LAURIER

Inspiring Lives.

United Nations Sustainable Development Goals
Addressed by Laurier Researchers

Office of Research Services

Inspired Research. REAL IMPACT

Strategic Research Plan, 2025–2030

Approved January 27, 2025

Contents

Acknowledgments

> "*Together, Canadians must do more than just talk about reconciliation; we must learn how to practise reconciliation in our everyday lives—within ourselves and our families, and in our communities, governments, places of worship, schools, and workplaces. To do so constructively, Canadians must remain committed to the ongoing work of establishing and maintaining respectful relationships.*" — The Truth and Reconciliation Commission of Canada, Final Report of the Truth and Reconciliation Commission of Canada, Volume One: Summary: Honouring the Truth, Reconciling for the Future

Laurier's Waterloo and Brantford campuses are located on the shared traditional territory of the Neutral,* Anishnaabe and Haudenosaunee peoples. This land is part of the Dish with One Spoon Treaty between the Haudenosaunee and Anishinaabe peoples and symbolizes the agreement to share, protect our resources and not to engage in conflict.

From the Haldimand Proclamation of Oct. 25, 1784, this territory is described as: "*six miles deep from each side of the river (Grand River) beginning at Lake Erie and extending in the proportion to the Head of said river, which them and their posterity are to enjoy forever.*" The proclamation was signed by the British with their allies, the Six Nations, after the American Revolution. Despite being the largest reserve demographically in Canada, those nations now reside on less than five percent of this original territory.

Laurier's Milton campus is located on the traditional territory of the Mississaugas of the Credit, and part of the Nanfan Treaty of 1701 between the British Crown and the Haudenosaunee Confederacy.

Activities under the auspices of the research partnership between Laurier and the Government of the Northwest Territories occur on the ancestral lands of the Dene, Inuvialuit, Métis, and Cree peoples. We express our gratitude to the various Indigenous communities of the NWT for the privilege of learning, working, and residing on their lands. We are also profoundly appreciative of the generous sharing of Indigenous Knowledge, insights, and cultural practices.

We continue to work with our Indigenous partners and colleagues to ensure that we are appropriately acknowledging these lands and their stewardship.

*Also known as the Attawandaron people.

A Message from the Vice-President: Research

> *"Our life and our person are not made of reason alone, and the more we are aware of this fact, the better it is. But reason is the only tool we have for bringing a ray of light and order into the great, dark chaos from which we were born, into which we shall return, and by which we are surrounded on all sides."* — Paul Oskar Kristeller, *Eight Philosophers of the Italian Renaissance* (1964, pg. 90)

As Vice-President: Research, I am honoured to present our University's Strategic Research Plan, a comprehensive roadmap designed to guide our scholarly endeavors over the next five years. At the heart of this plan lies our unwavering commitment to addressing the most pressing challenges of our time—for example, those embodied by the United Nations Sustainable Development Goals—while fostering innovation, equity, and sustainability in all aspects of our academic and research communities.

Our strategic research themes and strengths reflect our dedication to excellence and our proactive approach to shaping a better future. These themes encapsulate the diverse expertise and interdisciplinary collaboration that are the hallmarks of our university. By leveraging our strengths, we aim to drive impactful research that not only advances knowledge but also contributes to the well-being of our society and the environment.

Research Themes

1. Environmental Sustainability. Our commitment to environmental sustainability is reflected in our focus on climate change, water science, and ecosystem management. We are dedicated to advancing sustainable resource management, environmental justice, and Indigenous-led stewardship, ensuring a holistic approach to preserving our planet.

2. Health and Well-being. We strive to enhance health and well-being across the lifespan through innovative research in community health, resilience, and disease mechanisms. Our efforts extend to workplace well-being, disability studies, and the intersection of technology and health, aiming to foster a healthier, more inclusive society.

3. Governance and Policy. Addressing global and national challenges, our research in governance and policy explores, among other topics, migration, economic and social policies, and organizational effectiveness. We aim to influence public opinion, enhance policy connections, and promote social responsibility through rigorous analysis and strategic insights.

4. Indigeneity, Decolonization, Equity, Diversity, and Inclusion. Our dedication to social justice, human rights, and diversity drives our research in decolonizing relationships and promoting Indigenous scholarship. We are committed to fostering equitable educational supports, health inclusion, and cultural diversity, ensuring an inclusive and just academic environment.

5. Business, Innovation, Mathematics, and Technology. By embracing cutting-edge technologies and innovative business practices, our research in artificial intelligence, machine learning, and data analytics paves the way for advancements in education, consumer technology, and corporate finance. We support entrepreneurial ventures and quantitative financial research, driving economic growth and technological innovation.

6. Society, Culture, and Community. Our exploration of society, culture, and community encompasses a wide range of topics, from digital culture and intercultural pedagogies to storytelling and heritage studies. We are committed to fostering critical scholarship, experiential learning, and leadership development, enriching our cultural and social fabric.

This strategic research plan is a testament to our university's commitment to academic excellence, interdisciplinary collaboration, and societal impact. By focusing on these core themes and leveraging our research strengths, we are poised to make significant contributions to knowledge, innovation, and the betterment of our global community.

Together, we will continue to push the boundaries of discovery, inspire future generations of scholars, and address the critical issues facing our world. I am confident that our collective efforts will lead to transformative outcomes, driving progress, and creating a brighter, more sustainable future for all.

The entire Laurier research community had the opportunity to participate in the development of this Strategic Research Plan. The consultation process is described in detail in Appendix A. I am especially grateful to Allison McManus, Meghan Fournie, and Una Glisic, from the Office of Research Services, for all their hard work bringing this document to fruition.

Jonathan Newman
Vice-President: Research

Laurier's Research Strategy

Our research is dedicated to advancing the frontiers of knowledge, addressing global challenges, and delivering impactful solutions for society. We foster a dynamic and inclusive research environment that encourages excellence, innovation, and interdisciplinary collaboration.

Our commitment to research excellence involves supporting researchers at all career stages and promoting diversity and inclusivity within our research community. We emphasize the importance of international partnerships and collaborations with industry, government, and other institutions to enhance our research impact.

We prioritize the translation of research into practice, supporting our researchers' infrastructure needs, helping them achieve robust funding, and creating a vibrant intellectual community. Our strategic priorities include environmental sustainability, health and well-being, governance and policy, and other key areas that benefit society.

By focusing on these core values and goals, we aim to push the boundaries of knowledge, foster innovation, and create real-world solutions that address the major challenges facing our global community.

Research Theme 1

Environmental Sustainability

United Nations Sustainable Development Goals

"*Saving our planet, lifting people out of poverty, advancing economic growth... these are one and the same fight. We must connect the dots between climate change, water scarcity, energy shortages, global health, food security and women's empowerment. Solutions to one problem must be solutions for all.*" — Ban Ki-moon, 8th secretary-general of the United Nations

Research in this theme encompasses a wide range of interdisciplinary studies aimed at addressing complex environmental challenges. From climate change and cumulative impacts to sustainable food systems and advancing Indigenous-led land stewardship and climate policy, researchers focus on developing strategies that mitigate and adapt to environmental change. By integrating scientific, Indigenous and local knowledge, policy analysis, and community engagement, the research aims to inform evidence-based decision-making, promote resilience, protect Indigenous rights, ensure wise resource management, and safeguard the well-being of ecosystems and communities. Ultimately, this work contributes to a more sustainable future for Canada and beyond by addressing the interconnected challenges posed by climate change and environmental degradation.

1.1 Climate Change and Cumulative Impacts

This research involves analyzing the complex effects of various stressors, including climate change and industrial development, on ecosystems and communities. Through interdisciplinary studies that integrate scientific knowledge, predictive modelling, policy analysis, and community engagement, researchers develop strategies to mitigate and adapt to these impacts. This work informs evidence-based decision-making, promoting resilience and sustainability in the face of a changing climate. Ultimately, this research contributes to a more sustainable future for Canada and beyond by addressing the interconnected challenges posed by climate change.

Assets: UNESCO Chair in Food, Biodiversity and Sustainability Studies | CRC in Cold Regions Water Science | CRC in Northern Sustainable Food Systems | CRC in Forests and Global Change | CRC in Global Adversity and Well-Being | University Research Professor in Geography | University Research Professor in International Policy and Governance | Laurier Research Chair in Cold Regions Hydrology | Chair in Insurance | Dr. John McMurry Research Chair in Environmental Geography | Laurier Centre for Community Research, Learning and Action | Cold Regions Research Centre | Laurier Institute for Water Science | MS2discovery Interdisciplinary Research Institute | Laurier–GNWT Research Partnership

1.2 Aquatic and Terrestrial Ecosystems

Research on aquatic and terrestrial ecosystems highlights their essential role in environmental sustainability. Studies focus on the impacts of climate change, habitat fragmentation, and pollution, informing conservation strategies to address these challenges. By utilizing interdisciplinary approaches, including ecology, hydrology, and policy analysis, researchers aim to conserve biodiversity, protect Indigenous rights, and promote sustainable resource management. The findings contribute to evidence-based decision-making, guiding Canada towards a more resilient and equitable environmental future.

Assets: CRC in Cold Regions Water Science | CRC in Northern Wildlife Biology | CRC in Remote Sensing of Environmental Change | CRC in Forests and Global Change | Cold Regions Research Centre | Laurier Institute for Water Science | Laurier–GNWT Research Partnership

1.3 Environmental, Climate, and Sustainability Justice

Environmental, Climate, and Sustainability Justice focuses on addressing the unequal distribution of the negative impacts of global climate change and environmental degradation and pollution among countries, regions, and populations. This research area recognizes that the most vulnerable members of society often experience the worst effects of these issues and also have less means to adapt to their negative impacts on health and well-being. It also recognizes that participation in environmental decision-making processes often disadvantages members of equity-deserving groups. By highlighting and addressing these disparities, Environmental, Climate, and Sustainability Justice aims to develop knowledge, policies, and practices that ensure a fair and equitable distribution of environmental benefits and burdens, ultimately promoting social equity and environmental sustainability for all communities. In addition, this research seeks to reduce the risks of unintended consequences of climate and sustainability actions that further exacerbate existing inequalities and to increase the possibility of co-benefits of these actions.

Assets: CRC in Cold Regions Water Science | CRC in Global Political Ecology | CRC in Global Adversity and Well-Being | Dr. John McMurry Research Chair in Environmental Geography | Viessmann Centre for Engagement and Research in Sustainability | Laurier Centre for Community Research, Learning and Action

1.4 Sustainable Food Systems

Research in the area of sustainable food systems focuses on developing agricultural practices and food distribution networks that ensure food security and nutrition for all without compromising the economic, social, and environmental bases needed for future generations. This includes

creating resilient agricultural methods, reducing food waste, and promoting equitable access to nutritious food globally. The aim is to build a food system that supports long-term sustainability and addresses the interconnected challenges of food production, environmental health, and social equity.

Assets: CRC in Northern Wildlife Biology | CRC in Northern Sustainable Food Systems | CRC in Forests and Global Change | Laurier Centre for Sustainable Food Systems | Cold Regions Research Centre | Laurier–GNWT Research Partnership

1.5 Water Science

Water science involves studying the physical, geochemical, biological, and societal aspects of the hydrological cycle, using field measurements, laboratory analyses, modelling and remote sensing. Focusing on regions such as the Northwest Territories (and adjacent areas) and the southern Great Lakes, researchers tackle critical issues central to Canadians and the global community. These issues include competition for water access for human consumption, agriculture, industry, and transportation, the effects of climate change on water resources, the sustainability of healthy aquatic ecosystems, and the development of regulations and policies through multi-stakeholder collaboration. This interdisciplinary research aims to ensure sustainable water management and protection for current and future generations.

Assets: CRC in Remote Sensing of Environmental Change | University Research Professor in Geography | Laurier Distinguished Research Chair in Aquatic Sciences | Jarislowsky Chair in Sustainable Water Futures | Laurier Research Chair in Cold Regions Hydrology | Cold Regions Research Centre | Laurier Institute for Water Science | MS2discovery Interdisciplinary Research Institute | Laurier–GNWT Research Partnership

1.6 Sustainable Cities and Communities

The work in this research area contributes to making cities and other forms of human settlements inclusive, safe, resilient, and sustainable. Research in this area includes work on green infrastructure, climate-ready communities, local governments developing low carbon resilience, the intersection of climate change and community safety, impacts of migration, community-led climate resilience of marginalized communities, community wellbeing of Indigenous people in urban areas, urban agriculture and city-region food systems, scaling of multi-sector collaboration toward provoking sustainability transitions, ecological citizenship, and transboundary water governance.

Assets: UNESCO Chair in Food, Biodiversity and Sustainability Studies | Viessmann Centre for Engagement and Research in Sustainability | Laurier Centre for Community Research, Learning and Action | Laurier Centre for Sustainable Food Systems | Laurier Centre for the Study of Canada

1.7 Contaminants, Pollutants, and Toxicology

Research in this area investigates the sources, fate, and effects of harmful substances on ecosystems and human health. Through interdisciplinary collaboration involving researchers with expertise

in chemistry, biology, hydrology, permafrost, climate change, and public health, innovative mitigation strategies and policy recommendations are developed. Their work informs regulations and promotes sustainable practices to safeguard Canada's environment and well-being. Laurier's commitment to advancing knowledge in this field contributes to a healthier and more sustainable future for all Canadians.

Assets: Laurier Distinguished Research Chair in Aquatic Sciences| Jarislowsky Chair in Sustainable Water Futures | Cold Regions Research Centre | Laurier Institute for Water Science | Laurier–GNWT Research Partnership

1.8 Resource Management, Sustainability, and Policy

Research on resource management, sustainability, and policy in Canada integrates ecological, social, and economic dimensions to address complex environmental challenges. The research focuses on sustainable resource extraction, protected and conserved area policy, planning and management, and policy analysis to balance conservation with development. By collaborating with stakeholders at multiple levels and Indigenous communities, researchers inform evidence-based policy decisions that promote effective, equitable, and resilient resource management practices. Laurier's interdisciplinary approach supports national and international environmental sustainability goals, fostering a harmonious relationship between society and the environment.

Assets: Dr. John McMurry Research Chair in Environmental Geography | UNESCO Chair in Food, Biodiversity and Sustainability Studies | Laurier Centre for Economic Research and Policy Analysis | Cold Regions Research Centre | Laurier Institute for Water Science | Laurier Centre for Community Research, Learning and Action | Laurier Centre for the Study of Canada | Laurier–GNWT Research Partnership

1.9 Advancing Indigenous-Led Land Stewardship and Climate Policy

Through meaningful collaboration with Indigenous communities, this research aims to empower Indigenous land stewardship practices by integrating Indigenous knowledge with modern climate policy. By centering Indigenous perspectives, researchers strive to develop more equitable and effective strategies for environmental sustainability and climate policy. This approach not only benefits Indigenous Peoples but also contributes to broader global efforts towards a more sustainable and just society.

Assets: CRC in Northern Sustainable Food Systems | CRC in Global Political Ecology | CRC in Remote Sensing of Environmental Change | Jarislowsky Chair in Sustainable Water Futures | CRC in Northern Sustainable Food Systems | University Research Professor in Geography | Laurier Research Chair in Cold Regions Hydrology | Laurier Centre for Community Research, Learning, and Action

1.10 Decision-Making for Sustainability

Decision-making for sustainability focuses on public and private decisions that drive innovation and creativity for sustainability. This research area aims to develop frameworks and tools that guide organizations and policymakers towards practices that enhance environmental and social

well-being. By integrating sustainability into government and private decision-making processes, this field seeks to promote long-term economic viability while fostering a positive impact on the environment and society.

Assets: CRC in Northern Wildlife Biology | Viessmann Centre for Engagement and Research in Sustainability | Laurier Centre for Economic Research and Policy Analysis | Laurier Centre for Community Research, Learning and Action

1.11 Sustainable Chemistry

Sustainable chemistry is a scientific approach focused on designing and manufacturing chemical products that consider their entire lifecycle. This discipline aims to maximize the efficient use of natural resources while developing products and processes that minimize environmental impact and protect human health. Through innovative practices and interdisciplinary research, sustainable chemistry seeks to create safer, eco-friendly alternatives that contribute to a more sustainable and healthy world.

Assets: University Research Professor in Chemistry and Biochemistry | University Research Professor in Chemistry

Research Theme 2

Health and Well-being

United Nations Sustainable Development Goals

"*Health is a state of complete mental, social and physical well-being, not merely the absence of disease or infirmity.*" — World Health Organization, 1948

The interdisciplinary research at our institution encompasses a wide range of topics, from enhancing well-being throughout the lifespan to understanding biochemical mechanisms of health and disease. Our scholars are dedicated to fostering resilience in individuals and communities facing adversity, while also focusing on workplace well-being and the transformative power of music in therapy and community contexts. In addition, our research extends to innovative physical activity programs aimed at improving community health and well-being. By forging partnerships across social work, education, and other sectors, we strive to address complex societal challenges and promote equity, diversity, and resilience. Our commitment to disability studies underscores our aim to improve the quality of life of people with disabilities and their caregivers in diverse settings.

2.1 Lifespan Health and Community Well-being

This research strength integrates a comprehensive approach to enhancing the quality of life and promoting well-being across all stages of life. This interdisciplinary field examines cognitive development, socio-emotional well-being, and physical health from childhood to old age. It addresses the unique challenges of different life stages, including theories of death and dying, well-being in educational and workplace settings, and aging in rural environments. By leveraging principles from kinesiology and physical education, researchers focus on innovative physical activity initiatives that enhance physical, psychological, and social health. This research draws

on the Human Capital Model, emphasizing the essential role of physical activity in healthy human development.

Assets: CRC in Community-Based Research, Ethics, and Wellbeing | CRC in Community-Driven Knowledge Mobilization and Pathways to Wellness | CRC in Global Adversity and Well-Being | University Research Professor in Psychology | Laurier Research Chair in Group Dynamics and Physical Activity | Dr. John McMurry Research Chair in Environmental Geography | Laurier Research Chair in Psychology | Centre for Leading Research in Education | Manulife Centre for Community Health Research | Sun Life Centre for Healthy Communities | Laurier Centre for Community Research, Learning and Action | Laurier Centre for Economic Research and Policy Analysis

2.2 Resilience

This research strength focuses on understanding and enhancing resilience and well-being across multiple dimensions of life. This interdisciplinary field examines how individuals and communities can maintain or quickly return to a state of well-being despite facing significant hardship, adversity, or stress. It explores the development of resilience from infancy through young adulthood and how it is reinforced by healthy environments in schools, communities, and workplaces. One particular focus of this strength is financial resilience and income security, identifying key predictors and strategies to withstand unexpected financial setbacks. It examines the impact of financial stress on mental health and overall well-being, aiming to empower individuals to make informed decisions in areas such as consumption, saving, debt management, housing, retirement planning, education, and health. Through practical solutions and evidence-based strategies, researchers aim to foster resilient, healthy, and financially stable communities.

Assets: CRC in Community-Driven Knowledge Mobilization and Pathways to Wellness | CRC in Global Adversity and Well-Being | University Research Professor in Psychology | Laurier Research Chair in Psychology | Laurier Centre for Community Research, Learning and Action | Sun Life Centre for Healthy Communities | Laurier Centre for the Study of Canada

2.3 Workplace, Health, and Well-being

Recognizing the critical importance of employee well-being within organizations, workplace health and well-being research focuses on understanding the individual and contextual factors that influence the physical, social, and psychological health of employees. This scholarship aims to identify and develop effective strategies for creating healthier, happier, and more productive workforces and environments. By examining the diverse aspects of well-being in various organizational settings, researchers seek to promote practices that enhance overall workplace satisfaction and performance.

Assets: Viessmann Centre for Engagement and Research in Sustainability

2.4 Mechanisms and Modelling in Health and Disease

This research area delves into the molecular and chemical mechanisms underlying health and disease in humans, animals, and plants. It focuses on understanding health at the molecular,

cellular, and organismal levels, addressing critical issues such as food security, environmental change, and therapeutic development. Key research areas include toxicology, biotechnology, cellular processes, therapeutic development, stress resilience, and mechanisms of disease prevention and progression. By elucidating these biochemical processes, the research aims to advance knowledge and develop innovative solutions for improving health and combating disease across diverse biological systems.

Assets: University Research Professor in Health Sciences and Biology

2.5 Human Performance in Complex Socio-Technical Environments

Research in this area focuses on user experience design and the development of applications based on modelling human performance. This strength also explores the psychological, social, and health impacts of technology use among specific user groups, including Northern Indigenous communities, children, and seniors. By understanding these impacts, researchers aim to create technologies that enhance user experience, improve well-being, and foster better integration of technology into daily life for diverse populations.

Assets: University Research Professor in Psychology | Laurier Research Chair in Psychology

2.6 Disability Studies

The field of Disability Studies encompasses a comprehensive examination of various disabilities and neurodevelopmental conditions, such as autism, across the lifespan. This research includes exploring disability policy and practice, the impacts on caregivers, and the provision of disability services. It also delves into the histories and lived experiences of individuals with disabilities and focuses on advocacy. The primary objective is to improve understanding and improve the services and quality of life outcomes for disabled people and their caregivers in diverse settings.

Assets: CRC in Community-Driven Knowledge Mobilization and Pathways to Wellness | Laurier Centre for Community Research, Learning and Action | Sun Life Centre for Healthy Communities

2.7 Music, Health, and Well-being

This research field explores the multifaceted roles of music in therapy and as a social practice. Music therapy research examines the clinical use of music to address physical, emotional, cognitive, and social needs, aiming to enhance therapeutic practices. Additionally, research on music as a social practice investigates its role in community contexts, cultural reclamation, intercultural work, and decolonial and Indigenous ways of knowing and being. This field also aims to strengthen community-engaged music pedagogies, fostering a deeper understanding of music's impact on health, community, and society.

Assets: Laurier Centre for Music in the Community | Manfred And Penny Conrad Institute for Music Therapy Research | Laurier Centre for Community Research, Learning and Action

2.8 Well-being at the Intersections of Social Work, Education, and Society

Recognizing the immense impact of structural and societal conditions on individual and collective well-being, the fields of social work and education can achieve long-term sustainability through the creation of meaningful partnerships with business and not-for-profit sectors. In leveraging their expertise in crisis management, mental health issues in workplaces and schools, workplace bullying, inclusion, equity, diversity, and gendered and sexual violence, social work and education-led collaborations aim to address complex societal challenges and foster environments that promote well-being, equity, and resilience. By working together, these sectors can develop and implement innovative strategies that have a lasting positive impact on communities.

Assets: CRC in Community-Based Research, Ethics, and Wellbeing | Centre for Leading Research in Education

2.9 Spirituality, Health, and Well-being

Research at Martin Luther University College focuses on strengthening people's connections with one another, the world, and their sense of the whole, or holy. This work attends to the whole person, encompassing physical, relational, and spiritual well-being. By fostering deeper connections and addressing multiple dimensions of health, the research aims to enhance overall well-being and promote a more holistic approach to individual and community health.

Assets: CRC in Community-Based Research, Ethics, and Wellbeing | Dr. John McMurry Research Chair in Environmental Geography

2.10 Animal Behaviour, Cognition, & Neuroscience

This research strength at Laurier emphasizes a unique diversity of high-level behavioural testing and monitoring approaches for comparative studies of cognition, natural behaviour, and neural systems. The research focuses on multi-agent ("social") dynamics, spatial processing, and reinforcement behaviours, often within evolutionary frameworks. Studies encompass multiple species, including rodent mammals, birds, reptiles, fish, and insects, as well as biological and "minimally cognitive" preparations. This interdisciplinary approach aims to deepen our understanding of animal behaviour and cognition, contributing valuable insights into neural systems and their evolutionary contexts.

Research Theme 3

Governance and Policy

United Nations Sustainable Development Goals

"*We have to be bold in our national ambitions. First, we must win the fight against poverty within the next decade. Second, we must improve moral standards in government and society to provide a strong foundation for good governance. Third, we must change the character of our politics to promote fertile ground for reforms.*" —Gloria Macapagal Arroyo, Filipino academic 14th president of the Philippines, 2001–2010

A diverse range of interdisciplinary research areas converge in this theme to address pressing local, national, and global challenges and opportunities in governance and policy scholarship. From examining the complexities of migration governance and global mobility to exploring the impact of technological advancements on societal dynamics and policy implications, researchers are dedicated to informing effective public policy. They assess Canada's navigation of regional and global contexts, taking into account political, socio-cultural, economic, and environmental shifts while offering insights and recommendations to enhance the country's ability to respond effectively. Additionally, the investigation of public opinion and its influence on policy processes, as well as the study of economic and social policies, provides a comprehensive understanding of policy impacts and solutions to improve economic and social well-being. In an increasingly data-driven and digitalized world, emerging transformative technologies profoundly impact all aspects of governance and policy, creating tremendous research opportunities. Furthermore, the exploration of conflict and security dynamics, as well as organizational effectiveness, contributes to the development of more effective and comprehensive security strategies and fosters resilient organizations capable of thriving in diverse and changing environments.

3.1 Global Migration Governance

This is an interdisciplinary, community-engaged, and policy-relevant research area focused on the complexities of migration, mobility, displacement, and borders at local, regional, and global scales. This research strength includes researchers dedicated to innovating migration governance through rigorous, human rights-based scholarship. Their work addresses the challenges posed by shifting economic, social, and political realities, climate change, and rapid technological transformation. By grounding their research in real-world contexts, these scholars aim to develop effective and equitable policies that respond to the evolving dynamics of global migration.

Assets: CRC in Global Adversity and Well-Being | University Research Professor in International Policy and Governance | University Research Professor in Communication Studies | International Migration Research Centre | Balsillie School of International Affairs

3.2 Economic and Social Policy

Researchers in this area aim to understand and address critical issues such as income inequality, trade policy, employment, healthcare, housing, food and agriculture, education, and social welfare. Much economic and social policy research focuses on how individuals and organizations make decisions and respond to incentives within the societal framework and across international borders. By integrating theoretical insights and methods with empirical evidence, this research provides a comprehensive understanding of policy impacts and offers solutions to enhance economic and social well-being.

Assets: University Research Professor in International Policy and Governance | Laurier Research Chair in Multilevel Governance | Chair in Insurance | Laurier Research Chair in Financial Markets | Laurier Centre for Economic Research and Policy Analysis | Balsillie School of International Affairs

3.3 Organizational Governance and Effectiveness

This research strength combines the study of decision-making processes and governance structures within governmental, for-profit, and non-profit organizations. This interdisciplinary field aims to understand and enhance the factors that contribute to organizational success, resilience, and ethical integrity. Researchers explore how individuals and teams learn, adapt to change, and leverage knowledge to improve organizational performance. This strength also addresses the complexities arising from the separation of ownership and control in public firms, often leading to agency problems. It encompasses diverse disciplines such as accounting, economics, finance, management, and law to investigate governance structures, ethical practices, transparency, rule-making, and control mechanisms. By integrating insights from both organizational effectiveness, corporate governance, and regulatory theory, this research strength seeks to enhance integrity, accountability, and overall effectiveness.

Assets: Laurier Research Chair in Multilevel Governance | KPMG Foundation Fellowships in Accounting | Chair in Insurance | Dr. John McMurry Research Chair in Environmental Geography | Arthur Wesley Downe Professorship In Finance | Balsillie School of International Affairs | Viessmann Centre for Engagement and Research in Sustainability | Laurier Centre for Economic Research and Policy Analysis

3.4 Technology, Policy, and Society

This research area explores the intricate relationship between technology and society, extending into political, policy and legal issues. Researchers from diverse disciplinary backgrounds investigate how technology impacts social dynamics and addresses the political, economic, governance, and policy implications of technological advancements. By examining these complex interactions, scholars aim to understand the broader societal effects of technology and develop informed policies that guide technological integration in ways that benefit society as a whole. This research area emphasizes the need for comprehensive strategies to navigate the challenges and opportunities presented by technological change.

Assets: University Research Professor in Communication Studies | Laurier Research Chair in Consumer Insights and Innovation | KPMG Foundation Fellowships in Accounting | Laurier Centre for Economic Research and Policy Analysis | MS2discovery Interdisciplinary Research Institute | International Migration Research Centre | Balsillie School of International Affairs

3.5 Policy Connections for Canada

Researchers in the Policy Connections for Canada area assess how well Canada navigates regional, national, and global contexts marked by profound political, socio-cultural, economic, and environmental shifts. They examine how Canadian governments address these challenges using public policy tools, acknowledging the complexity, interconnectivity, and uncertainty inherent in public policy. This multidisciplinary research spans various critical issues, including trade, foreign relations, climate change, environmental policy, immigration, citizenship, refugee policy, federalism, and justice. By exploring these interconnected domains, researchers aim to provide insights and recommendations that enhance Canada's ability to respond effectively to evolving domestic and international landscapes.

Assets: Laurier Research Chair in Multilevel Governance | Dr. John McMurry Research Chair in Environmental Geography | Laurier Centre for Economic Research and Policy Analysis | International Migration Research Centre | Laurier Centre for the Study of Canada | Balsillie School of International Affairs

3.6 Policy Studies, Voting Behaviour and Public Opinion

This research strength focuses on the intersection of public opinion, public policy, and elections. Researchers in this area explore how public opinion, an often unpredictable phenomenon, constrains and shapes public policy. This research strength focuses on understanding how public opinion develops and its influence on policy processes, highlighting the limitations, opportunities, and strengths within this dynamic interplay. By linking public opinion to policy outcomes, scholars provide valuable insights into the democratic process and the factors that drive voter behaviour and public sentiment.

Assets: Laurier Research Chair in Social Psychology | Laurier Institute for the Study of Public Opinion and Policy | Laurier Centre for Economic Research and Policy Analysis | Balsillie School of International Affairs

3.7 Conflict and Security

This research area focuses on the creation and impact of international public policy by political institutions to address issues affecting the public good. In an era of rapid globalization, researchers analyze the domestic, national, and international consequences of complex policies that influence global conflict and security in the past and present. This research aims to understand the multifaceted dynamics of conflict and security, providing insights into how policies can mitigate threats and promote stability in a globally interconnected world. By examining these critical issues, scholars contribute to the development of more effective and comprehensive security strategies.

Assets: | CRC in Global Adversity and Well-Being | University Research Professor in International Policy and Governance | Centre for Research on Security Practices | Laurier Centre for the Study of Canada | Balsillie School of International Affairs

3.8 Governance, Ethics, and Social Responsibility

Research in this area explores how organizations can contribute to sustainable development while ensuring the health and welfare of society. This area focuses on creating frameworks that address the expectations of stakeholders, promoting ethical practices, transparency, and accountability. By examining how governance structures and ethical considerations intersect with social responsibility, researchers aim to develop strategies that enhance organizational contributions to societal well-being and sustainability. This research ultimately seeks to guide organizations in balancing their economic goals with their obligations to society and the environment.

Assets: Laurier Centre for Community Research, Learning and Action | Laurier Centre for the Study of Canada | Balsillie School of International Affairs

Research Theme 4

Indigeneity, Decolonization, Equity, Diversity and Inclusion

United Nations Sustainable Development Goals

"*We shall overcome because the arc of the moral universe is long but it bends toward justice.*"
— Dr. Martin Luther King Jr., *Remaining Awake Through a Great Revolution.* Speech given at the National Cathedral, March 31st, 1968

This research theme examines the complex interplay of social, economic, and political factors that perpetuate societal inequalities, with a focus on promoting social justice, human rights, and equity. Researchers aim to dismantle oppressive structures and advocate for policies ensuring fair treatment and equal opportunities for all. This involves amplifying marginalized voices, challenging dominant cultural narratives, and fostering a deeper appreciation of cultural diversity. By exploring the intersections of gender with racism, colonialism, heteronormativity, religion, and poverty, scholars develop nuanced strategies to promote inclusivity across social contexts. Additionally, research on educational supports empowers leaders to create inclusive learning environments, addressing systemic barriers to ensure success for diverse student populations. The theme also highlights the impact of social marginalization on health outcomes, seeking to address health disparities through informed strategies. Indigenous scholarship plays a crucial role, focusing on decolonizing practices and fostering equitable relationships between Indigenous and non-Indigenous communities. This comprehensive approach aims to create resilient and equitable societies by integrating diverse perspectives and promoting justice, equity, and inclusivity across various domains.

4.1 Social Justice and Human Rights

This research investigates the systems and barriers that perpetuate societal inequalities, focusing on the unfair distribution of wealth, power, and privilege. This research area seeks to understand the root causes of these disparities and develop practical solutions to promote equity and justice. By examining the complex interplay of social, economic, and political factors, researchers aim to dismantle oppressive structures and advocate for policies that ensure fair treatment and equal opportunities for all members of society.

Assets: CRC in Community-Based Research, Ethics, and Wellbeing | CRC in Northern Sustainable Food Systems |CRC in Community-Driven Knowledge Mobilization and Pathways to Wellness | Laurier Research Chair in Social Psychology | Tshepo Institute for the Study of Contemporary Africa | Viessmann Centre for Engagement and Research in Sustainability | Laurier Centre for Community Research, Learning and Action | International Migration Research Centre | Laurier Centre for the Study of Canada |

4.2 Diversity of Cultures and Communities

This research focuses on amplifying non-dominant, minority, and marginalized voices while challenging prevailing assumptions about business, political, and cultural institutions. This research cluster examines historical and contemporary patterns of religious change and interaction, migration, and transcultural exchange. Scholars in this area are committed to preserving and promoting humanity's cultural heritage, exploring how diverse cultural narratives contribute to a richer, more inclusive understanding of society. By addressing these multifaceted issues, researchers aim to foster greater recognition and appreciation of cultural diversity and its vital role in shaping resilient and equitable communities.

Assets: CRC in Community-Based Research, Ethics, and Wellbeing | NSERC Chair for Women in Science and Engineering | University Research Professor in English and Film Studies | International Migration Research Centre | Tshepo Institute for the Study of Contemporary Africa | Laurier Centre for Community Research, Learning and Action

4.3 Gender and its Intersections

Research in this area explores how gender is influenced by and intersects with various factors such as racism, colonialism, heteronormativity, religion, and poverty. This area of study seeks to understand the complex and multifaceted nature of gender identities and experiences, highlighting how these intersecting factors contribute to inequality and social injustice. By examining these dynamics, researchers aim to develop more nuanced perspectives and strategies to promote equity and inclusivity across different social contexts.

Assets: Laurier Research Chair in Social Psychology | University Research Professor in English and Film Studies | NSERC Chair for Women in Science and Engineering | CRC in Community-Driven Knowledge Mobilization and Pathways to Wellness | CRC in Indigenous Histories and Historical Practice in Canada | Laurier Research Chair in Social Psychology | Centre for Women in Science | Laurier Centre for Community Research, Learning and Action | International Migration Research Centre

4.4 Educational Supports for Learners and Leaders

Research in this area focuses on empowering educational leaders to promote Indigeneity, equity, diversity, and inclusion within schools and educational systems. This research aims to develop strategies and practices that create supportive and inclusive learning environments, ensuring all students have the opportunity to succeed. By addressing systemic barriers and fostering a culture of inclusivity, researchers contribute to the advancement of equitable education for diverse populations.

Assets: NSERC Chair for Women in Science and Engineering | Centre for Leading Research in Education | Tshepo Institute for the Study of Contemporary Africa | Cold Regions Research Centre

4.5 Intersection of Health and Marginalization/Dis-Inclusion

This research area explores how social position influences health status. This field aims to understand the lived experiences of marginalized populations and examine how systemic and institutional violence affect their health. By highlighting the connections between social marginalization and health disparities, researchers seek to develop strategies to address these inequities and improve health outcomes for all individuals, regardless of their social position.

Assets: CRC in Community-Based Research, Ethics, and Wellbeing | Laurier Centre for Community Research, Learning and Action

4.6 Indigenous Scholarship and Decolonizing Relationships Knowledge, and Practices

This research area encompasses the extensive work of Laurier's Indigenous faculty members and focuses on decolonizing practices and fostering equitable relationships between non-Indigenous and Indigenous communities. The cluster aims to advance Indigenous scholarship by promoting Indigenous knowledge, methodologies, and perspectives. Researchers in this area are committed to challenging colonial legacies and supporting initiatives that respect and integrate Indigenous worldviews, contributing to the broader goal of reconciliation and mutual understanding.

Assets: CRC in Community-Driven Knowledge Mobilization and Pathways to Wellness | CRC in Indigenous Histories and Historical Practice in Canada | Laurier Centre for Community Research, Learning and Action | Tshepo Institute for the Study of Contemporary Africa

Research Theme 5

Business, Innovation, Mathematics and Technology

United Nations Sustainable Development Goals

"*If you want to build a ship, don't drum up people to collect wood and don't assign them tasks and work, but rather teach them to long for the endless immensity of the sea.*" — Antoine de Saint Exupéry [1900–1944]

The convergence of diverse research areas such as artificial intelligence, machine learning, game design, educational technology, behavioural economics, mathematical modelling, and data analytics offers a holistic strategy for leveraging technology and data to drive innovation and improve decision-making. By developing adaptive systems that can analyze vast amounts of data and recognize patterns, researchers can create meaningful games and simulations that enhance learning and engagement. Technology is integrated into educational systems to facilitate computational thinking and improve user experiences, while behavioural economics and data analysis support more effective decision-making processes across organizations and provide actionable insights to optimize business strategies. This comprehensive approach showcases the potential for technology and data-driven research to generate transformative solutions that enhance learning, consumer engagement, and organizational practices.

5.1 Strategic and Organizational Leadership

Research on leadership spans macro, meso, and micro levels of analysis. Strategic leadership research focuses on the role of top executives in shaping strategic decisions, while organizational

leadership research delves into intra-organizational issues like leadership development and team dynamics. This interdisciplinary area aims to enhance organizational practices and strategies by examining leadership and followership dynamics, and offering evidence-based practical solutions to improve collaboration, engagement, and leadership effectiveness. By studying various factors such as psychological, social, technological, and structural influences on employee behaviour and interpersonal relationships, research in this area not only advances academic knowledge but also offers evidence-based practical solutions.

Assets: Laurier Research Chair in Multilevel Governance | Grant Thornton LLP Fellowship in Accounting | KPMG Foundation Fellowships in Accounting | Centre for Leading Research in Education |

5.2 Behavioural Insights for Organizational Decision-Making and Accountability

The research focuses on behaviourally informed methodologies to explore decision-making processes in organizations and institutions. It examines the interplay between financial and non-financial information and the contextual factors influencing decision-making. The key topics include accounting standards, capital market reactions, corporate social responsibility, sustainability, decision biases, and information for innovation and creativity. The aim is to enhance decision-making related to governance, ethics, contract design, and corporate social responsibility, ultimately improving organizational practices, performance, and accountability.

Assets: Laurier Research Chair in Consumer Insights and Innovation | Grant Thornton LLP Fellowship in Accounting | KPMG Foundation Fellowships in Accounting | Laurier Centre for Economic Research and Policy Analysis | MS2discovery Interdisciplinary Research Institute

5.3 Business Analytics and Data-Driven Intelligence

Business Analytics and Data-Driven Intelligence research leverages mathematical modelling, statistics, and data science to transform data into actionable insights and informed decisions. Researchers in this field develop and apply sophisticated models to generate explanatory, exploratory, causal, and predictive insights. This research supports the development and analysis of firm strategies, enhances operations and marketing efforts, and optimizes decision-making across various management disciplines. The applications of this research benefit both private-sector firms and public-sector organizations by improving efficiency, effectiveness, and strategic outcomes through data-driven approaches.

Assets: CRC in Business Analytics in Supply Chain | William Birchall Chair in Management Analytics | Arthur Wesley Downe Professorship In Finance | MS2discovery Interdisciplinary Research Institute | Einwechter Centre for Supply Chain Management

5.4 Mathematical Modelling and Data Analysis

Researchers in the Mathematical Modelling and Data Analysis area develop and utilize sophisticated mathematical models to study the behaviour of real-world processes and systems.

By creating these models, they aim to understand complex phenomena and make accurate predictions. This research involves analyzing data to refine models and ensure they effectively capture the intricacies of the systems being studied. Applications of this work span various fields, including engineering, economics, environmental science, and healthcare, ultimately providing valuable insights and solutions to real-world challenges.

Assets: NSERC Chair for Women in Science and Engineering | Laurier Research Chair in Financial Markets | Goldberg Family Foundation Fellowship in Finance | Laurier Centre for Economic Research and Policy Analysis | MS2discovery Interdisciplinary Research Institute | Einwechter Centre for Supply Chain Management

5.5 Design and Study of Games and Simulations

The Design and Study of Games and Simulations research area explores the creation and application of digital, analog, and live-action games and simulations in innovative ways. Researchers develop recreational, educational, and meaningful games and simulations on various topics and study their impact on players. They also facilitate the creation of games by participants, ensuring inclusivity by incorporating both high-tech and low-tech/no-tech activities to accommodate low-resource settings. This field encompasses gamification, which involves using game design elements in non-game contexts, and game studies, which critically analyze games and their societal roles. Through this research, scholars aim to enhance learning, engagement, and social impact through the effective use of game-based methodologies.

Assets: KPMG Foundation Fellowships in Accounting | Laurier Centre for Economic Research and Policy Analysis

5.6 Artificial Intelligence and Machine Learning

Artificial Intelligence (AI) and Machine Learning (ML) are transformative research areas focused on simulating human intelligence processes through machines, particularly computer systems. AI involves developing algorithms and systems that can perform tasks typically requiring human intelligence, such as problem-solving, understanding natural language, and visual perception. ML, a subset of AI, enables systems to automatically learn and improve from experience without explicit programming. This field is dedicated to creating adaptive systems that can analyze vast amounts of data, recognize patterns, and make informed decisions, driving advancements in technology and innovation across various industries.

Assets: Laurier Research Chair in Consumer Insights and Innovation | Centre for Leading Research in Education | MS2discovery Interdisciplinary Research Institute | Einwechter Centre for Supply Chain Management

5.7 Innovative Supply Chains and Operations

Research areas include studying demand-supply dynamics and consumer insights, value chain design, risk management, operation and incentive mechanisms, inventory and procurement, operations/marketing interfaces, transportation and logistics, facility location and layout, healthcare and service operations, and sustainable supply chain and operations. Methodologies include, but are not limited to, mathematical modeling, empirical methods, experiments, and field studies.

Assets: CRC in Business Analytics in Supply Chain | CN Fellowship in Supply Chain Management | Einwechter Centre for Supply Chain Management

5.8 Innovation in Educational and Consumer Technology

The Innovation and Technology research area leverages partnerships with non-governmental organizations and private industry, both in Canada and internationally, to develop groundbreaking curricula that integrate computational thinking in schools and educational systems. Researchers focus on user experience design, creating and testing user-centered technologies, services, spaces, and processes. This includes the design and redesign of infrastructures and processes that facilitate technological innovation. Consumer research within this field examines the adoption of new technologies, consumer reactions to AI in product design, modelling consumer behaviour across digital channels, and the role of technology in value creation. Through these multidisciplinary efforts, the research aims to drive advancements that enhance educational outcomes, user experiences, and consumer engagement with innovative technologies.

Assets: Laurier Research Chair in Consumer Insights and Innovation | Lazaridis Institute for Management of Technology Enterprises | Centre for Leading Research in Education

5.9 Corporate Finance

Corporate Finance focuses on how companies secure funding to support their operations and strategic goals. This research area encompasses a wide range of topics, including capital structure, capital financing, risk management, capital budgeting, and the time value of money. By studying these elements, researchers aim to develop strategies for optimal fund allocation, ensuring that companies can effectively manage resources, mitigate risks, and maximize shareholder value. Corporate finance provides critical insights into financial decision-making processes that drive business growth and sustainability.

Assets: Arthur Wesley Downe Professorship In Finance | Chair in Insurance | Laurier Research Chair in Financial Markets | MS2discovery Interdisciplinary Research Institute

5.10 Quantitative Financial Research and Innovation

Research in quantitative financial analysis and innovation integrates advanced mathematical and statistical methods with cutting-edge technology to elucidate the structure and efficiency of financial markets. We focus on developing theoretical models to explain market participant behaviour and conduct empirical analyses of extensive trading data to enhance the functionality and robustness of financial markets. By integrating machine learning techniques into traditional financial models, we aim to provide deeper insights into financial markets and improve decision-making processes, ultimately refining financial theories and practices to offer robust tools for practitioners and policymakers in navigating complex financial landscapes.

Assets: Arthur Wesley Downe Professorship In Finance | Laurier Research Chair in Financial Markets | Goldberg Family Foundation Fellowship in Finance | MS2discovery Interdisciplinary Research Institute

5.11 Innovation in Human Resource Management

The research in this area focuses on examining innovative human resource (HR) policies and practices and their impact on employee and organizational performance. This includes investigating the impact of technology on HR processes. Additionally, the research explores HR practices designed to meet the unique needs of specific employee groups, such as older employees and employees with disabilities. By studying the effectiveness of practices to recruit, select, motivate, and retain a diverse and productive workforce, this research can help ensure that organizational goals are aligned with employee needs. The knowledge generated from this research will provide future leaders with the tools necessary to create inclusive, productive, and technology-enabled workplace environments.

5.12 Entrepreneurship

Entrepreneurship research delves into the multifaceted aspects of entrepreneurial activities, processes, and outcomes, enhancing our understanding of entrepreneurial phenomena across diverse contexts. This field encompasses a wide range of topics, including innovation, venture creation, and venture growth. Researchers aim to contribute both theoretical insights and practical implications, offering valuable guidance for entrepreneurs, practitioners, and policymakers. By exploring the dynamics of entrepreneurship, this research seeks to foster innovation, support new venture development, and promote sustainable business growth.

Assets: Chair in Brand Communication | Lazaridis Chair in Entrepreneurship and Innovation | Lazaridis! Institute for Management of Technology Enterprises

5.13 Service Management

Service Management is a critical research area focusing on the service sector, which constitutes over 70% of the gross domestic product in advanced economies and spans essential fields such as education, healthcare, and government services. This sector plays a pivotal role in achieving key UN Sustainable Development Goals. The research is inherently multidisciplinary, drawing from service marketing, service operations, human resources, organizational design, information systems, and the economics of service. By integrating insights from these diverse fields, researchers aim to optimize service delivery, enhance efficiency, and improve customer experiences, thereby driving economic growth and societal well-being.

Assets: Laurier Research Chair in Consumer Insights and Innovation | | Laurier Centre for Economic Research and Policy Analysis

5.14 Discrete Mathematics and Graph Theory

Discrete Mathematics and Graph Theory is a research area that combines rigorous theoretical analysis with practical applications. Lying at the interface of Mathematics, Computer Science, and Operations Research, this field addresses complex theoretical problems while providing solutions to real-world engineering and business challenges. Applications include optimizing

locations for cellphone towers, determining shortest routes in GPS systems, scheduling flights, and identifying communities of users on social media platforms. By bridging theory and practice, this research area contributes to advancements in both foundational mathematics and practical problem-solving across various industries.

Assets: CRC in Mathematical Modelling | MS2discovery Interdisciplinary Research Institute | Einwechter Centre for Supply Chain Management

5.15 Information Science and Quantum Technologies

Information Science and Quantum Technologies is an interdisciplinary research area that explores the convergence of data science, information theory, computing, sensing, and quantum mechanics. This field aims to revolutionize traditional information processing and communication paradigms by leveraging quantum principles. Researchers focus on advancements in artificial intelligence, big data analytics, high-precision sensing, and secure communication networks. The goal is to transform how we process, analyze, and transmit information, leading to breakthroughs that enhance technological capabilities and drive innovation across various industries.

Assets: NSERC Chair for Women in Science and Engineering | Laurier Research Chair in Financial Markets | MS2discovery Interdisciplinary Research Institute

Research Theme 6

Society, Culture and Community

United Nations Sustainable Development Goals

"*Art and culture cannot resist the war. Nobody will write a book or do a research with bullet whistle at the ear. But, they give one strength to bear unbearable, not just to accept it, but to think it over and overcome it.*" — Andrea Grille

The Society, Culture and Community research theme encompasses a rich array of interdisciplinary fields, including community-engaged and critical scholarship, cultural analysis, digital culture and technology, intercultural and engaged pedagogies, leadership and leadership development, global dynamics and human rights, and the digital humanities. At the heart of this theme is the commitment to fostering meaningful partnerships with communities to co-create knowledge and address shared challenges, interpreting cultural representations and practices within local, national, and global contexts, and exploring the impact of digital technologies on culture and society. We are dedicated to pioneering innovative and evidence-based methods that promote cultural awareness and meaningful student participation, as well as enhancing organizational, group, and individual-level practices and strategies for positive change across various sectors. Additionally, this research delves into the profound impacts of globalization and technological forces on human rights and diversity, while leveraging digital resources and tools to innovate traditional humanities disciplines.

6.1 Community-Engaged and Critical Scholarship

Community-Engaged and Critical Scholarship fosters meaningful partnerships with communities, as well as the public, private, and not-for-profit sectors, to co-create knowledge and address shared

challenges. This research area emphasizes a collaborative and inclusive approach to problem-solving, employing diverse methodologies to engage all stakeholders meaningfully. Centered on building strong relationships, it shapes research objectives, pedagogy, outcomes, and knowledge mobilization collaboratively with communities. Rooted in commitments to social justice, reciprocity, and shared ownership of data and outputs, this research prioritizes community-identified needs and values diverse forms of knowledge. The outcomes can include institutional and social change, knowledge mobilization, capacity-building, and other transformative impacts. By working closely with community partners, researchers aim to co-create practical and equitable solutions that address pressing social issues and foster inclusive and transformative change, ensuring the research is relevant and beneficial to all involved.

Assets: CRC in Community-Based Research, Ethics, and Wellbeing | University Research Professor in Criminology | CRC in Community-Driven Knowledge Mobilization and Pathways to Wellness | Laurier Research Chair in Multilevel Governance | Laurier Centre for Community Research, Learning and Action | Tshepo Institute for the Study of Contemporary Africa | Viessmann Centre for Engagement and Research in Sustainability | International Migration Research Centre

6.2 Cultural Analysis

The field of Cultural Analysis explores historical and contemporary cultural phenomena, interpreting cultural representations and practices within local, national, and global contexts. This research area engages with culture as a site for transmitting everyday and specialized knowledge, encompassing norms, values, ideas, and beliefs of various communities. It also examines the social, political, and economic frameworks that shape and reflect both dominant and marginalized cultures over time. By analyzing these dynamics, scholars aim to uncover the complex interplay between culture and society, offering insights into how cultural practices influence and are influenced by broader historical and contemporary forces.

Assets: University Research Professor in Criminology | Laurier Research Chair in Consumer Insights and Innovation | Laurier Centre for Economic Research and Policy Analysis | Laurier Centre for Community Research, Learning and Action | Tshepo Institute for the Study of Contemporary Africa | Laurier Centre for the Study of Canada

6.3 Intercultural and/or Engaged Pedagogies

Intercultural and/or Engaged Pedagogies focuses on the study and practice of teaching that aims to develop students' full potential through innovative and evidence-based methods. This research area emphasizes the importance of cultural awareness and active engagement in the learning process and the individual needs of learners and instructors. It explores how diverse cultural perspectives can be integrated into educational practices to create inclusive and dynamic learning environments. It also investigates diverse areas such as experiential education, teaching and learning across the lifespan, and technology/gaming and its role in teaching. By employing intercultural and engaged pedagogical strategies, educators aim to foster a deeper understanding, critical thinking, and meaningful participation among students, preparing them to navigate and contribute to an increasingly interconnected world.

Assets: CRC in Community-Driven Knowledge Mobilization and Pathways to Wellness | University Research Professor in Psychology | Centre for Leading Research in Education | Tshepo Institute for the Study of Contemporary Africa | Laurier Centre for Community Research, Learning and Action

6.4 Digital Culture, Technology, and Internet Justice

This research strength encompasses the comprehensive exploration of the profound impact of digital technologies on culture and society, including mobile phones, the internet, social media, digital games, and machine learning. This research delves into the transformative effects of digital innovations on everyday life, social structures, and global interactions. Additionally, it investigates the complex and often negative impacts of digital technologies on society, addressing issues such as the role of algorithmic bias in social media, generative AI-driven content, and the influence of the Internet and digital media on the public. The overarching goal is to improve understanding of how these technologies shape and are shaped by cultural and societal dynamics, including identifying avenues for addressing and mitigating digital harms to promote a more just and equitable digital society.

Assets: University Research Professor in International Policy and Governance | University Research Professor in Criminology | University Research Professor in Psychology | Laurier Research Chair in Consumer Insights and Innovation | International Migration Research Centre

6.5 Socio-Cultural Change and Resilience

The Socio-Cultural Change and Resilience research area explores how social institutions, governance structures, cultural practices, and symbolic systems evolve over time. This field examines the impacts of these changes on the resilience of social groups and systems, focusing on their ability to cope, adapt, and transform in response to various challenges. Researchers investigate the dynamic interactions between cultural and social factors, aiming to understand how societies maintain stability and thrive amidst change. By analyzing historical and contemporary shifts, this research provides insights into fostering resilient and adaptable communities.

Assets: CRC in Community-Based Research, Ethics, and Wellbeing | Tshepo Institute for the Study of Contemporary Africa | Viessmann Centre for Engagement and Research in Sustainability | Laurier Centre for Community Research, Learning and Action

6.6 Digital Humanities and Critical Posthumanism

This research strength encompasses interdisciplinary approaches that integrate digital resources and tools with the humanities, involving perspectives such as critical posthumanism. It leverages digital technologies to enhance traditional humanities disciplines, fostering innovative methods and applications. The research includes systematic compilation and analysis of large textual corpora, development of born-digital resources such as databases and archival material, advanced data visualization techniques, and critical theoretical approaches at the forefront of humanities scholarship, including critical posthumanism. It explores intersections of power and individuality, generative AI, issues related to anthropocentrism and the Anthropocene, and broader ecological

concerns. By integrating these diverse yet interconnected areas, we aim to transform how we engage with and understand the humanities in the digital age. Our interdisciplinary approach ultimately seeks to comprehend the past and shape the future of both human and non-human existence in a rapidly evolving world.

6.7 African and Afrodiasporic Studies

Academics at Laurier generate and disseminate both multidisciplinary and interdisciplinary insights and discussions on matters impacting continental Africa and its diasporas across the Americas, the Caribbean, Europe, Asia, and the Middle East. Researchers use diverse analytical frameworks and methodologies to investigate the experiences, lands, natural resources, history, arts, culture, governance, health, education, and perceived potentials of indigenous African and African-descended individuals.

Assets: CRC in Community-Based Research, Ethics, and Wellbeing | University Research Professor in International Policy and Governance | Centre for Leading Research in Education | Tshepo Institute for the Study of Contemporary Africa | Laurier Centre for the Study of Canada

6.8 Global Dynamics and Human Rights

The Global Dynamics and Human Rights research area encompasses the rapidly evolving fields of international studies, global studies, and human rights. This interdisciplinary field integrates historical and contemporary perspectives, crossing traditional disciplinary boundaries to reflect the profound impacts of globalization and shifting international dynamics on individuals and societies. Researchers examine these phenomena within both national and transnational contexts, driven by economic and technological forces that transcend borders. Central to this field is the study and preservation of human rights, alongside a deep appreciation for human diversity. By exploring the intricate interactions between global changes and human rights, this research aims to foster a more equitable and just world.

Assets: CRC in Global Adversity and Well-Being | University Research Professor in International Policy and Governance | Laurier Centre for Community Research, Learning and Action

6.9 Conflict, Memory, and Justice Studies

This research strength encompasses a multifaceted exploration of the impact of warfare on historical and contemporary contexts, as well as the confrontation of past injustices and envisioning of just futures. It critically examines the social, cultural, and lasting societal effects of war, including peacekeeping initiatives and collective remembrance of past conflicts. Additionally, it delves into the construction and memorialization of the past, conceptions of justice, and the complexities of collective memory across local, national, and international contexts. The goal is to provide deeper insights into the complexities of conflict and its enduring influence on humanity, contributing to more equitable and just practices in dealing with historical and contemporary issues.

Assets: Tshepo Institute for the Study of Contemporary Africa | Laurier Centre for the Study of Canada

6.10 North American Studies

North American Studies research delves into the diverse and multifaceted aspects of North America, with a special emphasis on Canada's unique position on the continent. This field encompasses a broad array of topics, including culture and identity, Indigenous peoples, business and economy, and public policy. Researchers aim to deepen our understanding of the cultural, social, economic, and political dynamics that shape North America, exploring both historical and contemporary issues. By examining these varied dimensions, scholars contribute to a comprehensive and nuanced perspective on the continent and Canada's role within it.

Assets: Laurier Research Chair in Multilevel Governance | Tshepo Institute for the Study of Contemporary Africa | Laurier Centre for the Study of Canada

6.11 Languages and Communications

Research in the field of Languages and Communications delves into the fundamental aspects of human interaction and community transactions. It examines both face-to-face engagement and the representational practices and technologies that mediate messages. This area of study encompasses the tools and structures for transmitting and receiving information, exploring not just communication competencies or tools—though these remain crucial in humanities and social sciences education—but also the broader impact of communication practices, technologies, policies, institutions, infrastructure, and industries on shaping societies and cultures. Work in this area also includes European and non-European language textual and other written sources (including manuscripts and inscriptions) in literary and material media. By understanding these dynamics, researchers aim to enhance our comprehension of how communication influences and is influenced by social and cultural contexts.

Assets: University Research Professor in Psychology | Centre for Leading Research in Education | Tshepo Institute for the Study of Contemporary Africa | Laurier Centre for the Study of Canada

6.12 Storytelling

The Storytelling research area focuses on the art and science of storytelling, cultural translation, and meaning-making within diverse communities. It serves as both a methodology and an output, employing narrative techniques to engage, inform, and connect with communities. Researchers explore how stories shape cultural identities, transmit knowledge, and influence social dynamics, using storytelling as a powerful tool for research, education, and community engagement. This field aims to deepen our understanding of the human experience through the lens of narrative, fostering empathy and enhancing communication across cultural boundaries.

Assets: University Research Professor in Psychology | Laurier Centre for Community Research, Learning and Action

6.13 Experiential Learning and Educational Leadership

Research in Experiential Learning and Educational Leadership emphasizes the significance of hands-on, practical experiences and international exposure across elementary, secondary, and higher education. This area of study focuses on innovative programming that integrates real-world learning opportunities, allowing students to apply theoretical knowledge in practical settings. By highlighting the impact of experiential learning on student engagement, skill development, and global awareness, researchers aim to advance educational practices that prepare students for leadership roles and active participation in a global society. This research underscores the transformative potential of immersive learning experiences in fostering well-rounded, adaptable, and culturally competent individuals.

Assets: NSERC Chair for Women in Science and Engineering | Laurier Centre for Community Research, Learning and Action | Tshepo Institute for the Study of Contemporary Africa | Laurier Centre for the Study of Canada

6.14 Ethnographic Engagement

Scholarship in Ethnographic Engagement delves into the material and non-material lifeways, traditions, institutions, and relationships with nature and technology of diverse cultures. Utilizing tools from the five fields of anthropology—social/cultural, linguistic, archaeological, physical/biological, and applied/activist—this research area aims to analyze and challenge existing understandings of cultural dynamics. The cornerstone of this field is ethnography, which involves detailed, holistic descriptions that synthesize complex data from immersive fieldwork. Through this approach, researchers engage with, interpret, and seek to transform the worlds they study, offering deep insights and fostering cultural understanding and change.

6.15 Music Creation, Interpretation, and Critical Analysis

The Music Creation, Interpretation, and Critical Analysis research area delves into the multifaceted world of musical expression. This strength encompasses the creation of new music, performance practices, and the interpretation of both pre-existing and newly composed works. It also includes collaborative music creation. Researchers in this field analyze music within aesthetic, historical, social, and cultural contexts, drawing on disciplines such as musicology, ethnomusicology, and music theory. By exploring these diverse aspects, the research aims to deepen our understanding of music as an art form and its role in society, fostering innovation and enriching the cultural landscape.

Assets: Laurier Centre for Music in the Community

6.16 Cultural, Social, and Political Studies of Science

The Cultural, Social, and Political Studies of Science explore the diverse ways in which science, technology, and medicine are examined and understood through the lenses of humanities and social sciences. This interdisciplinary research area employs various approaches and methodologies to analyze the cultural, social and political dimensions of scientific knowledge and practice.

By investigating how scientific endeavours are shaped by and, in turn, shape societal values, norms, and power structures, researchers aim to provide a deeper understanding of the complex relationships between science and society. This field fosters critical insights into the development and impact of scientific and technological advancements within diverse cultural and political contexts.

Assets: Laurier Centre for Community Research, Learning and Action

6.17 Muslim Studies

Muslim Studies is an interdisciplinary and multidisciplinary field dedicated to the exploration of Islam and Muslim societies. This research area bridges the study of Islamic textual sources with the social contexts and diverse experiences of Muslim individuals and communities. Integrating perspectives and methodologies from both the humanities and social sciences, Muslim Studies addresses a wide range of historical and contemporary religious, political, social, and cultural issues. Core areas of focus include the examination of Muslim traditions, the dynamics of Muslim societies, and the local and global contexts that shape Muslim experiences. This comprehensive approach aims to deepen understanding and foster dialogue about the complexities and richness of Muslim life around the world.

6.18 Heritage Studies

Heritage Studies is an interdisciplinary field that combines history and archaeology to study and preserve records of the past, providing insights into the present. This research area employs sophisticated methodologies from both the humanities and social sciences to critically evaluate written records and artifacts, considering contemporary perspectives on historical contexts. Heritage Studies extends beyond academic inquiry, actively engaging the public to connect communities with their heritage. By fostering a deeper understanding and appreciation of cultural heritage, this field aims to preserve historical legacies and promote a shared sense of identity and continuity.

Assets: Laurier Centre for the Study of Canada

6.19 Disability Justice, Critical Disability Studies, and Anti-Ableism

This research area encompasses disability justice and critical disability theory, focusing on the intersections of disability with race, Indigeneity, gender, sexuality, and class. It addresses anti-ableism and anti-eugenics, exploring disability cultures, histories, and politics. Key issues affecting disability communities are examined, including environmental racism, housing, colonialism, health inequalities, incarceration, migration, 2SLGBTQIA+ hate, conflict and displacement, children and youth, and global health crises like pandemics. This research is led by and for disabled people, aiming to challenge systemic injustices and advocate for inclusive, equitable practices and policies.

Assets: CRC in Global Political Ecology | Laurier Centre for Community Research, Learning and Action

Appendix A

Consultation Process

Informal preliminaries. The VPR consulted individually with deans and jointly with the Research Services Council on the planned process and used their feedback to refine the plan. These discussions took place over the autumn of 2023.

Phase 1. Validation of 2020-2025 Research Strengths. This phase comprised a Qualtrics survey that was in the field for three weeks in mid-February. Faculty were asked to confirm their affiliation with up to three of the six research themes, and up to three research strengths within each research theme. Any research strength that did not have at least five faculty members affiliate with it was no longer considered a valid strength and was removed from the list of current strengths. This process resulted in the failure to validate 24 previous strengths.

Phase 2. Gap-filling. In this phase, faculty and deans were asked to examine the list of strengths that were validated in Phase 1, and to identify 'gaps'—research strengths that exist within the university but that are not represented on the validated list. At this stage, anyone could submit proposed new research strengths by completing the worksheet and submitting it to the Office of Research Services. This process resulted in the submission of more than 40 proposed new research strengths. In some cases, these 'new' strengths were reinstating strengths that were removed during Phase 1. This phase took place from April 25, 2024 to May 22, 2024.

Phase 3. Initial categorization. In this phase, the Senate Committee on Research and Publications (SCRAP) first validated the research themes, making slight changes to some of them. They then took all of the validated research strengths and categorized them into research themes, in some cases moving strengths between themes. They also combined some proposed strengths and renamed others. This work was done at a SCRAP retreat held all day on May 30th, 2024.

Phase 4. Categorization validation. In this phase, the Research Services Council (RSC) reviewed all the work of SCRAP in Phase 3, accepting some of SCRAP's suggestions, modifying some suggestions, and rejecting some. This work was done in mid-July, 2024.

Phase 5. Follow-up and drafting. This phase took place from mid-July to mid-August, 2024. During this phase, the Office of Research Services took all the work product to-date and

completed a draft of the SRP. During the drafting process, some back and forth occurred between the Office of Research Services and various deans and faculty members to clarify earlier work and resolve conflicts.

Phase 6. Draft validation. During this phase, members of SCRAP and the RSC were invited to comment and recommend changes to the first draft of the SRP. Both met as committees to approve the draft for broader consultation. This phase took place at the end of August, 2024.

Phase 7. Community feedback and re-affirmation with research strengths. The draft SRP resulting from Phase 6 was circulated, in its entirety, to the whole research community for comment. In this phase, we also gave faculty members an opportunity to review the validated, gap-filled, and edited list of research strengths and decide whether they wished to change, or augment, their previous affiliation with any of the research strengths. Directors of research centres were asked to identify connections between their centre and the research strengths represented in the draft SRP. We also identified the thesis/dissertation surpervisor for all master's and doctoral graduates in the last five years. Graduate program coordinators were asked to identify alignment between thesis-based programs and research strengths (see Appendix C). This phase took place over the month of September, 2024.

Phase 8. Draft revision. The Office of Research Services took all the feedback we received in phase 7 and recalculated all of the metrics (see Appendix B) and revised the entire draft SRP. This took place during October, 2024.

Phase 9. Committee approval. Draft version 7 of the SRP was recirculated to both SCRAP and the RSC for approval and recommendation to Senate. This phase took place during November and early December, 2024.

Phase 10. Governance approval. During this phase, the final draft (version 8) SRP was submitted to Senate for approval and the Board of Governors for information. Final approval was obtained January 2025.

Appendix B

Laurier's Research Investment Strategy

Research resources

A significant portion of investment resources is granted to Laurier according to the total or relative amounts of Tri-Agency funding that our researchers secure annually. In this section, we examine the primary resources whose distribution is guided by the Strategic Research Plan. Next, we offer a concise discussion on the factors that must be weighed when making these distribution decisions. Finally, we briefly outline the procedures used to arrive at these decisions.

Research Support Funds (RSF)

Overhead determination involves more than just applying a simple rate. As most of our grants are from the Tri-Agencies, I will describe the RSF process. The RSF is subject to a variety of restrictions on its use, but in general it is used to support the research environment at the institution. It may not be used to cover costs that are "grant eligible"—i.e., if you could buy the item on a grant, you cannot use RSF money to purchase it. It may also not be used to fund research support infrastructure that benefits only one researcher.

Typically, an institution like Laurier receives $\sim 40\%$ overhead on most Tri-Agency grants from the Research Support Fund (RSF).* There is a delay of 1 year in receiving these funds, and they are allocated throughout the grant's duration. To compute the RSF for an award, the total amount is split *evenly* among all coinvestigators, the RSF rate of their institution is applied, and this amount is then transferred to the respective Canadian institution.† This procedure holds regardless of whether research grant funds flow to those individuals and institutions. The reverse also holds true.

Canada Research Chairs (CRCs)

Universities are assigned a portion of the 2,285 total CRCs based on their proportion of the national research funding from each Tri-Agency. In the latest calculations, Laurier received 0.23% of the NSERC, 0.60% of the SSHRC, and 0.05% of the CIHR grant funds over the past five years. The greater the amount of these Tri-Agency grants our institution secures, the more

*The New Frontiers grant programs are a significant exception.

†RSF is available only to Canadian institutions.

research chairs we will be awarded. The reverse is also true. If our funding declines, we may lose chairs. For example, a couple of years ago, in the Tri-Agency reallocation exercise, Laurier lost one Tier 2 CIHR chair and gained one Tier 2 SSHRC chair.

Canada Foundation for Innovation (CFI)

The Canada Foundation for Innovation funds research infrastructure. For each of the grant programs administered by the CFI, Laurier receives an 'envelope' of funding for which we may *apply* (not necessarily receive). These envelopes are based on the total amounts of Tri-Agency grant funding we receive. The more of these grants we receive, the more CFI funding we can apply for.

NSERC Undergraduate Student Research Awards

These are partially funded (generally) summer internships that are co-funded by the professor. Universities are allocated a number of these each year based on the proportion of the total NSERC grant funding won by each university.

Tri-Agency Canada Graduate Scholarships – Master's

There are 3,000 CGS M awards available each year: 795 awards from the Canadian Institutes of Health Research (CIHR), 840 from the Natural Sciences and Engineering Research Council (NSERC), of which 20 are allocated to fund meritorious Indigenous scholars, and 1,365 from the Social Sciences and Humanities Research Council (SSHRC). These scholarships are allocated amongst universities based on their proportional funding success in each agency. Most recently, Laurier received two CIHR awards, four NSERC awards, and 18 SSHRC awards. Again, the more of these grants we receive, the more of these scholarships we are allocated.

Balancing considerations

The Strategic Research Plan helps us make resource allocation decisions for institutional investments, such as those discussed in the last section. Like any investment strategy, we need to find the right balance of investment considerations. When we invest for our retirement, for example, we consider factors such as our time horizon, our risk tolerance, our contribution capacity, tax considerations, estate planning and withdrawal strategy, our retirement goals and desired lifestyle, and our personal health and family longevity. Within each of these factors, we make different choices in our early, middle, and late career stages. Similarly, our institutional investment strategy needs to balance risk and reward, growth and opportunity. Each time we have an investment to make, we consider how our resources are currently allocated, what the likely return on investment would be for the various new resource allocation options, our current tolerance for risk versus reward, and special circumstances.

Current allocation. If the resource is not *net-new*, such as a new research chair, then an allocation decision is potentially a *reallocation* decision. If we are considering reallocating a resource, we want to consider the impacts of that decision on the unit to which the resource was previously allocated. For example, when a Canada Research Chair expires or is not renewed,

if we are contemplating allocating it to a new Faculty, Department, or Program, we need to consider the impact on the unit from which it is being reallocated.

Likely return on investment. All of the Federal research resources that are allocated using this Strategic Research Plan are awarded based on the total amount of Tri-Agency research funding obtained by the university. So in one sense, the return on investment is indicated by the chances of that investment resulting in *net-new* Tri-Agency research funding. Other possible returns on investment might include an increase to our public profile, regionally, provincially, nationally, and internationally; the ability for the university to respond to a pressing societal or governmental need; an increased ability to recruit top graduate students, and so on.

Risk versus reward. Certain investments are likely to be safer than others. For instance, adding a new scholar to an already established research area with a substantial number of researchers and a history of securing necessary resources likely presents a low-risk investment. Nonetheless, in most established fields, the return on investment diminishes, requiring larger and larger investments to achieve significant progress. Thus, allocating resources to an established area may not be very risky, but it may have a lesser impact compared to investing in emerging areas. Conversely, introducing a new scholar to an emerging research field, which lacks a critical mass of researchers and a proven history of obtaining resources, poses a higher risk. However, if this investment succeeds, it could substantially advance the research field, as even a modest investment could yield significant improvements in under resourced areas. In making allocation decisions, we always have to balance the risk and reward calculation.

Special circumstances. Sometimes research allocation decisions are constrained, for example, by the terms of a philanthropic gift agreement or by the EDI requirements of the Canada Research Chairs program. Sometimes resource allocation decisions are a response to a retention issue, where we are trying to keep a scholar from moving to another university, for example. Some of these special circumstances are difficult to predict or plan for, while others (such as CRC requirements) are planned years in advance.

Mechanisms we use to make allocation decisions

Some resource allocations follow a prescribed formula that we revisit from time to time. A good example of this is the Research Support Funds (RSF). At Laurier, we allocate these funds according to the following formula: 56% to the Dean(s) whose Faculty earned the funds; 27.5% to the Office of Research Services; 12.5% to the Library; and 2% each to FGPS and ICT. This allocation formula is intended to strike a balance between the decentralized and centralized provision of research support. Another example is the NSERC Undergraduate Research Assistants Program (USRA). The positions are allocated between Faculties (primarily Science and LSBE) based on the fractional proportion of NSERC funding for that year for each Faculty.

Other resources are allocated on a 'competitive bidding' process. For example, when a Canada Research Chair becomes available, all deans are informed of the vacancy and invited to submit a bid for the chair. All of the bids are then considered by the Research Services Council (all the deans and dean-equivalents involved in research and supporting research), who provide advice on the decision. This particular decision is made jointly by the VPR and the VPA. Some competitive

bidding processes are decided solely by the VPR on the advice of the Research Services Council, such as major CFI grant program applications.

Metrics reported in this plan

> To inform—***not determine***—resource allocation decision-making, we use four metrics, the Critical Mass Index, the External Research Funding Index, the Weighted Tri-Agency Funding Index, and the Graduate Training Index. These indices pertain to the *research strength*, not to individual researchers.

Symbol	Definition
$I_{cm,i}$	Critical Mass Index for i^{th} strength
α_i	# faculty members affiliated with i^{th} strength
β_i	# research merit awards earned by the α_i faculty
γ	$\sum_i \alpha_i$
δ	$\sum_i \beta_i$
I_{ef}	External Funding Index
λ_i	Total external research funding obtained by the α_i faculty
κ_i	# research grants obtained by the α_i faculty
ϵ	$\sum_i \lambda_i$
ψ	$\sum_i \kappa_i$
$I_{tf,i}$	Weighted Tri-Agency Funding Index for the i^{th} strength
ρ_n, ρ_s, ρ_c	Weights used to equalize the national grant allocations form NSERC, SSHRC, and CIHR
$\nu_{i,n}, \nu_{i,s}, \nu_{i,c}$	Total NSERC, SSHRC, and CIHR dollars obtained by the α_i faculty
$\tilde{\lambda}_i$	Weighted total Tri-Agency dollars for the i^{th} strength
$\tilde{\epsilon}$	$\sum_i \tilde{\lambda}_i$
$I_{gt,i}$	Weighted total graduate students (thesis-based) trained by the α_i faculty
$\theta_i, \tilde{\theta}_i$	# masters students and PhD students, respectively, supervised by the α_i faculty
τ_i	$\theta_i + 3 \times \tilde{\theta}_i$
ϕ	$\sum_i \tau_i$
$I_{pc,i}$	Omnibus index derived from PCA of the other four indices
ω_i	PC1 score for the i^{th} strength

Table B.1: Symbol definitions used to calculate the four metrics used in this plan.

Critical Mass Index

The Critical Mass Index (I_{cm}) is calculated as follows. Let α_i be the number of faculty members affiliated with the i^{th} research strength. We use the number of merit awards for research received

by these faculty members as a surrogate measure of research intensivity. Let β_i be the number of research merit awards received in aggregate by the α_i faculty members in the i^{th} research strength between 2019 and 2024. Let γ be the total number of faculty research strength affiliations ($\gamma = \sum_i \alpha_i$). Let δ be the total number of research merit awards across all research strengths ($\delta = \sum_i \beta_i$). We can then define the index ($I_{cm,i}$) as:

$$I_{cm,i} = \frac{\frac{\alpha_i}{\gamma} + \frac{\beta_i}{\delta}}{\max_i \left(\frac{\alpha_i}{\gamma} + \frac{\beta_i}{\delta}\right)}. \tag{B.1}$$

To illustrate this index, consider strength 4.1 *Social Justice and Human Rights*. This strength has the maximum value of this index at $I_{cm,4.1} = 1.00$ and comprises 38 researchers who, collectively over the past five years, won 39 *research* merit awards. To see the trade-off, consider strength 3.3 *Organizational Governance and Effectiveness*, which scored $I_{cm,3.3} = 0.51$, and comprises 18 faculty who received 21 research merit awards. Now consider strength 6.3 *Intercultural and/or Engaged Pedagogies*, which scored $I_{cm,6.3} = 0.50$. This strength comprises 25 faculty who received 17 research merit awards. They score almost identically, but 3.3 has fewer faculty members and more research merit awards, while 6.3 has more faculty and fewer merit awards.

External Research Funding Index

The External Research Funding Index (I_{ef}) is a function of both the total grant dollars raised and the number of grants obtained, weighted equally. It is calculated as follows: Let λ_i be the total amount of external research funding earned between 2019 and 2024 by the α_i faculty members in the i^{th} research strength. Let κ_i be the total number of external research grants earned between 2019 and 2024 by the α_i faculty members in the i^{th} research strength. Let $\epsilon = \sum_i \lambda_i$ and $\psi = \sum_i \kappa_i$.

We can then define the index ($I_{ef,i}$) as:

$$I_{ef,i} = \frac{\frac{\lambda_i}{\epsilon} + \frac{\kappa_i}{\psi}}{\max_i \left(\frac{\lambda_i}{\epsilon} + \frac{\kappa_i}{\psi}\right)}. \tag{B.2}$$

This metric ranges from 0 to 1. $I_{ef,i} = 1$ indicates that this research strength generates more external research funding (dollars plus grants) than any other strength. $I_{ef} = 0$ indicates that this research strength does not generate any external research funding. To illustrate this, consider strength 1.1 *Climate Change and Cumulative Impacts*, which scores the maximum on this index at $I_{ef,1.1} = 1.0$. The 25 faculty members in this strength collectively, over the past five years, won 173 research grants totalling $24,247,974. Now, consider strengths 2.4 *Mechanisms and Modelling in Health and Disease* and 6.7 *African and Afrodiasporic Studies*. Both score very similarly at $I_{ef,2.4} = 0.25$ and $I_{ef,6.7} = 0.24$. The 18 researchers in strength 2.4 won 68 grants totalling $6,069,485, while the 20 researchers in strength 6.7 won 36 grants totalling $9,910,069.

Weighted Tri-Agency Funding Index

The weighted tri-agency funding index (I_{tf}) takes into account only the tri-agency grants[‡], and weights the totals by the relative size of the each council's research budget. Doing so corrects for

[‡]Where as I_{ef} uses all the sources of funding and does not apply any weighting to the sources.

the difference in funding availability between the three agencies.

From 2018 to 2023, SSHRC awarded $\$2,541,762,778$, NSERC awarded $\$6,653,305,892$, and CIHR awarded $\$6,888,122,498$. Let ρ_n, ρ_s, and ρ_c be the relative weights for NSERC, SSHRC and CIHR respectively. Since SSHRC has the smallest budget, we set $\rho_s = 1$. For each of the other two weights we solve for ρ_i

$$\rho_n = \frac{\$2,541,762,778}{\$6,653,305,892} \tag{B.3}$$

$$= 0.382 \tag{B.4}$$

$$\rho_c = \frac{\$2,541,762,778}{\$6,888,122,498} \tag{B.5}$$

$$= 0.369 \tag{B.6}$$

Let $\nu_{i,j}$ where $j \in n, s, c$ be the total NSERC, SSHRC and CIHR dollars earned between 2019 and 2024 by the α_i faculty members in the i^{th} research strength. Then

$$\tilde{\lambda}_i = \rho_n \nu_{i,n} + \rho_s \nu_{i,s} + \rho_c \nu_{i,c}, \tag{B.7}$$

is the weighted total tri-agency grant dollars over the last 5-years. Let $\tilde{\epsilon} = \sum_i \tilde{\lambda}_i$. Now, we can calculate the index (I_{tf}) as:

$$I_{tf,i} = \frac{\frac{\tilde{\lambda}_i}{\tilde{\epsilon}}}{\max_i \frac{\tilde{\lambda}_i}{\tilde{\epsilon}}}. \tag{B.8}$$

To illustrate this, first consider strength 1.1 *Climate Change and Cumulative Impacts*, which scores the highest in this metric at $I_{tf} = 1.00$. The 25 faculty members affiliated with this strength collectively received: SSHRC = $\$9,822,765$, NSERC = $\$13,164,001$, and CIHR = $\$1,261,208$. Applying the weights we obtain a weighted total of

$$(\$9,822,765 \times 1) + (\$13,164,001 \times 0.382) + (\$1,261,208 \times 0.369) = \$15,316,799. \tag{B.9}$$

Compare this to the $\$24,247,974$ it total grant income associated with this stength. Now consider strengths 4.1 *Social Justice and Human Rights* and 6.7 *African and Afrodiasporic Studies* which score similarly on this metric as $I_{tf,4.1} = 0.48$ and $I_{tf,6.7} = 0.51$. The 38 faculty affiliated with strength 4.1 received: SSHRC = $\$4,066,564$, NSERC = $\$8,051,380$, CIHR = $\$729,919$, while the 20 faculty affiliated with strength 6.7 won: SSHRC = $\$7,296,427$, NSERC = $\$0.00$, CIHR = $\$1,386,142$. Applying the weights we get for strength 4.1

$$(\$4,066,564 \times 1) + (\$8,051,380 \times 0.382) + (\$729,919 \times 0.369) = \$7,411,531, \tag{B.10}$$

and for strength 6.7

$$(\$7,296,427 \times 1) + (\$0.00 \times 0.382) + (\$1,386,142 \times 0.369) = \$7,807,913. \tag{B.11}$$

Graduate Training Index

The graduate training index $(I_{gt,i})$ indicates the relative contribution of a research strength to the overall graduate training at the university. The data used for this index were retrieved from the Scholars Commons @ Laurier. We recorded the first supervisor and degree for every thesis

and dissertation completed since 2019.[§] To calculate this index, let θ_i be the total number of master's students supervised by the α_i faculty members in the i^{th} research strength since 2019. Let $\tilde{\theta}_i$ be the total number of doctoral students supervised by the α_i faculty members in the i^{th} research strength since 2019. Let τ_i be the total *weighted* graduates since 2019 affiliated with the i^{th} research strength. We weight PhDs as three times that of master's students. Thus,

$$\tau_i = \theta_i + 3 \times \tilde{\theta}_i. \tag{B.12}$$

Next, let $\phi = \sum_i \tau_i$ be the total weighted graduates across all research strengths. Note that because the same graduate supervisor may be affiliated with more than one research strength, ϕ is greater than the weighted total number of students who graduated since 2019. Now, the graduate training index can be defined as

$$I_{gt,i} = \frac{\frac{\tau_i}{\phi}}{\max_i \left(\frac{\tau_i}{\phi}\right)}. \tag{B.13}$$

To illustrate this index, consider strength 2.1 *Lifespan Health and Community Well-being*. This strength trained a total of 87 master's and 18 doctoral students since 2019, for a weighted total of $(87\times1)+(18\times3) = 141$. This is the largest value of any research strength and thus $I_{gt,2.1} = 1$. Now consider strengths 1.3 *Environmental, Climate, and Sustainability Justice* and 3.3 *Organizational Governance and Effectiveness* which both score the same, $I_{gt,1.3} = I_{gt,6.3} = 0.24$. Strength 1.3 trained 18 master's and 5 doctoral students for a weighted total of $(18 \times 1) + (5 \times 3) = 33$, while strength 3.3 trained 15 master's and six doctoral students over the past five years, for a weighted total of $(15 \times 1) + (6 \times 3) = 33$.

Omnibus Metric

The four metrics described above are reported in Table B.5 for each identified research strength. The covariance matrix is given in Table B.2. The covariances are calculated as follows:

$$\text{COV}_{x_1,x_2} = \frac{\sum_i (x_{1,i} - \bar{x}_1)(x_{2,i} - \bar{x}_2)}{n-1}. \tag{B.14}$$

	I_{cm}	I_{ef}	I_{tf}	I_{gt}
I_{cm}	1.00	0.54	0.47	0.73
I_{ef}	0.54	1.00	0.78	0.78
I_{tf}	0.47	0.78	1.00	0.51
I_{gt}	0.73	0.78	0.51	1.00

Table B.2: Covariance matrix for the four metrics. See Equations B.1, B.2, B.8, and B.13 for details.

[§]We recognize that for some master's programs, faculty supervision of MRPs represents an important contribution to graduate training in research but for the purposes of calculating the Graduate Training Index for the SRP, only theses and dissertations were included. This decision followed a lengthy discussion of the pros and cons in the Senate Committee on Research and Publications.

The relatively high covariances between the metrics suggest that it is possible to construct an omnibus metric that simultaneously integrates information from all four individual metrics. To do this, we conduct a Principal Component Analysis (PCA). PCA is a technique used to reduce the number of dimensions in a dataset while minimizing information loss. It achieves this by rotating the axes to maximize variance along them, and then transforming the data into principal component values, also known as scores. These principal components act as new axes, with the PC scores representing the projections of the original dimensions onto these new axes. PCA ranks the principal components by their importance, starting with PC1, which explains the most variance in the data, followed by PC2, and so on. By considering only the first few principal components—often just the first two—a significant portion of the variance in the data can be captured. This allows for the representation of high-dimensional data in a simplified manner.[¶] The PCA yields the results seen in Table B.3. The corresponding Eigenvectors are shown in Table B.4 and Figure B.1.

Parameter	**PC1**	**PC2**	**PC3**	**PC4**
Eigenvalue	2.9134	0.6489	0.3461	0.0917
% of Variance	72.8346	16.2219	8.6513	2.2922
Cumulative (%)	72.8346	89.0565	97.7078	100.0000

Table B.3: Principal Component Analysis using the four metrics described above. Note that the first principal component accounts for ∼73% of the total variation in the four metrics.

Vector1	**Vector2**	**Vector3**	**Vector4**
0.4654	0.6158	0.5809	0.2584
0.5369	−0.3130	−0.3984	0.6746
0.4717	−0.6347	0.4696	−0.3926
0.5222	0.3463	−0.5323	−0.5693

Table B.4: Eigenvectors from Principal Component Analysis of the four metrics. See also Table B.2 and Figure B.1.

Since the first principal component accounts for much of the total variation, it can function as an omnibus metric that integrates information from all four individual metrics. We can then turn the PC1 scores into an index by rescaling them so that they range from 0 to 1. Let ω_i be the PC1 score for research strength i.

$$I_{pc,i} = \frac{\omega_i + |\min_i \omega_i|}{\max_i(\omega_i + |\min_i \omega_i|)}. \tag{B.15}$$

The addition of $|\min_i \omega_i|$ turns all the PC1 scores into non-negative numbers to facilitate the normalization process.

[¶] https://www.statskingdom.com/pca-calculator.html

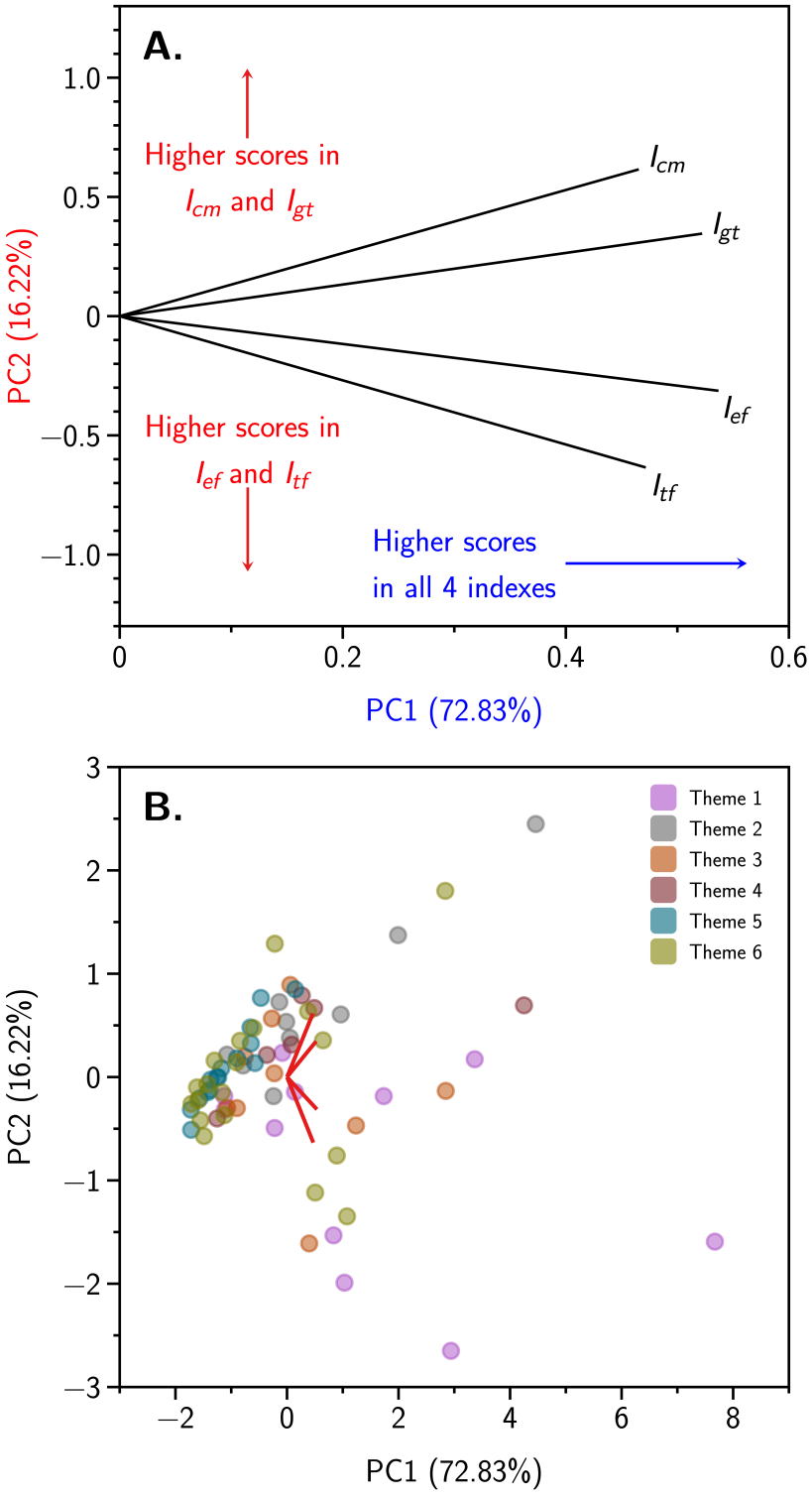

Figure B.1: Principal Component Analysis of the four metrics. **A** shows the Eigenvectors and **B** shows the individual strengths with the Eigenvectors in red.

§	Research Strength	I_{cm}	I_{ef}	I_{tf}	I_{gt}	I_{pc}
	Theme 1. Environmental Sustainability					
1.1	Climate Change and Cumulative Impacts	0.84	1.00	1.00	0.94	1.00
1.2	Aquatic and Terrestrial Ecosystems	0.50	0.73	0.17	0.68	0.54
1.3	Environmental, Climate, and Sustainability …	0.37	0.13	0.10	0.24	0.17
1.4	Sustainable Food Systems	0.34	0.67	0.67	0.27	0.50
1.5	Water Science	0.30	0.50	0.13	0.53	0.37
1.6	Sustainable Cities and Communities	0.28	0.26	0.58	0.14	0.29
1.7	Contaminants, Pollutants, and Toxicology	0.24	0.25	0.08	0.32	0.20
1.8	Resource Management, Sustainability, …	0.24	0.12	0.20	0.22	0.16
1.9	Advancing Indigenous-Led Land Stewardship …	0.23	0.42	0.32	0.18	0.27
1.10	Decision-Making for Sustainability	0.18	0.09	0.02	0.13	0.06
1.11	Sustainable Chemistry	0.15	0.07	0.05	0.15	0.06
	Theme 2. Health and Well-being					
2.1	Lifespan Health and Community Well-being	0.96	0.39	0.26	1.00	0.66
2.2	Resilience	0.71	0.25	0.17	0.53	0.40
2.3	Workplace, Health, and Well-being	0.47	0.10	0.05	0.22	0.17
2.4	Mechanisms and Modelling in Health …	0.45	0.25	0.10	0.42	0.29
2.5	Human Performance in Complex Socio- …	0.37	0.10	0.07	0.32	0.18
2.6	Disability Studies	0.32	0.08	0.05	0.12	0.10
2.7	Music, Health, and Well-being	0.32	0.04	0.02	0.08	0.07
2.8	Well-being at the intersections of Social …	0.30	0.16	0.12	0.18	0.16
2.9	Spirituality, Health, and Well-being	0.30	0.10	0.09	0.40	0.19
2.10	Animal Behaviour, Cognition, & Neuroscience	0.18	0.09	0.07	0.17	0.09
	Theme 3. Governance and Policy					
3.1	Global Migration Governance	0.73	0.31	0.54	0.41	0.49
3.2	Economic and Social Policy	0.52	0.20	0.41	0.23	0.32
3.3	Organizational Governance and Effectiveness	0.51	0.10	0.05	0.24	0.19
3.4	Technology, Policy, and Society	0.43	0.08	0.07	0.20	0.15
3.5	Policy Connections for Canada	0.32	0.18	0.08	0.19	0.16
3.6	Policy Studies, Voting Behaviour and Public …	0.32	0.07	0.05	0.14	0.10
3.7	Conflict and Security	0.24	0.21	0.44	0.12	0.23
3.8	Governance, Ethics, and Social Responsibility	0.18	0.11	0.03	0.12	0.07
	Theme 4. Indigeneity, Decolonization, Equity, Diversity and Inclusion					
4.1	Social Justice and Human Rights	1.00	0.53	0.48	0.51	0.64
4.2	Diversity of Cultures and Communities	0.64	0.16	0.15	0.14	0.24
4.3	Gender and Its Intersections	0.52	0.12	0.09	0.25	0.21
4.4	Educational Supports for Learners and Leaders	0.45	0.13	0.10	0.06	0.14
4.5	Intersection of Health and Marginalization …	0.39	0.13	0.11	0.27	0.19
4.6	Indigenous Scholarship and Decolonizing …	0.18	0.08	0.06	0.06	0.05

Table B.5 continued from previous page

§	Research Strength	I_{cm}	I_{ef}	I_{tf}	I_{gt}	I_{pc}
	THEME 5. BUSINESS, INNOVATION, MATHEMATICS AND TECHNOLOGY					
5.1	Strategic and Organizational Leadership	0.57	0.10	0.10	0.19	0.20
5.2	Behavioral Insights for Organizational Decision- ...	0.48	0.06	0.03	0.14	0.13
5.3	Business Analytics and Data-Driven Intelligence	0.40	0.07	0.03	0.12	0.11
5.4	Mathematical Modelling and Data Analysis	0.35	0.12	0.06	0.12	0.12
5.5	Design and Study of Games and Simulations	0.34	0.12	0.01	0.15	0.11
5.6	Artificial Intelligence and Machine Learning	0.31	0.08	0.03	0.12	0.09
5.7	Innovative Supply Chains and Operations	0.27	0.04	0.02	0.09	0.06
5.8	Innovation in Educational and Consumer ...	0.25	0.06	0.01	0.00	0.03
5.9	Corporate Finance	0.24	0.04	0.02	0.09	0.05
5.10	Quantitative Financial Research and Innovation	0.21	0.05	0.14	0.06	0.04
5.11	Innovation in Human Resource Management	0.21	0.04	0.02	0.13	0.05
5.12	Entrepreneurship	0.20	0.02	0.02	0.11	0.04
5.13	Service Management	0.18	0.02	0.02	0.04	0.02
5.14	Discrete Mathematics and Graph Theory	0.14	0.02	0.01	0.03	0.00
5.15	Information Science and Quantum Technologies	0.14	0.06	0.03	0.03	0.00
	THEME 6. SOCIETY, CULTURE AND COMMUNITY					
6.1	Community-Engaged and Critical Scholarship	0.94	0.32	0.21	0.53	0.49
6.2	Cultural Analysis	0.64	0.03	0.03	0.12	0.16
6.3	Intercultural and/or Engaged Pedagogies	0.52	0.16	0.11	0.24	0.22
6.4	Digital Culture, Technology, and Internet Justice	0.49	0.21	0.41	0.12	0.28
6.5	Socio-Cultural Change and Resilience	0.47	0.19	0.16	0.29	0.25
6.6	Digital Humanities and Critical Posthumanism	0.43	0.05	0.07	0.11	0.12
6.7	African and Afrodiasporic Studies	0.42	0.24	0.51	0.12	0.30
6.8	Global Dynamics and Human Rights	0.33	0.17	0.41	0.16	0.24
6.9	Conflict, Memory, and Justice Studies	0.33	0.03	0.04	0.15	0.09
6.10	North American Studies	0.31	0.03	0.02	0.03	0.05
6.11	Languages and Communications	0.30	0.04	0.06	0.12	0.08
6.12	Storytelling	0.27	0.07	0.05	0.03	0.06
6.13	Experiential Learning and Educational ...	0.26	0.10	0.08	0.00	0.06
6.14	Ethnographic Engagement	0.24	0.03	0.02	0.03	0.03
6.15	Music Creation, Interpretation, ...	0.23	0.02	0.01	0.00	0.01
6.16	Cultural, Social, and Political Studies ...	0.18	0.01	0.01	0.00	0.00
6.17	Muslim Studies	0.16	0.02	0.01	0.06	0.01
6.18	Heritage Studies	0.16	0.02	0.05	0.04	0.02
6.19	Disability Justice, Critical Disability ...	0.13	0.05	0.06	0.04	0.02

Table B.5: Index values each research strength. See Equations B.1, B.2, B.8, B.13 and B.15 for details.

Appendix C

Graduate Programming Alignment

We asked graduate program coordinators to identify which of the research strengths listed in Themes 1–6 were aligned with the subject matter covered in their thesis-based graduate programs. Their responses are shown in Appendix C. While we recognize the importance of course-based graduate programs, and the value of major research projects (MRPs) as alternative to thesis-based options, the Senate Committee on Research and Publications (SCRAP) felt that non-thesis based programs are less relevant to the research activities we are trying to capture in this Strategic Research Plan.

Graduate Program	Research Strength 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Theme 1. Environmental Sustainability																			
Biol and Chem Sci (PhD)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
Business (PhD - Management)										✓									
Chemistry (MSc)	✓	✓			✓		✓	✓			✓								
Comm Studies (MA)			✓																
English & Film (PhD)	✓		✓					✓	✓										
Geography (MA, MES, MSc, PhD)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
Global Governance (PhD)	✓		✓	✓	✓	✓		✓	✓	✓									
Global Just (MA), Rel Stud (PhD)			✓																
Health Sci (MSc)						✓				✓									
History (MA, PhD)			✓																
Human Rel (PhD)			✓																
Integrative Biology (MSc)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓								
Psychology (MA, MSc, PhD)	✓		✓	✓		✓		✓	✓	✓									
Social Work (MSW, PhD)	✓		✓						✓										
Theme 2. Health and Well-being																			
Applied Computing (MAC)				✓															
Biol and Chem Sci (PhD)				✓						✓									
Business (PhD - Management)		✓	✓																
Chemistry (MSc)				✓															
Comm Studies (MA)					✓														
English & Film (PhD)							✓		✓										
Geography (MA, MES, MSc, PhD)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓									
Global Governance (PhD)		✓	✓		✓			✓											
Global Just (MA), Rel Stud (PhD)									✓										
Health Sci (MSc)	✓	✓	✓	✓		✓													
History (MA, PhD)						✓													
Human Rel (PhD)	✓						✓		✓										
Integrative Biology (MSc)				✓						✓									
Kin and Phys Ed (MSc, PhD)	✓	✓		✓			✓												
Music (PhD)	✓						✓		✓										
Psychology (MA, MSc, PhD)	✓	✓	✓	✓	✓	✓	✓	✓		✓									
Social Work (MSW, PhD)	✓	✓				✓		✓	✓										

Table C.1 continued from previous page

Graduate Program	Research Strength 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Theme 3. Governance and Policy																			
Business (PhD - Management)		✓	✓	✓				✓											
Comm Studies (MA)	✓			✓	✓		✓												
Criminology (MA)							✓												
English & Film (PhD)								✓											
Geography (MA, MES, MSc, PhD)	✓	✓	✓	✓	✓	✓	✓	✓											
Global Governance (PhD)	✓	✓	✓	✓			✓												
Global Just (MA), Rel Stud (PhD)							✓												
Health Sci (MSc)					✓														
History (MA, PhD)					✓														
Human Rel (PhD)		✓						✓											
Psychology (MA, MSc, PhD)						✓		✓											
Social Work (MSW, PhD)	✓	✓	✓		✓		✓	✓											
Theme 4. Indigeneity, Decolonization, Equity, Diversity & Inclusion																			
Biol and Chem Sci (PhD)						✓													
Business (PhD - Management)			✓																
Comm Studies (MA)	✓	✓	✓			✓													
Criminology (MA)			✓																
English & Film (PhD)	✓	✓				✓													
Geography (MA, MES, MSc, PhD)	✓	✓	✓	✓	✓	✓													
Global Governance (PhD)	✓		✓		✓														
Global Just (MA), Rel Stud (PhD)	✓	✓	✓			✓													
Health Sci (MSc)	✓		✓		✓	✓													
History (MA, PhD)		✓	✓			✓													
Human Rel (PhD)			✓																
Integrative Biology (MSc)						✓													
Music (PhD)	✓	✓	✓	✓	✓	✓													
Psychology (MA, MSc, PhD)	✓	✓	✓	✓	✓	✓													

Table C.1 continued from previous page

Graduate Program	Research Strength 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
THEME 5. BUSINESS, INNOVATION, MATHEMATICS AND TECHNOLOGY																			
Applied Computing (MAC)				✓		✓								✓	✓				
Business (PhD - Management)	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓						
Geography (MA, MES, MSc, PhD)	✓					✓								✓					
Global Governance (PhD)			✓			✓													
Math (MSc), Math & Stat Mod (PhD)			✓	✓	✓	✓				✓				✓	✓				
Music (PhD)	✓																		
Social Work (MSW, PhD)	✓				✓							✓							
THEME 6. SOCIETY, CULTURE AND COMMUNITY																			
Business (PhD - Management)		✓																	
Comm Studies (MA)		✓		✓		✓			✓	✓	✓	✓			✓	✓			
Criminology (MA)	✓																		
English & Film (PhD)		✓		✓	✓	✓	✓		✓			✓			✓		✓		✓
Geography (MA, MES, MSc, PhD)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Global Governance (PhD)	✓					✓			✓					✓		✓	✓		
Global Just (MA), Rel Stud (PhD)		✓	✓		✓	✓	✓		✓	✓		✓					✓	✓	
Health Sci (MSc)	✓																		
History (MA, PhD)		✓			✓				✓	✓						✓			
Human Rel (PhD)		✓		✓								✓			✓				
Kin and Phys Ed (MSc, PhD)	✓		✓																
Music (PhD)	✓		✓		✓		✓	✓					✓		✓				
Psychology (MA, MSc, PhD)	✓		✓	✓		✓					✓	✓							✓
Social Work (MSW, PhD)	✓		✓	✓	✓	✓	✓	✓				✓							✓

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N.b. '*' indicates all variants of the word.