiatives will better inform actions that can change and transform these inequalities. The University will continue to ensure that appropriate sensitivity to cultural and community rights, roles and responsibilities are applied to all research projects conducted at York. We will further cultivate inclusive and equitable research environments that nurture multiple and intersectional ways of scholarship and knowing. York remains committed to foregrounding the voice and needs of Indigenous communities within Indigenous research, facilitating research that is relevant to Indigenous life and respects Indigenous approaches to knowledge and learning, as well as the study of Indigenous knowledge systems and their various applications in diverse contexts, including water and environmental governance, environmental justice, forest policy and management, and sustainable development. Likewise, York is dedicated to expanding collaborative research and programming that is relevant to the historical, cultural and creative productions of Black and other racialized communities. There are centuries of accumulated traditional knowledges that we believe are fundamental to solving some of the complex problems we face as a society.

INTER- AND TRANSDISCIPLINARY RESEARCH INNOVATION

As the world continues to address urgent global challenges such as climate change, global health crises and political polarization and their impact on people and the planet, it is critical now more than ever for York to support novel transdisciplinary research approaches that help drive innovative solutions to these multifaceted problems. Solving these increasingly complex societal challenges will require a more holistic model, one that integrates knowledge between different disciplines, across disciplines and beyond each single discipline, involving various stakeholders and understanding issues through a social, economic, political and environmental lens. Through engagement between the different participants, new understandings are co-produced to generate solutions to the increasingly dynamic problems that far exceed the boundaries of contemporary academic disciplines and stakeholders. This transdisciplinary approach integrates different views and methods from a range of related disciplines into a common conceptual framework and provides a more inclusive perspective to understanding the causes and

consequences of an issue. This transdisciplinary framework extends to delivering socially relevant solutions that are responsive, relevant and socially applicable.

York's excellence in interdisciplinary research is renowned. But increasingly, York researchers are moving towards a transdisciplinary approach as dynamic research questions continue to evolve. York researchers are cultivating this thinking across disciplines through our Catalyzing Interdisciplinary Research Clusters program fund, which aims to foster interdisciplinary and transdisciplinary collaboration, global research excellence and world-class training opportunities. Funded research cluster projects continue to amplify York's international research excellence with projects that help to address complex global issues identified in the UN SDGs and beyond. Nurtured by this funding program and others, York researchers have been coming together in transdisciplinary teams to advance knowledge in a broad range of areas: measuring and analyzing common brain functions to advance diagnosis and treatment of all neuro-psychiatric disorders; addressing the multifaceted natural, social and political issues underlying the pursuit of sustainable resource extraction in Canada's North; utilizing geomatics to study the evolving effects of climate change on ecosystems and human populations; examining technologies, treatment and impacts of water contaminants on the environment and human health; and understanding the pathway from colonial genocide to building just relationships. The research cluster of data economy brings together researchers from multiple faculties at York with diverse expertise in disciplines such as data science, economics, information systems and law, to build upon our existing strengths and collaborate on important issues that will help lay the foundation of research and practice in data economy. York researchers are also helping to address complex financial technology (fintech) challenges from a similar socially relevant perspective integrating transdisciplinary research methods and engaging a range of sector partners. Research in this area is highly established and collaborative and as such has been identified as a research cluster focus at the Markham campus. It is underpinned by broad expertise that draws together insights from economic, legal, ethical and societal-technical angles. This is exemplified by those involved in the transdisciplinary exploration of digital currencies, where York researchers take an inclusive approach to exploring the technical aspects of governance, architectures, financial inclusion of underprivileged communities, and policy on regulatory frameworks for financial systems, including data and privacy regulations.

Examining and addressing socially relevant challenges by crossing disciplinary boundaries is nothing new for York researchers who have gained considerable momentum and recognition over the past several years through the success of major collaborative initiatives. These initiatives include *Connected Minds: Neural & Machine Systems for a Healthy,*

Just Society that brings together our highly collaborative research team spanning neuroscience, engineering, arts and humanities with a diverse cadre of engaged partners, to understand and optimize societal benefits and mitigate risks of human-machine interactions. Researchers are also collaborating to consider the moral, ethical and legal implications of disruptive technologies on humanity and society as a holistic approach that is transdisciplinary in nature. In alignment with SDG 17 (Partnership for the Goals), another exemplary initiative is the Global South Artificial Intelligence for Pandemic and Epidemic Preparedness and Response Network, an initiative establishing a multiregional network spanning Africa, Asia, Latin America and the Caribbean, and the Middle East and North Africa to deepen the understanding of how responsible AI solutions can improve public health preparedness and response. York's 31 ORUs also serve as incubators for participatory research, adding to the richness and dimensions of transdisciplinary research at the University. York's newest ORUs exemplify our strengths in technology, sustainability practices, artificial intelligence, as well as neuroscience and emergency mitigation, water, and technoscience and society – exploring areas from multiple perspectives. As an example, researchers from the ORU ONE Water are bringing together considerable knowledge and diverse perspectives to greatly enhance the capacity to address the ongoing global water sustainability crisis. This ORU tackles several UN SDGs, such as SDG 6 (Clean Water and Sanitation), and enables diverse industry and community stakeholder partnerships, with a rich research pedigree in water sourcing, AI, water technologies, education and sustainability, resource recovery and reuse, as well as focusing on origins and outcomes of the environmental, educational and societal implications of water.

Over the next five years, York researchers will continue to develop more novel transdisciplinary projects, continuing to break down disciplinary constructs and expand on research that considers and responds to socially relevant issues. Funding drivers like the Catalyzing Interdisciplinary Research Clusters program and additional supports for research teams at our Markham campus will assist with this commitment to further fuel and scale the evolution of York's interdisciplinary research into a more dynamic inquiry approach. With the increased funding capacity and support for transdisciplinary research clusters, researchers will be able to accelerate the capacity of their fully launched research projects and initiatives and expect to pursue larger-scale external research funding as well as the development of broader research nodes and potential national and international networks. In addition, we will seek to expand more meaningful participatory engagement with aligned stakeholders and partners where possible and pursue new research partnerships across the spectrum.

ENABLING STRATEGIC RESEARCH SUCCESS

Achieving the ambitions articulated in this plan will depend on an engaged research environment across the University, willingness, and availability of partners from industry, government, community, as well as on resources that are strategically invested to support research growth and development. We believe that an active, engaged research culture is integral to the fabric of our world-class University and fundamental to the success of our faculty and students.

York is committed to prioritizing the development and intensification of internationally leading research across our institution as a means of enhancing the vibrancy of academic life and generating an exciting atmosphere for learning and scholarship. This begins with units, Faculties and the institution committing to investments in faculty complements that lead research, scholarship and creative activity at the University, and in students and fellows that help fuel the research engine. Equally important is a strong research support infrastructure, both in terms of research facilities, library research collections and IT infrastructure and in terms of collegial mentorship and a highly competent and dedicated research support staff. This support extends to research conducted in French as well as the promotion of the francophone research community, both within and beyond our Glendon campus.

York is fully committed to the ongoing development and success of our areas of strength in research, scholarship and creative expression, and will continue our impressive development as a leading Canadian research university through enhancement of our focused opportunity areas. Indeed, most of the resources supporting research at York has been and will continue to be devoted to the broadly based support of excellence in engaged individual and collaborative research and scholarship. The increasing engagement and success of our current researchers, the recruitment of outstanding new researchers, post doctoral fellows and students, and the expansion of the cutting-edge research infrastructure are the primary means through which we will achieve the ongoing development and recognition of our research, scholarship and creative activity.

To better enable these goals, the office of the VPRI will lead the development of an implementation document as an addendum to the SRP. This document will provide an operational framework meant to enable the success of the SRP in achieving the aspirations of the University Academic Plan. The implementation document will help to assess our progress against the goals and objectives of the SRP; it will include recommendations for the strengthened delivery of the strategy as well as performance indicators to help focus the further development of research going forward.

SUPPORTING RESEARCH DEVELOPMENT

York continues to prioritize its resources in support of the development of its research enterprise and has several initiatives underway that will continue to improve the institutional support of individual scholarship and collaborative research activities and programs.

Smart use of new technologies, removal of cumbersome administrative hurdles and simplification of pathways to support research becomes imperative in this environment in order to facilitate our researchers' success. We are working on an initiative to find efficiencies in current research administrative procedures through the reduction of bureaucracy and the introduction of paperless processes. Additionally, we are using previous internal research audits including the ORU audit and Innovation York audit to both track progress and inform our decisions. The VPRI is taking the lead to engage in continuous service enhancement towards a seamless pre-and post-award experience for researchers. A new research enterprise system will be acquired to allow for better workflow in optimal tracking of grant applications, external contracts and ethics protocols. Further, a DocuSign software system has been implemented to support electronic signatures and more efficient contract approvals and submissions. To address the changing nature of research data collation and output formats, we have acquired an electronic CV (eCV) solution to assist individual researchers and trainees in capturing and organizing their scholarly achievements efficiently in their own academic repository, as well as promote institutional and external understanding of the full depth and breadth of research, scholarship and creative activity. York University Libraries continue to contribute to these initiatives through use of the eCV, the promotion of the ORCID iDs and the Altmetric Explorer for Institutions platforms.

From trainees to professor emeritus, investing in our researchers is the key enabler of research success, and time above all else is recognized as the most valuable commodity. Over the past several years York has accelerated faculty complement renewal and has increased supports for existing faculty as well as for new hires. For example, a more comprehensive research-related release program was initiated several years ago to enhance the amount of time available for faculty to engage in scholarly work. Investments in full-time faculty complement will continue and will help to strategically build research capacity across the institution. This includes attracting top talent through cluster hiring in areas of strategic importance to York, such as areas identified at our Markham campus and those supporting interdisciplinary research clusters. Additionally, we will look to expand our supports for researchers at all stages so that they may be

able to safely conduct and disseminate their research and assist with mitigating risks, especially given more heightened visibility in online environments.

Alongside our Canada Research Chairs that have been deployed to assist in building our research capacity through external recruitment, York has continued to evolve the York Research Chairs (YRC) program and build capacity to broaden and deepen their impact at York. This program is an important component of institutional supports for research and seeks to build and intensify our leading research. This program has evolved considerably since its establishment in 2015 – new equity, diversity and inclusion considerations are being put into practice and are now reflected within the adjudication process, including the makeup and training of the selection committee, the inclusion of equity action plans from nominees and best practice strategies to ensure a fair and transparent nomination process. Additionally, a more tailored approach has been taken in developing the two adjudication streams – STEM and SSHAD (social science, humanities, arts and design) – with nominees self-selecting their preferred stream for a more suitable evaluation. The YRC program continues to be a signature program that has enabled both increased researcher success and satisfaction and strengthened research leadership across the institution.

Building supports for researchers at key junctures in the research grant development cycle is another means by which York is supporting researchers and preparing them for granting success. Research Commons is York's established research grant preparation mentorship program. In collaboration with other offices in VPRI, and Faculties, Research Commons offers research-focused grant clinics and workshops to faculty, research staff, post-docs and graduate students at York, with an emphasis on increasing Tri-Council grant applications and success by offering supportive skills and mentorship from experienced grant writers. We will continue to enhance and build on this successful program to meet the needs of a growing cohort of researchers at all levels, helping them to achieve a strong granting success rate.

York is committed to the ongoing expansion, ensuring a vigorous scholarly environment for our researchers, graduate students and postdoctoral fellows. We have one of the largest cohorts of graduate students in Canada and a growing number of postdoctoral trainees. Our graduate programs are growing in both numbers and quality, and an increasing number of our trainees receive support from the Canada Graduate Scholarships program, the Tri-Council and Mitacs fellowships, as well as from many other Canadian and international sources. York is one of the leading Canadian universities in holding awards and grants from the NSERC Collaborative Research and Training Experience Program (CREATE), which provides embedded partnered research experiences to trainees. Likewise, our postdoctoral cohort is growing in its recognition through national and international fellowship

awards, and York is active in advocating for additional internal and external funding to attract and support postdoctoral fellows. The engagement of the University in a diverse range of research projects provides an environment that exposes our students to pioneering scholarship first-hand. This creates excitement and provides graduates and undergraduates with experiences at the cutting edge of their fields of study. York is committed to exposing all undergraduate students to practices of research and creation by involving them in research projects and the production of artistic works as part of their curriculum. As well, York offers internships and other opportunities to participate in and develop research projects over longer periods of time, especially for students considering more intensive higher research degrees. Additional supports for graduate students include the newly established York Academic Excellence Fund providing graduate students with upfront funds to advance their research and scholarly objectives through simple and timely access to financial resources.

York has made substantial investments in its research infrastructure over the past several years. As we continue to build and grow as an internationally leading, research-intensive university, more research space is needed to support current and future research programs. York's new iHive Building will offer both research and teaching spaces for science and engineering in addition to offering collaboration space for larger-scale interdisciplinary research programs, ORUs and other strategic research clusters. York is investing in large-scale interdisciplinary research programs to help build internationally recognized excellence in key areas of research such as Disaster Risk Governance, as well as seeding research collaborations relevant to the Markham campus and the Vaughan Healthcare Centre Precinct. These investments have been accompanied by the success of our researchers in bringing new research infrastructure and facilities to the University through the Canada Foundation for Innovation, NSERC and the Ontario Research Fund. Over the next five years, new investments in our research infrastructure will continue, with other infrastructure projects seeing completion. For example, the new Neuroscience Laboratory and Research Building serving the Faculties of Health and Science will expand York's world-leading expertise in biological and computer vision with a new state-of-the-art facility in neurophysiology and research clinics in kinesiology and psychology. The new facility for the Advanced Disaster, Emergency and Rapid Response Simulation (ADERSIM) program will feature new equipment and technology to support our researchers, in addition to the completion of the new campus in Markham in 2024 and the development of additional partnerships in York Region.

One way in which York strategically promotes the development of interdisciplinary research is through our network of ORUs. These ORUs advance research and collaboration across the University by providing a home for research development

beyond traditional academic units. At the institutional level, ORUs are expected to align with the demonstrated strengths of York research and our strategic growth opportunities. Similarly, at the faculty level, ORUs are an overt expression of investment in specific research areas. We will continue to invest in the development and support of our ORUs in ways that will increase their grounding in the institution and their engagement with the external community. With targeted investments to raise their recognition and profile, ORUs will continue to be an important component of our efforts to grow internationally as a leading research institution and to increase York's research brand recognition.

York has a commitment to support open access in all areas of research and scholarship with York's Open Access policy and YorkSpace repository. YorkSpace currently preserves over 35,000 scholarly works from a broad range of disciplines across the University and provides equitable access to its research. York is aligned with the tri-agency mandate to enable open scholarship through research data management planning and sound data stewardship practices. Many York researchers provide leadership in the editing and production of nationally and internationally renowned scholarly journals. Over 55 of these journals are hosted directly through the University Libraries' York Digital Journals (YDJ) publishing program and are available through various models of open access. The YDJ provides a home for many unique journals in important and highly specialized areas of study.

In furthering the growth of the international reach and recognition of our research, scholarship and creative activity, we are committed to facilitating the development and strengthening of internationally networked clusters of research excellence. We are increasing our engagement in international research partnerships and exchanges, expanding our numbers of international graduate students and postdoctoral fellows. Furthermore, with a focus on proactive engagement with lower and middle income countries, we are supporting the co-development of global capacity to respond to the UN SDGs. Going forward, this will require a targeted and coordinated institutional approach to advancing research, research engaged education and research expertise within the UN SDGs and beyond. We are continuously examining our approach to improving support for partnership development, strengthening our collaborations, generating more external funding to expand our influence, and initiating opportunities to attract and retain emerging talent from around the world. We have initiated the development of a new Internationalization and Global Engagement Strategy that will include an integrated focus on global research and innovation engagement.

TRANSLATING RESEARCH INTO ACTION THROUGH INNOVATION, PARTNERSHIPS, KNOWLEDGE MOBILIZATION, ENTREPRENEURSHIP AND COMMERCIALIZATION

York University has established a set of principles that guide our innovation support activities, driving partner engagement, collaboration, and greater societal impact from our research. These principles include:

- Research must be mobilized and translated to achieve its full impact on broader society
- Societal impact opportunities are enhanced through proactive engagement and collaboration
- Ongoing, long-standing partnerships support growth, knowledge integration and more rapid impact
- York's role is to facilitate growth through expertise, support, training, mentorship and collaboration building, providing students and faculty access to tools and knowledge that will drive their work towards greater impact

York will support the development of all innovation opportunities, through the support of industry and community engagement and partnerships, knowledge mobilization, entrepreneurship and commercialization.

Partnerships and Collaboration

Over the past five years, York has continued to grow our cohort of scholars engaged in community and socially partnered research, increased the numbers and depth of partnerships with community organizations, the not-for-profit and public sectors, and extended our success in the SSHRC flagship Partnership Grants program. In the 2022 SSHRC Partnership Grant competition, York successfully applied for and received four Partnership Grants, which accounted for approximately 20% of the national total.

At the same time, emphasis on meaningful partnerships between York researchers and the private sector has broadened the engagement of the University with industry. In part driven by growth of engineering and applied health and natural science, private sector partnerships have grown threefold over the past five years.

In alignment with SDG 17 (Partnership for the Goals), this growth trajectory is expected to continue as we work to realize our full partnership potential through individual and conjoint collaboration with partners from the non-profit, public and private sectors. York turns our research into action to benefit local and global citizens.

Knowledge Mobilization

Knowledge mobilization advances social innovation through engaged scholarship and assists our partners in community, government and industry to address society's most persistent social, environmental and economic challenges. Working closely with partners in the community, from NGOs to the United Way, from York Region to local and international partners in government, the Knowledge Mobilization Unit (KMb) at York is a national leader, garnering extensive national and international recognition and numerous awards for its work in mobilizing knowledge for broader socio-economic impacts. This includes engagement of social sciences, humanities, art and design (SSHAD) as well as research-relevant policy and professional practice in all disciplines not only with community organizations but with governments and industry as well.

These industries are major agents of positive change within our communities, in both the mainstream and marginalized sectors. York's knowledge mobilization infrastructure supports multidirectional connections between researchers and research partners, encouraging the development of evidence that informs decisions about public policy and professional practice. A recent example is York's contribution to the development of CIVICLabTO, an effort that brings the city of Toronto together with students, faculty and researchers from higher education institutions to address complex challenges through research and educational opportunities.

Entrepreneurship

York University is deeply committed to fostering innovative approaches, technologies and perspectives to solve problems and promote global economic and social well-being by supporting the commercialization of innovation through entrepreneurship. York has invested heavily in the entrepreneurship and innovation infrastructure over the past five years and has succeeded in establishing a healthy and engaged entrepreneurship community in which over 2,000 students, faculty and staff engage annually. YSpace is York University's premier hub supporting entrepreneurs in the community from ideation to scale. Our two priority sectors are technology and agri-food, in which we have over a dozen programs offered with customized mentorship, entrepreneurship education, incubator space and networking opportunities. As a part of our network, we have supported 538 companies over the past four years within the consumer-packaged goods and technology sectors, resulting in \$67.5 million of funding and generating over a combined \$119 million of revenue. At YSpace, each of our programs is built around the three core principles of mentorship, community inclusion and metrics-driven goal setting.

The success of building an entrepreneurial mindset will be seen by growing the provincial and national reputation of York University as an entrepreneurial university, demonstrated by the growing number of students receiving entrepreneurial education, the growing number of start-up ventures supported, and the growing number of students graduating with an entrepreneurial mindset. In fact, our ELLA program, Ontario's first accelerator focused on women-led product and serviced-based businesses, has recently received renewed funding for expansion across Canada to be delivered in partnership with other community-based organizations. In five years, we expect that the progress made will position York as a national leader in entrepreneurial education and outputs, as well as enhancing engagement in and prioritization of entrepreneurship at York.

Commercialization

The University has recently established a renewed commercialization strategy with the support of the Government of Ontario. This strategy will streamline the University's support of innovation and intellectual property services to facilitate cost-effective commercialization opportunities for the York community and its partners. Through establishing this enhanced, full-service IP and commercialization pathway for York community and partners, the University will effectively support its faculty, students, and collaborating partners while building licencing and research partnership opportunities which drive greater impact and prosperity in Ontario. The University's strengths in intellectual property through IP Osgoode and the IP Innovation Clinic, coupled with the support services in VPRI will enable rapid, meaningful transition of ideas and inventions through to market and social opportunities. These opportunities will be transitioned into entrepreneurship, innovation and partnerships to drive both economic and social growth for the University community and our partners.

SUMMARY AND EXPECTATIONS

Research, scholarship and creative activity are integral to the fabric of York. Their growth and development are among the highest priorities for the University. With a strong commitment to quality, social justice, responsibility and academic freedom, York delivers research that advances critical inquiry and scientific discovery, challenges our beliefs and perceptions, and affects the social, cultural and economic development of our country and beyond. This plan reflects York's commitment to research excellence and to the development of new knowledge and creative activity. In moving us closer to achieving our research ambitions, implementation will be established through collegial discussion with our units and faculties as well as our external research partners as we develop and align research priorities going forward. Success will be measured through demonstration of growth in national and international recognition of our research, scholarship and creative activity, further acceleration of the strong pace of growth of our research funding and outputs, the success of our students, the recognition of our faculty for their scholarly achievements, and the benefits delivered to communities and society at large.

APPENDIX A: COLLEGIAL ENGAGEMENT AND THE STRATEGIC RESEARCH PLAN ADVISORY COMMITTEE MEMBERSHIP

This plan was developed through a broad process of collegial engagement with our academic community. From the summer of 2022 to spring 2023, the York community participated in an open discussion about the role of research, our valuation of research and our aspirations for the future of research at York. This inclusive engagement process was guided by an active and dedicated Strategic Research Plan Advisory Committee that included representatives from across the University and the broader community and was active in reaching out and helping to further solicit input from the York community. In keeping with York's practice of collegial governance, input from faculty members, students and staff was received through a series of community consultations and roundtable discussions on campus and through an active online site. Essential inputs into the Plan's development were provided directly by the faculties through consultations with their councils, Faculty Deans and Associate Deans, and by members of the Indigenous Council, Organized Research Units, along with the Academic Policy, Planning and Research Committee of the Senate, as well as other research leadership bodies.

STRATEGIC RESEARCH PLAN ADVISORY COMMITTEE

Amir Asif, VP Research & Innovation (Chair)

Joycelyn Amos, Markham Research Operations Manager, VPRI

Nation Cheong, VP Community Opportunities and Mobilization, United Way Greater Toronto

Krista Davidson, Interim Director, Communications, Office of the President

Tamara Daly, Director YU-CARE, Professor, School of Health Policy & Management, Health

Susan Dion, Associate VP Indigenous Initiatives, VPEPC, Professor, Faculty of Education

Barbara Edwards, Senior Policy Advisor, Research, VPRI

Trevor Farrow, Associate Dean, Research & Institutional Relations, Professor, Osgoode

Eileen Fischer, Associate Dean Research, Director Marketing Specialization, PhD Program, Entrepreneurial Studies, Schulich

Sarah Flicker, YRC in Community-Based Participatory Research, Professor, EUC

Jane Gertner, VP Partnerships, Venture LAB

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Jennifer MacLean, Assistant VP, Innovation & Research Partnerships, Innovation York

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Swann Paradis, Associate Principal Research & Graduate Studies, Associate Professor French Studies, Glendon College

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Joel Prowting, PhD candidate (CIHR)

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Vivian Saridakis, Associate Dean Research and Graduate Education, Associate Professor, Dept. of Biology, Science

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