

TOWARDS NEW HEIGHTS

York University
Strategic Research Plan
2018-2023



MESSAGE FROM THE VICE-PRESIDENT RESEARCH & INNOVATION

A comprehensive research-intensive institution, York University is home to a proud tradition of 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's Academic Plan, *Towards New Heights* lays out a vision for accelerating the growth and development of our research, scholarship and creative activity over the next five years that advances York's commitment to research excellence and to the development and application of new knowledge to the benefit of society.

This Plan highlights the depth and breadth of research at York – research that is innovative; advances critical inquiry and scientific discovery; challenges our beliefs and perceptions; and affects the social, cultural and economic development of our country and beyond.

York is a leader in research that crosses disciplinary boundaries. This is reflected in our research strengths across six intersecting themes:

- Advancing Fundamental Inquiry and Critical Knowledge
- Analyzing Cultures and Mobilizing Creativity
- Building Healthy Lives, Communities and Environments
- Exploring and Interrogating the Frontiers of Science and Technology
- Forging a Just and Equitable World
- Integrating Entrepreneurial Innovation and the Public Good

ABOUT YORK UNIVERSITY

York champions new ways of thinking that drive teaching and research excellence. Through cross-disciplinary programming, innovative course design, diverse experiential learning and a supportive community environment, our students receive the education they need to create big ideas that make an impact on the world. Located in Toronto, York is the third largest university in Canada, with a strong community of 53,000 students, 7,000 faculty and administrative staff, and more than 300,000 alumni.

York's fully bilingual Glendon Campus is home to Southern Ontario's Centre of Excellence for French Language and Bilingual Postsecondary Education.

The research, scholarship and creative activity within each theme are informed by disciplines, but are inherently inter- and transdisciplinary in their development and application. These themes reflect areas of research in which we are demonstrating national and international leadership, and are expected to continue to grow and excel over the next five years.

At the same time, there are five areas of opportunities to further accelerate research growth and success:

- Digital Cultures
- Healthy Individuals, Healthy Communities and Global Health
- Indigenous Futurities
- Integration of Artificial Intelligence into Society
- Public Engagement for a Just and Sustainable World

These areas are timely; they address some of the most important challenges that we currently face. In rising to meet these newly emerging challenges, York is ahead of the curve.

We are committed to a strategic combination of broadly based and focused investments across our areas of strength and opportunity. 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.

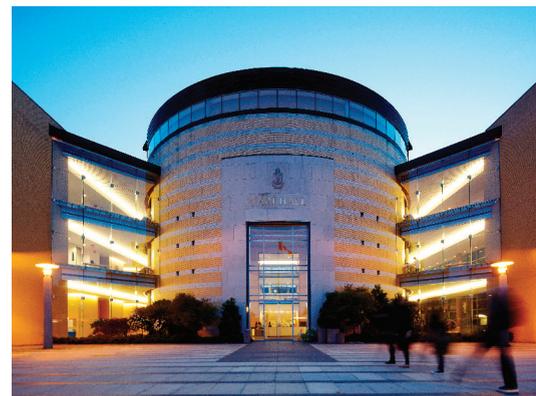
Robert Haché

Vice-President Research & Innovation

Key Documents for Further Reading

University Academic Plan 2015-2020 www.vpap.info.yorku.ca/files/2016/07/UAP-2015-2020.pdf

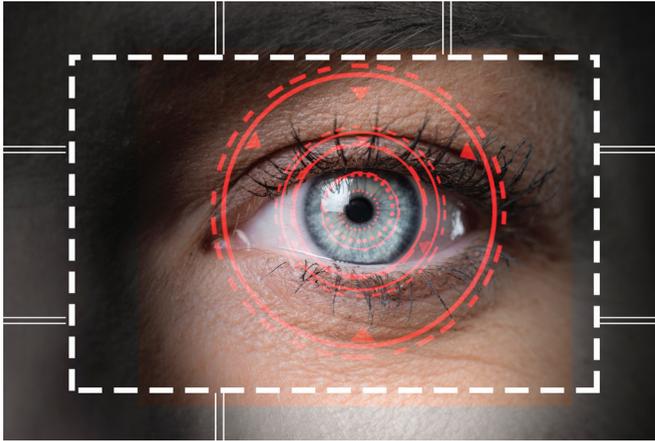
Strategic Mandate Agreement 2017-2020 www.oipa.info.yorku.ca/files/2014/04/York-University-SMA-2-2017-2020.pdf



RESEARCH VISION

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 and the public good, we aspire through our research to better understand the human condition and the world around us and to employ the knowledge we gain in the service of society. 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.

SIX
INTERSECTING
THEMES



Advancing Fundamental Inquiry and Critical Knowledge

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



Analyzing Cultures and Mobilizing Creativity

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



Building Healthy Lives, Communities and Environments

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



Exploring and Interrogating the Frontiers of Science and Technology

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



Forging a Just and Equitable World

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



Integrating Entrepreneurial Innovation and the Public Good

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

FIVE
RESEARCH
OPPORTUNITIES



Digital Cultures

Today's digital revolution is driven by a set of rapid and distinctive technological, economic and socio-cultural developments that will continue in the early 21st century. York, a recognized leader in this area, will build on our influence in technological and cultural developments. Researchers will continue to promote critical discourse in digital media art, while through the BRAIN (Big Data Research, Analytics and Information Network) Alliance, they will create new access to the analysis and visualization of big data. Working with key partners, we will strengthen the industry-academic partnerships in the cultural and entertainment sectors. There is both tremendous need and opportunity for research in the digital world at the intersection of the arts, sciences, law and engineering. This vital work will push technological boundaries while critically investigating the digital revolution's social, cultural and legal impacts and the ways in which this is shaping and changing human activity and interaction.



Healthy Individuals, Healthy Communities and Global Health

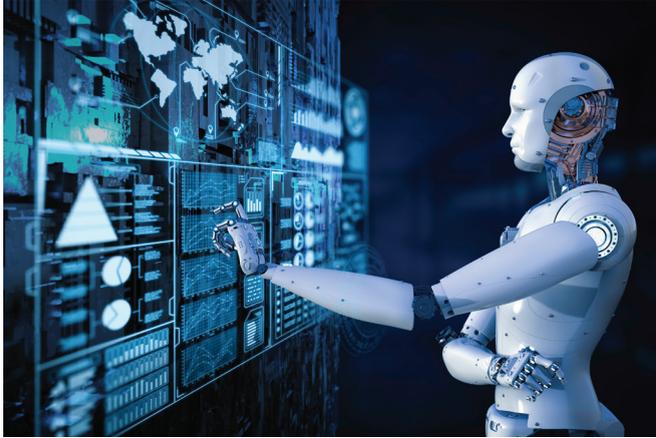
Understanding health in the future requires approaches that transcend archaic boundaries of just the physical body and understands health as a consequence of biology interacting with cultural, social, legal, environmental, technological and economic contexts. Over the next five years, York sets out to develop new questions that need to be asked and answer current questions within the field of health transdisciplinary approaches. From biomolecular engineering to the health of populations, and from healthy aging to global child health, researchers will fully realize the potential of, and accelerate the success of, recently launched initiatives such as the Dahdaleh Institute for Global Health Research and Vision: Science to Applications (VISTA). Over the longer term, York maintains its aspiration for a new kind of medical school to focus on integrated interdisciplinary care.



A young role model for First Nations women, Autumn Peltier, represented her community at a knowledge-sharing symposium, part of the Indigenous Environmental Justice Project:
www.iejproject.info.yorku.ca

Indigenous Futurities

Indigenous futurities acknowledges the power of research that embraces future potential and past reality as integral to sound, contemporary work. In the next five years, Indigenous leadership in York's collaborative, socially engaged research will create a unique space to support contributions to Indigenous knowledges within and beyond the academy. At this time, truth, reconciliation and justice are focusing the attention of York's Indigenous and non-Indigenous scholars working in these areas. In articulating this research opportunity, York affirms a commitment to respectful, relevant, Indigenous-formed and -led research, scholarship and related creative activity. This Indigenous-focused research promises positive and critically needed change to policy, practice, community and cultural life and ultimately, relationships among us all.



Integration of Artificial Intelligence (AI) into Society

From smart phones that order our morning coffee to the remote calibration of computers in the outer reaches of our galaxy, AI pervades almost every aspect of our life. York will continue to soar to the forefront in visual perception technologies, space exploration, robotics and manufacturing technologies, remote sensing, intelligent information systems and cognitive analytics over the next five years. Building on our unique niche, we will do so alongside global intellectual leaders in the humanities, social sciences, health and law, who are laying new ground expounding the moral, ethical and legal implications of AI adoption.



Public Engagement for a Just and Sustainable World

As growth in human activity continues, there are ever-greater pressures on our environment and societies from climate change and the proliferation of disease, both of which are contributing to increasing inequalities among peoples. Across York's disciplines, our scholars will be recognized as world leaders in research on the origins, nature and consequences of inequality and oppression, as well as key environmental and societal challenges. Researchers are coming together in interdisciplinary teams and working to tackle an expanding range of issues, including migration, strategies for youth homelessness and engineering solutions for water and energy security; and responding to natural and human-made disasters with an internationally leading simulation centre for emergency management.



MAKING AN IMPACT

York is dedicated to developing new understandings and discoveries that have an impact and promote the advancement of society, national competitiveness, and global economic and social well-being. We seek to maximize the social and economic impact of research and innovation. Applied research, industry-research partnerships and community partnerships are key priorities at York in the creation of innovative research projects that produce cutting-edge knowledge and technology.

To enable these impacts, we offer supports for translating knowledge, technology and ideas through Innovation York, the University's innovation office. The goal of York's innovation and entrepreneurship programming is to ensure that the translation of intellectual and creative assets is supported, the student experience is enhanced, and that the York community is creating intellectual property and start-up ventures that will attract investment and create jobs in Ontario. The past five years have seen a strong growth in the knowledge transfer of York's research, and we anticipate a further 30 per cent increase over the next five years.

LEARN MORE ABOUT RESEARCH AND INNOVATION AT YORK UNIVERSITY

Visit the VPRI website at www.research.info.yorku.ca.

Follow us on Twitter at @YUResearch.

Read *Brainstorm*, a special edition of *YFile*, for compelling and accessible stories about the world-leading and policy-relevant work of York's academics and researchers across all disciplines, encompassing both pure and applied research.

www.research.info.yorku.ca/brainstorm

Watch the "2 Minutes, 3 Questions" video series where York researchers and academics discuss the impact of their work.

Available on YouTube: www.bit.ly/2mPtT8Z

Don't miss the "York Research Impact Story" where Robert Haché, Vice-President Research & Innovation, provides a comprehensive overview of the acceleration of research at York. He showcases the local, national and international impact of this vital work, emphasizing research excellence, partnerships and community engagement, and return on investment.

Available on YouTube: www.bit.ly/2mtwaDf