

Office of Research Services

Strategic Research Plan 2020-2025

"scientia ipsa potentia est" †

November 16, 2020 (Full Version)

 $^{^{\}dagger}$ "scientia ipsa potentia est": knowledge itself is power; from Sir Francis Bacon's Meditationes Sacrae (1597)

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A Message from the Vice-President: Research

"In the latter ages the sages of India, in recognition of human infirmity, admitted that salvation may be won by the way of love and the way of works, but they never denied that the noblest way, though the hardest, is by the way of knowledge, for its instrument is the most precious facility of man, his reason."*

In 2009 Wilfrid Laurier University began its transition from a 'primarily undergraduate' institution to a research-intensive, comprehensive university. The last decade has been marked by tremendous growth in our research activities. At Laurier, we understand 'research' in its broadest sense to include all forms of scholarship and creative practices. Our research can be grouped into six themes: environments and sustainability; the psychological and social determinants of health and well-being; governance and policy; indigeneity, decolonization, equity, diversity and inclusion; business, technology and innovation; society, culture and community.

The entire Laurier research community participated in the development of this Strategic Research Plan. The consultation process is described in detail in Appendix G.

> Jonathan Newman Vice-President: Research

^{*}W Somerset Maugham, The Razor's Edge (1944)

The Laurier Strategy 2019–2024

Wilfrid Laurier University is renowned as an exceptional learning community. From our roots in Kitchener-Waterloo as a small Lutheran seminary that opened its doors in 1911, we have evolved into a comprehensive, multicampus, multi-community university with an expanding research profile. Since the turn of this century, our institution has experienced historic growth, while maintaining the small-campus feel and student-focused approach to postsecondary education that form the essence of Laurier.

Wilfrid Laurier University takes as its mission statement:

Laurier will excel at creating a thriving community where all members of our comprehensive university can reach their potential. From this foundation, we will develop future-ready people who will transform where they live, work, and continue to learn.

The *Laurier Strategy* is the university's strategic plan. The strategy has two pillars:

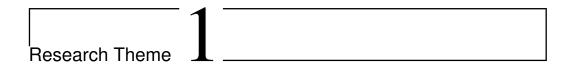
- Thriving Community. Laurier excels at creating a culture of engagement that develops the whole person and builds reciprocal community relationships.
 - Enhancing partnerships ... by facilitating mutually supportive relationships with alumni, other educational institutions, government, Indigenous communities, industry, and the not-for-profit sector.

- Inclusive community ... by fostering a highly personalized equitable, diverse, and inclusive community in which all members can experience the powerful sense of belonging that has distinguished Laurier throughout its history.
- Indigeneity . . . by pursuing enhanced and accelerated initiatives to integrate Indigenous knowledges and practices across the university.
- Intellectual climate ... by facilitating the expression, testing, and challenging of a range of perspectives and ideas grounded in reason, evidence, and frameworks of knowledge and creativity.
- Internationalization . . . by increasing internationalization of the university to cultivate global citizens with strong intercultural competence.
- Future-Readiness. Laurier excels at preparing people for whatever challenges the future brings.
 - Credential innovation . . . by expanding the range of credentials to address the needs of people at all stages of life and career and to enhance lifelong learning.
 - Enduring skills... by developing a range of competencies (knowledge, skills, and attributes) that lead to innovative and creative thinking, collaboration, adaptability, good judgement, ethical action, and leadership.
 - Engaged research ... by connecting research, scholarship and creative activity with communities and across disciplines to address the most pressing local and global challenges.
 - Sustainability ... by leading the sector in environmental sustainability of our campuses and inspiring the incorporation of sustainable practices in society and the economy.

Laurier's Research Strategy

Laurier's research strategy comprises four elements:

- 1. We will value and promote all forms of scholarship and creative practice, and our researchers will disseminate that new knowledge to our scholarly communities, research partners, policymakers and the general public, with the aims of advancing knowledge and benefiting society.
- 2. We will strive for **research excellence** in all that we do, across the full spectrum of scholarship, by supporting our undergraduate researchers, graduate students, postdoctoral fellows, research staff, faculty members, community partners, and research collaborators who are engaged with us in the fulfillment of our research mission.
- 3. We are animated by our **thriving community** of enriching partnerships. We will facilitate mutually supportive relationships with alumni, other educational institutions, governments, Indigenous communities, industries, and the not-for-profit sector.
- 4. We will contribute to **future-readiness** by connecting research, scholarship and creative activity with communities and across disciplines to address the most pressing local and global challenges.



Environments and Sustainability

"You cannot get through a single day without having an impact on the world around you. What you do makes a difference and you have to decide what kind of a difference you want to make." *

Working in a variety of environments, from the natural and near-pristine to environments heavily impacted by humans, Laurier researchers focus on evaluating and mitigating human impacts on these environments and on ways to live more sustainably. This research theme spans the natural and social sciences, the humanities and business.

Assets

Faculties

- Balsillie School of International Affairs
- Faculty of Arts
- Faculty of Science
- Lazaridis School of Business and Economics

Research centres and institutes

- Cold Regions Research Centre
- Co-operators Centre for Business and Sustainability

^{*}Jane Goodall, Conservation Biologist

- Laurier Centre for Community Research, Learning and Action
- Laurier Centre for Sustainable Food Systems
- Laurier Institute for Water Science
- MS2Discovery Interdisciplinary Research Institute
- Viessmann Centre for Engagement and Research in Sustainability

Research chairs

- Dr. John McMurry Research Chair in Environmental Geography
- Jarisolowsky Chair in Sustainable Water Futures
- Natural Sciences and Engineering Research Council of Ontario (NSERC) Tier 1 Canada Research Chair (CRC) in Cold Regions Water Science
- NSERC Tier 2 CRC in Forests and Global Change
- NSERC Tier 2 CRC in Remote Sensing of Environmental Change
- NSERC Tier 2 CRC in Wildlife Biology (in review)
- Social Sciences and Humanities Research Council (SSHRC) Tier 2 CRC in Global Political Ecology
- United Nations Education, Scientific and Cultural Organization (UN-ESCO) Chair on Food, Biodiversity, and Sustainability

Current research strengths

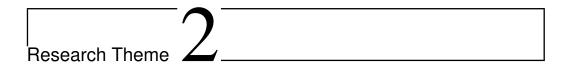
- Cultures of sustainability. Cultures of sustainability are characterized by shared values, norms, language and practices focused on making individual and societal choices that foster social, economic and environmental sustainability.
- **Decision-making for sustainability**. Decision-making for sustainability encompasses those business and economic decisions that promote sustainability, innovation and creativity.
- *Environmental sustainability*. Environmental sustainability refers to strategies and activities that minimize adverse environmental impacts, enhance and protect the natural environment.
- Sustainable food systems. A sustainable food system delivers food security and nutrition for all without compromising the economic, social

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and environmental bases to generate food security and nutrition for future generations.

Emerging research strengths

- *Environmental humanities*. This interdisciplinary area of research draws on the many environmental sub-disciplines that have emerged in the humanities over the past several decades, in particular eco-criticism and the environment in literature and film, and Indigenous climate philosophy.
- Sustainable chemistry. Sustainable chemistry is a scientific approach that considers the entire lifecycle of chemical products during the design and manufacturing processes. It seeks to use natural resources more efficiently while developing products that protect the environment and human health.
- Sustainability justice. The negative impacts of global climate change and other environmental degradation are not equally distributed among countries, regions and populations. Sustainability justice is built on the knowledge that, often, the most vulnerable members of society are the ones experiencing the worst impacts.



Psychological and Social Determinants of Health and Well-being

"People are like stained-glass windows. They sparkle and shine when the sun is out, but when the darkness sets in, their beauty is revealed only if there is a light from within."*

Laurier researcher sacross the university are investigating issues related to health and well-being. By exploring this foundational topic through scientific, cultural, educational, organizational and psychological lenses, researchers encourage positive physical, mental and emotional health.

Assets

Faculties

- Faculty of Arts
- Faculty of Education
- Faculty of Human and Social Sciences
- Faculty of Liberal Arts
- Faculty of Music
- Faculty of Science

^{*}Elisabeth Kübler-Ross (1926-2004), psychiatrist and author of $On\ Death\ and\ Dying$ (1969)

- Lazaridis School of Business and Economics
- Lyle S. Hallman Faculty of Social Work
- Martin Luther University College

Research centres and institutes

- Centre for Indigegogy
- Centre for Leading Research in Education
- Centre for Research on Security Practices
- Laurier Centre for Community Research, Learning and Action
- Laurier Centre for Music in the Community
- Manfred and Penny Conrad Institute for Music Therapy Research
- Manulife Centre for Community Health Research
- Movement Disorders Research and Rehabilitation Centre
- Sun Life Financial Centre for Physically Active Communities
- Tshepo Institute for the Study of Contemporary Africa

Research chairs

- Cleghorn Fellowship in War and Society
- Lyle S. Hallman Chair in Child and Family Welfare
- SSHRC Tier 2 CRC in Global Adversity and Well-Being

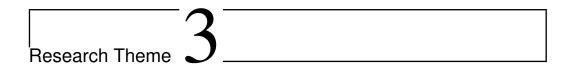
Current research strengths

- Health and well-being across the lifespan. This field of research addresses achievement and engagement across the lifespan, from cognitive development to socio-emotional well-being in children, adolescents and adults, in order to improve quality of life for individuals and communities. It also includes theories of death and dying, well-being in schools and workplaces, and the challenges of aging in rural settings.
- Music therapy. Music therapy is the clinical use of music to address physical, emotional, cognitive and social needs. Through a variety of musical experiences, therapists can help clients improve their health and quality of life.

• Well-being and resilience. Resiliency is the ability to maintain or quickly return to a state of well-being, even in the face of significant hardship, adversity or stress. Developing resiliency starts at infancy and continues through young adulthood. Resilience is reinforced by healthy schools, communities and workplaces.

Emerging research strengths

- Community impact through innovative physical activity. Physical activity is a fundamental part of human nature and is essential for healthy development. It can be utilized in community settings to achieve social impact.
- Human performance in complex socio-technical environments. User experience design research in this theme focuses on the development of applications based on modeling human performance in complex socio-technical environments as well as understanding the psychological, social and health impacts of technology use by specific user groups including Northern Indigenous communities, children, and seniors.
- Innovative partnerships for social work, education, and society. With their expertise in crisis management, mental health issues in the workplace and schools, workplace bullying, inclusion, equity, and diversity, and gendered and sexual violence, the social work and education fields could achieve long-term sustainability by creating meaningful partnerships in the business and not-for-profit sectors.



Governance and Policy

"As a country that is less than a superpower, Canada cannot rely on its muscle to make itself heard. Our influence comes from a capacity for wisdom, from being a trusted source of information, knowledge, and judgement on some of the most difficult issues facing the world."*

As societies grapple with increasingly complex challenges, they rely on strong, transparent governance and public policy to function and succeed. Laurier researchers seek to understand these political, economic, social and security issues in order to increase our capacity to deal with them.

Assets

Faculties

- Balsillie School of International Affairs
- Faculty of Arts
- Faculty of Human and Social Sciences
- Faculty of Liberal Arts
- Faculty of Science
- Lazaridis School of Business and Economics
- Lyle S. Hallman Faculty of Social Work

^{*}Bob Rae, Chancellor of Wilfrid Laurier University 2003–2008, What's Happened to Politics? (2015)

Research centres and institutes

- Balsillie School of International Affairs
- Centre for Research on Security Practices
- Centre for Women in Science
- Co-operators Centre for Business and Sustainability
- CPA Ontario Centre for Capital Markets and Behavioural Decision Making
- Financial Services Research Centre
- International Migration Research Centre
- Laurier Centre for Economic Research and Policy Analysis
- Laurier Centre for Military Strategic and Disarmament Studies
- Laurier Centre for Sustainable Food Systems
- Laurier Institute for the Study of Public Opinion and Policy
- Lazaridis Institute for Management of Technology Enterprises
- MS2Discovery Interdisciplinary Research Institute
- Tshepo Institute for the Study of Contemporary Africa

Research chairs

- Chair in Insurance
- Dr. John McMurry Research Chair in Environmental Geography
- Grant Thornton Fellow in Accounting
- KPMG Foundation Fellow in Accounting
- SSHRC Tier 1 CRC in Mathematical Modelling
- SSHRC Tier 2 CRC in Comparative Federalism and Multilevel Governance
- SSHRC Tier 2 CRC in Global Adversity and Well-Being
- SSHRC Tier 2 CRC in Corporate Governance
- SSHRC Tier 2 CRC in Global Political Ecology
- SSHRC Tier 2 CRC in International Migration
- SSHRC Tier 2 CRC in Market Insight and Innovation
- UNESCO Chair on Food, Biodiversity, and Sustainability

Current research strengths

• Conflict and security. International public policy is created by political institutions to address issues affecting the public good. In an

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era of rapid globalization, researchers examine the domestic, national and international consequences of complex policies influencing global conflict and security.

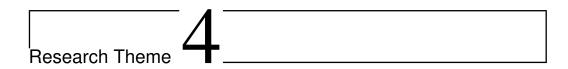
- *Economic and social policy*. Economics is a social science focused on how people and organizations make decisions and respond to incentives. Research in this field analyzes economic and social policies, combining the mathematical models of economic theory, real world data and empirical techniques.
- Global migration policy and governance. International migration involves the movement of people across international borders and is a pressing concern nationally and globally, appearing regularly in all media. Research into migration is integral to contemporary politics, culture and economies.
- Governance, ethics and control. The separation of ownership and control at public firms results in agency problems. Corporate governance topics have attracted the interest of a wide group of scholars in accounting, economics, finance, management and law. Research in this field examines a variety of topics covering governance, ethics, transparency and control.
- Organizational effectiveness. Researchers examine how decisions are made at for-profit and non-profit organizations, the factors that contribute to success, and how people learn, change and leverage knowledge to create effective organizations.
- Policy studies, voting behaviour and public opinion. Researchers
 in this field of political science provide constructive critiques of prevailing policy approaches and best practice strategies for future directions.
 They investigate how public opinion is shaping, and being shaped by,
 public policy.

Emerging research strengths

• Developing educational leaders in global contexts. The Centre for Leading Research in Education includes an Educator and Leadership

Institute which conducts large-scale professional development and research with Canadian and international educational partners to develop leadership skills and governance processes.

• Governance, ethics, and social responsibility. Social responsibility is a framework within which an organization contributes to sustainable development, including the health and welfare of society, while taking into account the expectations of stakeholders.



Indigeneity, Decolonization, Equity, Diversity and Inclusion

"To gaze into another persons face is to do two things: to recognize their humanity and to assert your own."*

Laurier researchers identify and address systemic barriers experienced by members of underrepresented or disadvantaged groups including, but not limited to, women, Indigenous peoples, persons with disabilities, members of visible minorities or racialized groups and members of the LGBTQ2S+community.

Assets

Faculties

- Balsillie School of International Affairs
- Faculty of Arts
- Faculty of Education
- Faculty of Human and Social Sciences
- Faculty of Liberal Arts
- Faculty of Music
- Faculty of Science

^{*}Lawrence Hill, The Book of Negroes (2010)

- Lazaridis School of Business and Economics
- Lyle S. Hallman Faculty of Social Work

Research centres and institutes

- Centre for Indigegogy
- Centre for Leading Research in Education
- Centre for Research on Security Practices
- Centre for Women in Science
- Laurier Centre for Community Research, Learning and Action
- Laurier Centre for Economic Research and Policy Analysis
- Laurier Centre for Sustainable Food Systems
- International Migration Research Centre
- Manfred and Penny Conrad Institute for Music Therapy Research
- Manulife Centre for Community Health Research
- Sun Life Financial Centre for Physically Active Communities
- Tshepo Institute for the Study of Contemporary Africa
- Viessmann Centre for Engagement and Research in Sustainability

Research chairs

- Lyle S. Hallman Chair in Child and Family Welfare
- NSERC Chair for Women in Science and Engineering (Ontario)
- SSHRC Tier 2 CRC in Global Adversity and Well-Being
- SSHRC Tier 2 CRC in Global Political Ecology
- SSHRC Tier 2 CRC in International Migration
- UNESCO Chair in Food, Biodiversity, and Sustainability

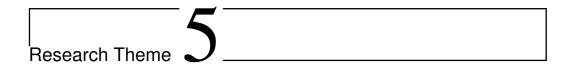
Current research strengths

• Diversity of cultures and communities. Researchers are addressing non-dominant, minority and marginalized voices and discourses, while confronting taken-for-granted beliefs concerning business, political and cultural institutions. This cluster also encompasses historical and contemporary patterns of religious change and interaction, migration and transcultural exchange. Researchers also examine the preservation and promotion of humanity's cultural heritage.

- Gender and its intersections. Research in this field examines the ways gender is shaped by and intersects with factors such as racism, colonialism, heteronormativity, religion and poverty.
- Indigenous scholarship and decolonizing relationships, knowledge and practices. This cluster includes Indigenous scholarship by Laurier's Indigenous faculty members, as well as research related to decolonizing practices and relationships between non-Indigenous and Indigenous communities.
- Intersection of health and marginalization/dis-inclusion. Many of the defining factors that shape health status are related to social position. Researchers in this field aim to understand the social experiences of marginalized populations and how various forms of systemic and institutional violence impact their health.
- Social justice and human rights. Social justice research examines the systems and barriers to societal equality and seeks solutions to the unfair distribution of wealth, power and privilege.

Emerging research strengths

- Computational and technological bias. User experience design research examines the design of systems, products and services that support diversity, equity, and inclusion. Included in this is the exploration and understanding of computational and technological bias as well as the systemic processes which lead to bias in design and technology development.
- Educational supports for learners and leaders. Current research in education supports educational leaders to foster Indigeneity, equity, diversity and inclusion among learners, schools and school systems.



Business, Technology and Innovation

"Define success in your own terms, achieve it by your own rules, and build a life you're proud to live."*

Researchers at Laurier seek innovative ways to solve issues in a rapidly changing global business environment using technology and applying statistical, mathematical and econometric methods to theoretical, lab and field studies. Advancements in digital technology are both the subject of study by Laurier researchers as well as the means by which these researchers are gaining new insights in the fields of business and economics. In particular, research is being propelled by access to new and expanding databases that detail every aspect of commercial and consumer activity as well as by increased computing power to analyze these data. Laurier's researchers are at the forefront of this research in addressing a range of questions including the impact of technology on markets, companies and consumers.

Assets

Faculties

- Faculty of Human and Social Sciences
- Faculty of Science
- Lazaridis School of Business and Economics

^{*}Anne Sweeney, Co-Chair, Disney Media Networks

Research centres and institutes

- Centre for Leading Research in Education
- Centre for Supply Chain Management
- Co-operators Centre for Business and Sustainability
- CPA Ontario Centre for Capital Markets and Behavioural Decision Making
- Financial Services Research Centre
- Laurier Centre for Economic Research and Policy Analysis
- Lazaridis Institute for Management of Technology Enterprises
- MS2Discovery Interdisciplinary Research Institute

Research chairs

- Arthur Wesley Downe Professorship in Finance
- BMO Financial Group Professorship in Entrepreneurship
- Chair in Brand Communication
- Chair in Insurance
- CN Fellowship in Supply Chain Management
- Equitable Life of Canada Fellowship in Finance
- Grant Thornton Fellow in Accounting
- KPMG Foundation Fellow in Accounting #1
- KPMG Foundation Fellow in Accounting #2
- KPMG Foundation Fellow in Accounting #3
- Grant Thornton LLP Fellowship in Accounting
- Lazaridis Research Professor
- Lazaridis Chair in Entrepreneurship and Innovation
- SSHRC Tier 1 CRC in Mathematical Modelling
- SSHRC Tier 2 CRC in Market Insight and Innovation
- SSHRC Tier 2 CRC in Financial Markets
- Linamar Fellowship in Accounting
- William Birchall Foundation Fellowship in Accounting

Current research strengths

• Financial markets, products and analysis. The study of financial markets and products examines the structure, efficiency and stability of markets and the creation of new financial offerings. This research

Final version; approved by Senate: November 16, 2020 N.b. all lists are arranged in alphabetical order.

encompasses both the development of theoretical models of market participant behaviour and empirical analyses of large amounts of data on trading activity.

- Information for decision-making. This area of research includes research into managerial and consumer decision-making. It covers accounting standards and economic consequences; capital market reactions to financial and non-financial information; voluntary disclosure; corporate social responsibility; sustainability; environmental studies; valuation; auditors' and managers' decision biases; and information promoting innovation and creativity.
- Mathematical modelling and data analysis. Researchers develop and use mathematical models to study the behaviour of real-world processes and systems, and to make predictions about them.
- Services marketing. Services marketing is the study of service as a business research domain, distinct from goods. Researchers form multi-disciplinary teams to address service-related challenges such as service quality and information systems.
- Supply chain and operations management. Using principles of supply chain management, researchers investigate ways to streamline a business's supply-side activities and operations to maximize customer value and gain a competitive advantage in the marketplace.

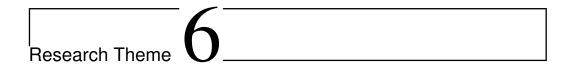
Emerging research strengths

- Artificial intelligence and machine learning. Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems. Machine learning is an application of artificial intelligence that provides systems the ability to automatically learn and improve from experience without being explicitly programmed.
- Business analytics. Business analytics is the set of methods and processes underlying the translation of business data to actionable information and decisions. Researchers develop and apply data science methods to form exploratory, causal and predictive insights; develop

and price new product offerings; conduct geo-location analysis of retailer strategies; study recommender systems; improve operations; and optimize decisions across management disciplines. This cluster includes managerial applications not only to public sector firms but also to public-sector organizations such as health-care providers.

- *Entrepreneurship*. Across every aspect of business, from marketing to finance and accounting, organizational behaviour to human resource management, researchers are gathering and analyzing data to develop best practices for entrepreneurs to take their companies to the next level.
- *High-growth enterprises*. Managers of high-growth technology firms face many challenging issues as they scale their operations to serve global markets. Research in this area seeks to identify evidence-based best practices to aid the scale-up process.
- Innovation and technology. Through innovative partnerships with non-governmental organizations and private industry in Canada and internationally, researchers are developing innovative curricula including computational thinking in schools and school systems. User experience design research focuses on the design and testing of innovative user-centered technologies, services, spaces, and processes, as well as the design/redesign of infrastructures and processes that enable technology innovation. Consumer research focuses on the adoption of new technology, consumer reactions to the incorporation of AI into product design, modeling consumer behaviour across digital channels, and the role of technology in value creation.

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Society, Culture and Community

"Time flows in the same way for all human beings; every human being flows through time in a different way."*

Culture reflects, informs and celebrates our human experience, shifting with time and evolving within social and territorial groups. As societies grapple with expanding norms and ideological division, Laurier research contributes to the formation, adaptation and preservation of communities.

Assets

Faculties

- Balsillie School of International Affairs
- Faculty of Arts
- Faculty of Education
- Faculty of Human and Social Sciences
- Faculty of Liberal Arts
- Faculty of Music
- Faculty of Science
- Lazaridis School of Business and Economics
- Lyle S. Hallman Faculty of Social Work
- Martin Luther University College

^{*}Yasunari Kawabata (1899–1972), 1968 Nobel Laureate for Literature

Research centres and institutes

- Centre for Indigegogy
- Centre for Leading Research in Education
- Centre for Research on Security Practices
- Laurier Centre for Community Research, Learning and Action
- Laurier Centre for Military Strategic and Disarmament Studies
- Laurier Centre for Music in the Community
- Tshepo Institute for the Study of Contemporary Africa

Research chairs

- Cleghorn Fellowship in War and Society
- SSHRC Tier 2 CRC in International Migration
- UNESCO Chair on Food, Biodiversity, and Sustainability

Current research strengths

- Cultural analysis. The field of cultural analysis examines historical and contemporary cultural phenomena and interprets cultural representations and practices in local, national, and global contexts. Research in this area engages culture as a site for the transmission of everyday and specialized forms of knowledge, including norms and the values, ideas, and beliefs of particular peoples, alongside examination of the social, political, and economic frameworks that reflect and shape both dominant and marginalized cultures over time.
- Critical game design and development. Game design is a form of artistic expression that combines mechanics, dynamics and aesthetics to create forms of play with goals and structure. Researchers focus on critical game design, building games around positive values or learning outcomes in order to have an impact on the player.
- Global dynamics and human rights. The global and the international are rapidly changing fields of study that include international studies, global studies and human rights. There are both historical and contemporary perspectives that cut across traditional disciplinary boundaries. They reflect the significant impact of globalization and

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changing international dynamics on individuals and on societies. Researchers study these in both national contexts but also transnational frameworks as a result of economic and technological forces that transcend international borders. In this context the study and preservation of human rights is an imperative, as is an understanding of the richness of human diversity. See also Research Theme 4.

- Languages and communications. Language and communication are at the core of all human interaction and the transactions of human communities. Research on language and communication looks not only to presentational modes of face-to-face engagement and understanding, but also to representational practices and technologies that mediate messages. It looks to both the tools and the structures for the transmission and reception of information. Research into language and communication looks not simply to communication competencies or tools although this is a pedagogical concern throughout the humanities and social sciences but to the ways that communication practices, technologies, policies, institutions, infrastructure and industries shape societies and cultures.
- Leadership studies. Leaders must operate in diverse contexts, from the local community to the global. It is essential across society from business to government to education. Leadership studies is a rapidly developing, interdisciplinary field that examines how leaders are taught and how effective programs are designed. Communication is a critical component, as are organizational structure, culture and change. Research examines the ethics of leadership and the role of values, as well as the relationship between leaders and followers.
- *Musical composition and performance*. Composers and performers engage in innovative creation, curation, improvisation, and dissemination of musical artifacts through intradisciplinary, interdisciplinary, and technological means.

Emerging research strengths

• Community music. Researchers in Community Music examine music as a social practice based on foundational principles of inclusivity,

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lifelong learning, health and wellbeing, and social justice. Laurier researchers work in diverse contexts, from schools to hospitals to social services to faith organizations. Research is often collaborative, with partnerships emerging across Canada, in the United Kingdom, Germany, Australia, and New Zealand. The Laurier Centre for Music in the Community, established in 2008, supports these collaborations through the mandate of disseminating research through symposia, conferences, publications, and online webinars.

- *Digital humanities*. Research in the digital humanities includes not only the systematic use of digital resources in traditional humanities disciplines, but also analysis of their application.
- Experiential learning and educational leadership. Current and ongoing research has highlighted the importance of experiential learning and international experiences in elementary, secondary, and higher-education contexts as an area of innovative programming.
- Heritage studies. Heritage studies comprises both history and archaeology. It is the study and preservation of records of the past to better understand the present. It uses sophisticated methodologies derived from both the humanities and the social sciences to critically evaluate written records and artefacts in light of our present perspectives on the past. It extends beyond academia to engage the public for the purposes of connecting communities with their heritage, and ensuring that historical resources are restored or protected for the benefit of future generations.
- *Intercultural and engaged pedagogies*. Pedagogy is the study of how knowledge and skills are taught in an educational context, focusing on developing the full potential of the student through innovative and evidenced-based practices.
- *Muslim studies*. Muslim studies is an interdisciplinary field which focuses not only on textual sources and interpretive traditions of Islam, but also on the social and historical contexts of Muslim experiences.
- North American studies. This research focuses on understanding the many different aspects of North America, and Canada's particular

place on the continent. Research examines a wide range of topics including: culture and identity; Indigenous peoples; business and economy; and public policy.

- Socio-cultural change and resilience. This field of study examines how social institutions, governance structures, cultural practices and symbolic systems change over time, and how these changes influence the ability of social groups and systems to cope, adapt and transform.
- **Storytelling**. This research focuses on storytelling, cultural translation and meaning-making for the communities with whom we engage. It is both a methodology and an output.



Environments and Sustainability

Environmental issues are among the most urgent facing the planet today. The climate crisis isn't just resulting in more extreme weather, wildfires, sea level rise and permafrost thaw – it's affecting food security, health, wildlife, politics, economics, human migration and more.

We are also facing many other environmental problems, such as air and water pollution, invasive species and urban sustainability. Laurier sustainability researchers from a wide variety of disciplines are working across Canada and around the world to find solutions to the challenges we face.

In the Northwest Territories, Laurier faculty and students are investigating a wide range of topics including shrub growth on the tundra and community-led water monitoring. Laurier is also a founding partner of Global Water Futures (GWF), the most-cited freshwater research program in the world, and leads three major GWF projects: Northern Water Futures, the Sub-Arctic Metal Mobility Study and Global Water Citizenship. The Laurier Institute for Water Science, based out of Laurier's state-of-the-art Centre for Cold Regions and Water Science, is focused on pressing issues such as improving wastewater treatment, the health of fish in rivers, and conserving and building wetlands.

A major aspect of sustainability is how human behaviours, policies and practices affect the natural environment. Laurier is home to many researchers who examine sustainability from a variety of perspectives, such as the Laurier Centre for Sustainable Food Systems and the FLEdGE (Food: Locally Embedded, Globally Engaged) partnership. The Viessmann Centre for Engagement and Research in Sustainability (VERiS) conducts research on community

engagement and sustainability. The Co-operators Centre for Business and Sustainability conducts research related to business and environmental sustainability. And at the Balsillie School of International Affairs, Laurier and partner researchers in the Environment and Resources research cluster examine the global governance challenges of environmental issues.

A.1 Current strengths in Environments and Sustainability

S1 Priorities

Cultures of sustainability

Laurier researchers explore ways in which cultures of sustainability can be nurtured and co-created at multiple scales in partnership with different societal sectors and groups. Researchers contribute evidence-based approaches and practical, just solutions for addressing urgent environmental crises. These approaches incorporate system thinking to ensure that today's solutions are not perpetuating previous or existing problems and injustices, nor causing new ones.

Research foci include: engagement of young people with environmental questions and ethics throughout their development; free-informed consent for Indigenous communities in resource extraction; fostering cultures of sustainability in organizations; overcoming performance gaps in green office buildings; and sustainable justice in municipal climate action planning.

Environmental sustainability

Laurier is known for its strong focus on environmental sustainability research, particularly in the areas of cold regions and water science. Through long-term monitoring and on-the-land field research, Laurier researchers are learning crucial information about ecosystems to help them thrive and adapt to the negative effects of climate change.

Research foci include: Northern ecosystems and forest dynamics; at-risk and invasive species; microbial adaptations and persistence; fisheries; responses to climate change; food safety and sustainability; the protection of water

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resources and aquatic ecosystems; and the mitigation of environmental and anthropogenic stressors on surface and ground waters.

Sustainable food systems

The newly named UNESCO Chair on Food, Biodiversity and Sustainability Studies affords Laurier more resources, goodwill and connections, along with the support of one of the most important global institutions, to address climate change challenges through sustainable food systems. Building sustainable food systems can also protect biodiversity and help build stronger, more resilient communities.

Research foci include: traditional knowledge-sharing to protect food systems in Northern communities; developing sustainable agroecological practices in rural Brazil; integrating Indigenous knowledge into school curricula; the impacts of gender on urban agriculture in Ecuador; urban pollination; and building sustainable city region food systems.

S2 Priorities

Decision-making for sustainability

In a capitalist society, many sustainability efforts are either weakened or fortified by market forces. Similarly, sustainable practices are increasingly viewed as savvy investments for businesses in an age of public scrutiny and corporate social responsibility. Researchers at the Lazaridis School of Business and Economics examine how decisions based on sustainability impact corporations and the market at large.

Research foci include: accounting standards and economic consequences; capital market reactions to financial and non-financial information; voluntary disclosure; corporate social responsibility; valuation; decision bias in auditors and managers; and information promoting innovation and creativity.

A.2 Emerging strengths in Environments and Sustainability

E1 Priorities

Environmental humanities

In response to growing public awareness of the climate crisis, the field of climate philosophy has expanded substantially over the past decade. Scholars in this field conceptualize the ethical, political and existential dimensions of the current impasse. This includes a focus on Indigenous climate philosophy, an approach which aims to incorporate the traditional ecological knowledge of Indigenous communities into our understanding of climate change. Similarly, the field of eco-criticism in literature and film has grown substantially in recent years. Laurier researchers examine environmental concerns as they intersect with art.

Research foci include: the connection between Indigenous land claim issues and adaptation to climate change; social and political relations between Indigenous and settler communities; environmental racism; existential dimensions of the climate crisis; the role of cultural forms and political actors in crises; and the social construction of "nature."

Sustainable chemistry

This field encompasses research aimed at identifying, quantifying and understanding the effects of contaminants (i.e. aerosols, arsenic, phosphorous) on the environment and human health, which includes understanding molecular-level interactions and metabolic and biochemical processes. With this knowledge, Laurier researchers contribute to the development of sustainable chemical processes and products such as chemical fertilizers from human and animal waste, and fine chemicals and pharmaceuticals.

Research foci include: metal-organic architectures through green synthesis; efficient and practical catalysts for hydrogenation, dehydrogenation and coupling reactions; development of nanostructures exhibiting chirality and magnetism; and metal oxide nanostructures for photochemical and electrochemical applications.

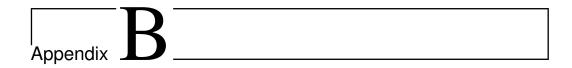
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E2 Priorities

Sustainability justice

The field of sustainability justice explores questions of equity and accessibility in the context of sustainability solutions. As society innovates to build a more sustainable future, Laurier researchers examine the benefits and burdens of progress, recognizing that advances often impact certain populations in unforeseen negative ways.

Research foci include: the inaccessibility of waste diversion bins for people with low vision; the increasing relative energy cost for low-income households when transitioning energy systems to renewable energy; and the disparity in solar panel use between racialized communities and predominantly white communities.



Psychological and Social Determinants of Health and Well-being

Our health is the foundation of how we experience the world. Community health is also vital to our individual health and to the places where we live, work and play. That's why a wide range of Laurier researchers are working to improve health and well-being on individual and community levels, in areas including caring for people as they age, alleviating loneliness, understanding the effects of drugs on the brain, helping marginalized communities celebrate their identities and promoting equity for all.

Laurier researchers work to understand and promote physical health in many ways. The Sun Life Financial Centre for Physically Active Communities brings together community outreach programs and research on physical activity, the Energy Metabolism Research Laboratory investigates exercise and nutrition, and the Movement Disorders Research and Rehabilitation Centre examines motor impairment, particularly as a symptom of Parkinson's Disease.

Mental and brain health are as vital as physical health, though mental health issues are more stigmatized and, in some cases, less well understood. Laurier researchers are working to change that. Psychology researchers are exploring subjects such as forensic psychology, neuroscience, social psychology, developmental psychology and community psychology, and the Faculty of Social Work is a hub for research and education on mental health and wellness. The Manfred and Penny Conrad Institute for Music Therapy Research and the Laurier Centre for Music in the Community focus on the healing effects

of music at the individual and community levels. Programs at Martin Luther University College have a strong focus on community wellness through spiritual care.

So many aspects of health are informed by public policy and its ability to address the social determinants of health. The Manulife Centre for Community Health Research examines the social determinants of health through a variety of community-based research projects. At the Balsillie School of International Affairs, Laurier researchers collaborate with practitioners and policymakers to improve health systems in Canada and around the world.

B.1 Current strengths in Psychological and Social Determinants of Health and Wellbeing

S1 Priorities

Health and well-being across the lifespan

Laurier researchers are solving problems across the lifespan, paying consideration to life stages and cultural differences, in order to improve quality of life for individuals of all ages. Through community-based research, Laurier is collaborating with non-health sectors to influence policies and practices that impact the social determinants of health.

Research foci include: cognitive development; representations of health, medicine and disability in print media; impacts of regressive political systems on Indigenous, racialized and newcomer populations; survivors of gendered violence; housing and safe neighbourhoods; social exclusion of older adults in rural communities; and theories of death and dying.

Well-being and resilience

In a broad range of fields including Business, Education, Communication Studies, Cultural Analysis and Social Theory, English and Film Studies, Languages and Literatures, Global Studies, Philosophy, Region and Culture, and Women and Gender Studies, Laurier researchers are exploring the roots and contributors to individual and collective well-being, while also building resilience in diverse communities.

Research foci include: exploring diverse perspectives through literature and cultural analysis; the expansion of cultural awareness through critique of status quo attitudes; expansion of individual self-understanding; human rights and discussions of social justice; the role of the workplace in promoting well-being and resilience and dominant social discourses in popular culture.

S2 Priorities

Music therapy

Researchers in the Manfred and Penny Conrad Institute for Music Therapy Research investigate the intersections of music and medicine. The healing properties of music and sound are well-documented, establishing a clear incentive to explore their efficacy on a range of medical conditions. Music therapy requires both evidence- and practice-based research and Laurier researchers apply approaches from allied disciplines, like kinesiology and cognitive neuroscience, to forge innovative links between findings.

Research foci include: the impacts of low-frequency sound on Parkinson's, Alzheimer's, depression, cerebral palsy and PTSD patients; and the influence of music psychotherapy on traumatized individuals.

B.2 Emerging strengths in Psychological and Social Determinants of Health and Wellbeing

E1 Priorities

Community impact through innovative physical activity

Laurier researchers are leveraging the principles of kinesiology and physical education to maximize the physical and social health of communities. This field of study draws on the Human Capital Model which states that physical activity is essential for healthy human development. Locally, Laurier is collaborating with the Sun Life Centre for Physically Active Communities to incubate and evaluate accessible programming across the lifespan.

Research foci include: tactics for promoting physical activity; citizen-science movement initiatives; and creating a living laboratory.

Human performance in complex socio-technical environments

User experience design research in this theme focuses on the development of applications based on modeling human performance in complex sociotechnical environments as well as understanding the psychological, social and health impacts of technology use by specific user groups including Northern Indigenous communities, children, and seniors.

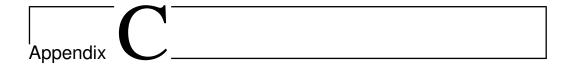
Research foci include: children's smartphone usage; the impacts of psychosocial work environments on nurses' well-being; videogame-addiction; telehealth-care practices.

E2 Priorities

Innovative partnerships for social work, education and society

Local and international research is conducted in partnership with vulnerable and marginalized communities to promote social justice and social transformation. Researchers create scholarship that is driven by community-identified needs in order to address the community's priorities and to advance community voices.

Research foci include: violence against women; women's mental health; immigrant and refugee studies; women's health and aging in rural populations; health and well-being in low-income lone-mother households; international community partnerships for mental health education; well-being and mental health of elementary, secondary and post-secondary students.



Governance and Policy

The public policy challenges confronting 21st-century society include a range of issues relating to political, economic and environmental relations between governments and other bodies nationally and internationally. Laurier researchers seek to understand these challenges and increase our capacity to contribute to meaningful solutions and dialogue. Issues in this area include global migration, corporate social responsibility, voting behaviour, and justice and equality.

As a partner in the Balsillie School of International Affairs (BSIA), Laurier plays a prominent role in research and in educating the next generation of policymakers. Headquartered at the BSIA, Laurier's International Migration Research Centre is one of Canada's leading centres for research on topics such as migrant work, borders, displacement, detention and newcomer settlement. Laurier's Tshepo Institute for the Study of Contemporary Africa examines a wide range of issues related to Africa, including development and education. The BSIA's Migration, Mobilities, and Social Politics research cluster brings together a broad range of researchers who focus on populations on the move.

At the Lazaridis School of Business and Economics, especially within the Laurier Centre for Economic Research and Policy Analysis, researchers are critically examining governance and economic policy, discovering effective ways for businesses to achieve success in partnership with social responsibility. The Laurier Institute for the Study of Public Opinion and Policy investigates public opinion and election polling, contributing valuable analyses and projections to the public discourse.

C.1 Current strengths in Governance and Policy

S1 Priorities

Conflict and security

Laurier researchers at the Centre for Research on Security Practices and the School of International Policy and Governance engage in public policy analysis, advice, design, implementation and evaluation across disciplines and all levels of government. Examining the ethical, regulatory and security implications of major international issues like autonomous technologies and extreme human adversity promotes and enhances the security of global populations.

Research foci include: food security; migration and forced displacement; climate change and geopolitics; sustainable development; political violence; post-conflict peace building; artificial intelligence and cybersecurity; and Indigenous rights.

Economic and social policy

Laurier researchers analyze economic and social policy through a combination of mathematical models of economic theory, real-world data and empirical techniques. Both disciplines have wide-ranging impacts. Economically, Laurier research influences the central banks' interest rate target decisions and government policy on taxes and tariffs, and other regulatory market interventions while socially, researchers are addressing the gender wage gap and how markets can reduce greenhouse gas emissions.

Research foci include: economic globalization and growth; charitable giving; foreign direct investment; crime; international finance and trade; health care; macroeconomics; regulation; education; history; and monetary policy.

Global migration policy and governance

As migration continues to dominate headlines and policy discussions across the globe, Laurier researchers are tackling this timely issue. By studying temporary and permanent forms of migration through an interdisciplinary lens, Laurier is producing critical analysis that directly influences local and

international academic and policy networks, as well as governmental and non-governmental panels.

Research foci include: forced displacement; irregular migration; gender, sexuality and migration; refugee welcome and integration; and borders and mobilities.

Organizational effectiveness

Through research at regional, national and transnational levels, Laurier researchers are addressing issues that impact how organizations contribute to society. A major focus is on how organizations affect both internal and external stakeholders, and how people learn, change and leverage knowledge to create effective organizations.

Research foci include: employee well-being; workforce motivation; organizational leadership; organizational decision-making, innovation,; and diversity, equality and inclusion in the workplace; employee selection and performance assessment; leadership and effectiveness in schools.

S2 Priorities

Policy studies, voting behaviour and public opinion

This field of political science focuses on analyzing pressing public policy issues. Through think tanks, parliamentary testimony, media coverage and commissioned reports, Laurier researchers are generating analysis and evidence-based recommendations that benefit governments at all levels, as well as organizations in the private and non-governmental sectors internationally. Laurier researchers have developed a core strength in the areas of voting behaviour, political preferences, and how those preferences may be affected by sources of political information, or misinformation.

Research foci include: environmental policy; trade policy; federalism, migration and citizenship; public opinion and elections; food insecurity; social policy; post-conflict reconstruction; good governance in developed and developing country contexts; monitoring and reporting pre-election polls; election campaign tone; political scandals; and the impact of misinformation on voting behaviour.

C.2 Emerging strengths in Governance and Policy

E1 Priorities

Governance, ethics, social responsibility and entrepreneurship

An entrepreneur's ability to scale their company depends on the quality of its governance, a key element of any company. Indeed for companies of any size, Laurier researchers are demonstrating that strong governance and controls force companies to behave ethically, and to create and encourage more socially responsible organizational and management practices.

Research foci include: internal controls; budgeting; compensation design; performance measurement and management; auditing; unethical behaviours including earnings management, tax aggressiveness, budgetary dishonesty, employee collusion and sabotage; corporate governance; and corporate social responsibility.

E2 Priorities

Developing educational leaders in global contexts

The Centre for Leading Research in Education includes an Educator and Leadership Institute which conducts large-scale professional development and research with Canadian and international educational partners to develop leadership skills and governance processes. Recent pan-Canadian studies have explored the roles of school administrators related to inclusive education. International studies and training sessions have focused on teachers and principals in underdeveloped countries, fostering their organizational structures.

Research foci include: system leadership; organizational structures; educational governance; inclusive leaders; international schools; and professional-development networks.



Indigeneity, De-colonization, Equity, Diversity and Inclusion

When a diverse range of researchers are nurtured and their ways of knowing are valued, the fresh perspectives and new knowledge can lead to breakthroughs in all fields. As such, Laurier has in place a number of initiatives to reduce barriers that underrepresented groups may experience in postsecondary research, across levels and disciplines.

Promoting Indigeneity and reconciliation are priorities for Laurier, including integrating Indigenous knowledges and practices into research and conducting research in partnership with Indigenous communities. Laurier is also helping spread reconciliation-driven research practices around the circumpolar Arctic and contributing to on-the-land camps that help youth, elders and scientists connect.

Laurier's Indigenous Rights and Resource Governance Research Group focuses on Indigenous communities' rights to make decisions about activities that would affect them and their land. The Centre for Indigegogy works to improve teaching by and about Indigenous peoples. At the Balsillie School for International Affairs, the Indigenous Peoples, Decolonization and the Globe research cluster examines Indigeneity internationally. The annual Indigenist Research Symposium showcases the work of Indigenous researchers and emerging Indigenous research methodologies at Laurier and beyond.

Intersectionality is a key focus for Laurier researchers, recognizing that no one's identity is singular, nor life experience defined by any one factor. Researchers engage collaboratively with marginalized communities to examine gender and its intersections with racism, heteronormativity and religion, working to maximize inclusion and well-being. Marginalization can be detrimental to physical and mental health, so researchers in Health Studies are studying the intersections of health and dis-inclusion.

In the Arts and Liberal Arts, cultural and religious heritage is preserved and examined to understand how they have been shaped and how non-dominant voices can be amplified. Sociologists at Laurier are using biopolitical theory to understand how society has managed human vulnerability. Across all disciplines, there is a deeply embedded commitment to promoting social justice. In the Faculty of Education, researchers are examining equity, diversity, and inclusion in schools across Canada and in international contexts.

D.1 Current strengths in Indigeneity, Decolonization, Equity, Diversity and Inclusion Research

S1 Priorities

Diversity of cultures and communities

This field of study analyzes non-dominant, minority and marginalized voices and discourses. Laurier researchers are challenging accepted beliefs regarding political and cultural institutions by examining how they have been formed by factors like material practices, social sanction, culture and language.

Research foci include: the embeddedness of power and politics in cultural systems; social construction of class, race, ethnicity, gender, sexuality and language; and the possibilities for meaningful and principled agency within the context of inter-subjective and cross-cultural experience.

Gender and its intersections

Laurier researchers are addressing pressing community-identified needs through local and international studies conducted in partnership with marginalized communities. Research in this field examines the ways gender and gendered experiences are shaped by and intersect with factors such as racism, colonialism, heteronormativity, religion and poverty.

Research foci include: social construction of gender; women's physical and mental health; violence against women; immigration and refugee studies; sexual expression; LGBTQ+ issues; sexual and reproductive rights; and diversity in workplace leadership.

Indigenous scholarship and decolonizing relationships, knowledge and practices

Researchers at Laurier's Centre for Indigegogy are largely focused on Indigenous research methodologies and how Indigenous worldviews, ethics, educational practices and relationships with nature can be used to increase our understanding of their histories and their current and future place in society. Laurier researchers are also successfully translating Indigenous knowledge and ways of knowing, being and doing, including relevant political and social histories, into professional development programs for both Indigenous and non-Indigenous educators.

Research foci include: health and wellness of urban Indigenous communities; history and perspectives of Haudenosaunee grandmothers; state versus community control over child protection; the role of Indigenous knowledge and history in social work education; and decolonizing relationships within higher education.

Intersection of health and marginalization/dis-inclusion

This research focuses on the intersections of health and marginalization or disinclusion, and particularly on the health effects of systemic and institutional violence. "Violence" is defined broadly, as Laurier researchers explore all types of violence, from gendered violence toward individuals to systemic violence in the forms of funding cuts, harmful public policy, stigma and social disenfranchisement. Inherent to this field of study is advocacy and activism in an attempt to positively influence policy change on behalf of populations who have been traditionally left out of health research.

Research foci include: gendered and sexual violence; cultural constructions of postpartum depression and psychiatry; health and safety of migrant farm workers; autism services; institutionalization; health system performance; and community perspectives on telehealth-care technologies in Northern and Indigenous contexts.

Social justice and human rights

Laurier researchers are examining historical and contemporary patterns of religious change and interaction, migration and transcultural exchange, and preservation and promotion of humanity's cultural heritage. By fostering partnerships with communities and institutions around the world, such projects confront challenges linked to the global mobility of cultural and religious phenomena, address threats to heritage in different media, and reveal how religious and cultural traditions act as both impediments to, and forces for, global justice.

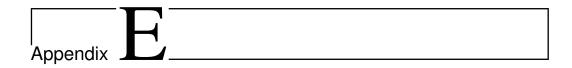
Research foci include: entanglements between religion and diversity; politics and science in the remaking of the National Museum of Brazil; growth of Christian Zionism in Brazil; translating Indigenous sign languages into ancient Mesoamerican iconography; and Pakistani cultural heritage.

S2 Priorities

Educational supports for learners and leaders

Current research in education supports educational leaders to foster Indigeneity, equity, diversity and inclusion among learners, schools and school systems. Faculty of Education members have published numerous books and articles. They have presented international sessions related to learners with special needs, racialized learners and underrepresented groups, especially in relation to fair and equitable assessments.

Research foci include: anti-oppression curriculum; Indigenous education; multi-literacies for students with special needs and racialized groups; refugee supports; differentiation of mathematics instruction; gifted instruction and high-stakes, large-scale assessments; designing for diversity; bridging the technology skills gaps; inclusive innovation and entrepreneurship.



Business, Technology and Innovation

A strong economy is the foundation of a strong society, and rapid technological advancement has both complicated and heightened the success of private and public sectors. Laurier researchers are leveraging their expertise in business, economics, mathematics and science to ensure we are managing and maximizing the potential for technological innovation.

Shifts in the economy have consequences for every aspect of our lives. Laurier researchers, particularly at the Lazaridis School of Business and Economics, study many facets of business and economics, including macroeconomics, business infrastructure, fiscal policy, corporate governance, organizational behaviour and marketing. Laurier is also home to some of the world's top experts in finance and markets, who research topics such as financial risk management, high-frequency trading and financial market innovation.

To grow an idea into a successful business or social enterprise, entrepreneurs, managers and employees need to be skilled in areas ranging from raising capital to marketing. Laurier faculty provide new insights for successful entrepreneurship and organizational behaviour, while the Lazaridis Institute for the Management of Technology Enterprises is a global authority on the management of high-growth technology companies. The Centre for Supply Chain Management connects researchers, practitioners and strategic decision-makers in supply chain management.

Scientists, mathematicians, computer scientists and data scientists often work on applied solutions to real-world problems, while others do "pure" science, which also has great value in expanding knowledge without logistical constraints. The Interdisciplinary Research Institute for Mathematical and

Statistical Modelling in Scientific Discovery, Innovation and Sustainability (MS2Discovery) connects researchers working in mathematical and statistical modelling in various disciplines. Faculty of Science departments conduct a wide spectrum of research in areas such as theoretical computer science.

E.1 Current strengths in Business, Technology and Innovation

S1 Priorities

Financial markets, products and analysis

The study of financial markets and products examines the structure, efficiency and stability of markets and the creation of new financial offerings. Laurier researchers address issues in the design and regulation of financial markets that affect securities trading around the globe by developing theoretical models of market participant behaviour and conducting empirical analyses of financial activity. Regulators turn to Laurier for best practices on designing markets for optimal public policy outcomes.

Research foci include: high-frequency trading; financial product innovation; dark versus lit markets; financial market behavior and regulation; price volatility in bond and stock markets, including market crashes; and insider trading.

Mathematical and statistical modelling, and data analysis

Laurier researchers are arming businesses, governments and society with advanced statistical and mathematical models to extract value from data and generate insights that will drive new technologies and intelligent decision-making. This innovative research is addressing a wide range of challenges, from climate change to public health emergencies.

Research foci include: financial modelling and risk management; game theory; decision science; statistical genetics; human behaviour data; artificial intelligence and machine learning algorithms; survey data analysis; and stochastic mathematical models.

Supply chain, operations and management

Laurier researchers have formed mutually beneficial relationships with industry partners, exchanging access to data from the supply chain sector for cutting-edge research that can deliver competitive advantage in the logistics industry. Laurier is helping develop and maintain agile, responsive and sustainable supply chains.

Research foci include: transportation and logistics; inventory control; scheduling; health-care operations; supply chain risk management; sustainable operations; pricing and revenue management; and the role of supply chains in financial markets.

S2 Priorities

Information for decision-making

This area of research includes research into managerial and consumer decision-making. It covers accounting standards and economic consequences; capital markets reactions to financial and non-financial information; voluntary disclosure; corporate social responsibility; sustainability; environmental studies; valuation; auditors' and managers' decision biases; and information promoting innovation and creativity.

Research foci include: accounting standards and economic consequences; capital market reactions to financial and non-financial information; voluntary disclosure; corporate social responsibility; valuation; decision bias in auditors and managers; and information promoting innovation and creativity.

Services marketing

As world economies become increasingly dominated by services and companies view service as critical for customer retention, Laurier researchers are forming multi-disciplinary teams to explore emerging practices and challenges in the service sector. Laurier is focused on drivers of customer experiences and enabling greater competitiveness among services firms.

Research foci include: service relationships; service human resource management; service information systems; international service management; Internet and digital services; service entrepreneurship; service science; and sustainability management in services.

E.2 Emerging strengths in Business, Technology and Innovation

E1 Priorities

Artificial intelligence, machine learning

Artificial intelligence is the simulation of human intelligence processes by machines, especially computer systems, while machine learning is an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed. Laurier research applies broadly to areas such as detection of dangerous disease spread, prediction of traffic patterns and producing user-specific recommendations on apps.

Research foci include: social media analysis; data mining for traffic analysis; and exploring economic value.

Business analytics

Business analytics is the iterative, methodical exploration of an organization's data, with an emphasis on management science and business statistics to study a range of business issues. Laurier researchers conduct research in a variety of fields, from health care to commodity markets, retail strategy to bringing innovations to market, and as such are developing techniques and frameworks which have a positive impact on the social and economic well-being of Canadians.

Research foci include: marketing and finance; supply chain management; trend analysis tools; and health-care analytics.

Entrepreneurship and innovation

As entrepreneurs seek to grow their companies and scale up operations to serve new markets, innovation is a key factor in success. Researchers at the Lazaridis School focus on enabling successful innovation, particularly in start-up firms, by examining both business- and consumer-level activities and decision-making processes that facilitate the success of innovative products and services.

Research foci include: the role of marketing capabilities and entrepreneurial orientation; scale-up strategies for new ventures; internationalization of start-up firms; effective new product development and service design; factors driving the consumer adoption of innovations; the effects of word-of-mouth and social media on product diffusion; and inclusive innovation and entrepreneurship.

E2 Priorities

High-growth enterprises

Researchers at the Lazaridis Institute for the Management of Technology Enterprises work across disciplines with partner research institutions and local and global technology companies to investigate key issues facing managers of high-growth technology firms as they move to scale their operations to serve global markets.

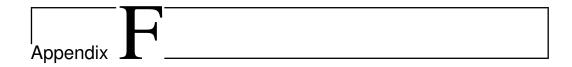
Research foci include: entrepreneurial resilience; influences on remote-worker productivity; accounting practices; how sexist attitudes influence the funding of female-led ventures; the impact of equity crowdfunding on product innovation and adoption; and creating online customer experience across cultures.

Innovation and technology

Education researchers have developed innovative partnerships with non-governmental organizations and private industry in Canada and internationally, to develop resources and curriculum materials including design/computational thinking processes in schools and school systems. This research and the ensuing work has been internationally recognized and utilized by educators in many countries. User experience (UX) research in this theme focuses on the design and testing of innovative user-centered technologies, services, spaces, and processes, as well as the design/redesign of infrastructures and processes that enable technology innovation. Marketing researchers study all aspects of bringing innovation to market. They examine consumer attitudes toward new technology, the moral implications of new technology adoption, how design impacts product acceptance, and how marketing stimuli impact investor attitudes.

Research foci include: design thinking and innovation processes; entrepreneurial approaches in education; pivots of educational technology companies in a

pandemic; use of smartphones in education; computational thinking; science community initiatives; implementation of national innovation curriculum; intelligent tutoring system; impacts of personality factors on consumer video game engagement; children's smartphone usage; advertising value of pop-up ads in online games; embedding AR and VR in UX design; how marketing capabilities shape innovation success; the role of consumer emotions and cognitions in innovation adoption; and the impact of consumer-to-consumer recommendations on innovation diffusion.



Society, Culture and Community

Culture is fluid and complex. It has historical, philosophical, anthropological and humanistic dimensions, requiring a range of integrated skills and approaches across faculties to study it effectively. Laurier researchers from many fields deconstruct and analyze cultures within a variety of communities to help us understand our human experiences and grow thoughtfully as communities evolve.

The way we remember and express who we are is a vital part of the way we create our society. The Laurier Centre for Military Strategic and Disarmament Studies is one of Canada's leading centres for research, education and discussion of historical and contemporary conflict. The Centre for Memory and Testimony Studies explores collective memory and forgetting, often through the arts. Researchers in Archaeology and Heritage Studies are committed to preserving history and sharing it with those who can find meaning within in.

Teaching and learning are essential lifelong processes, and Laurier researchers are contributing to our understanding of both. The Laurier Centre for Cognitive Neuroscience explores various areas of thought and cognition that often relate to learning, including attention, language, memory, perception, speech and communication. The Educator and Leadership Institute engages in research and practice to build teaching and leadership capacity globally.

Understanding communication and perception is critical to helping communities stay connected through societal change. Researchers in Communication Studies examine the history and theory of human communication, while other

Laurier scholars are actively engaged with local and international communities to conduct cultural analysis through philosophical and anthropological lenses. This community-engaged research is a hallmark of the Laurier Centre for Community Research, Learning and Action, which focuses on developing community partnerships and producing research that advances community well-being and social justice.

F.1 Current strengths in Society, Culture and Community

S1 Priorities

Cultural analysis

Researchers in the area of cultural analysis employ a variety of theoretical perspectives and research methods from the arts, humanities, and social sciences in order to examine historical and contemporary cultural phenomena and cultural representations and practices in local, national, and global contexts. Research in cultural analysis encompasses cultural diversity and inclusion, institutions and policy frameworks, material cultures and practices, as well as the creative products and works of culture in literature, film, art, and music and the everyday cultural practices of different peoples.

Research foci include: museums and memory studies; Indigenous knowledges and ways of knowing; popular visual culture studies; democratic communities and culture; critical race studies and cultural representation; ethnographic studies of culture; urban diversity and planning; cultural policy and institutions; transnational migration and culture; and social and cultural responses to crises and disasters.

Global dynamics and human rights

Researchers apply sophisticated theoretical frameworks to explore the impact of globalization and international dynamics on populations in Canada and beyond. They study the national and transnational forces that influence lived experiences, and they examine the ways in which minorities struggle against inequities. Racism, religious and gender discrimination, human trafficking and forced migration all constitute areas of research that reflect a commitment to

social justice in our increasingly interconnected world. Researchers examine the diversity of the human experience within nation states while at the same time considering the realities of those who move between countries and even those who are stateless.

Research foci include: identities; humanitarianism; refugees and migration; international students; peace and conflict in Asia and Africa; international development; food security; human trafficking; religion and multiculturalism; crimes against humanity; disabilities and children's rights; and international education.

Languages and communication

Laurier researchers explore a wide range of communication methods, from non-verbal communication to the news media, to assess factors influencing the sending, receiving and comprehension of messages between humans, and the social drivers and impacts of communication technologies. While language refers to the verbal, non-verbal, and cognitive tools of communication, communications looks more broadly and refers to the frameworks, structures, and technologies of mediation that allow for the transmission of messages over time and space. Laurier provides research specialization in both language and communication. In Laurier's Language Acquisition, Multilingualism and Cognition Laboratory, researchers investigate how humans learn and process more than one language. By conducting novel language-development studies, Laurier is building essential knowledge about language acquisition and how multiple languages are accommodated in one mind. Communications researchers ask broader structural or representational questions about how communication systems, infrastructure, policies, industries, technologies, and practices shape and are shaped by societies and cultures.

Research foci include: bilingualism in Waterloo Region; linguistic skills among multilingual individuals in higher education; translation and interpreting; second language teaching and learning; religion and media; political economy of communication; cultural and creative industries; visual communication; Internet and social media studies; health, science, and risk communication; feminist media history; Canadian communication policy and technology; strategic and public communication; and political communication.

Leadership studies

Leaders must operate in diverse contexts, from the local community to the global. It is essential across society, from business to government to education. Leadership studies is a rapidly developing, interdisciplinary field that examines how leaders are taught and how effective programs are designed. Communication is a critical component, as are organizational structure, culture and change. Research examines the ethics of leadership and the role of values, as well as the relationship between leaders and followers.

Research foci include: program design and leadership theory; contemporary politics in Canada and the United States; historical approaches to leadership; educational leadership; organizational leadership; and student leadership.

S2 Priorities

Critical game design and development

Laurier is one of the few schools worldwide with a focus on critical game design, the art of building games around positive values or learning outcomes in order to have an impact on the player. Laurier researchers use design-based research methods to create analog, digital and live-action games that address real-world needs, develop empathy, teach concepts and inspire players.

Research foci include: formal and informal learning institutions like schools and museums; training needs for non-profit and corporate clients; and questioning the norms of the game design industry.

Musical composition and performance

Composers and performers engage in innovative creation, curation, improvisation, and dissemination of musical artifacts through intradisciplinary, interdisciplinary, and technological means. Laurier composers are commissioned to create new works for a variety of genres and disciplines. They are also involved in curation and dissemination of contemporary music within a Canadian context. Specializing in Canadian repertoire, performing musicians at Laurier engage in improvisation as well as innovative interpretation, curation, and dissemination of historic and contemporary compositions.

Research foci include: creation of original music and sound designs; the role of improvisation in the creative process; curation and dissemination of the work

of Canadian composers; creative applications of technology; and exploration of digital media for artistic purposes.

F.2 Emerging Strengths in Society, Culture and Community

E1 Priorities

Intercultural and engaged pedagogies

Research in Laurier's Faculty of Education centres on developing the full potential of students through innovative and evidenced-based teaching approaches. It also includes studying educational leadership, from the development of aspiring education professionals to skills enhancement for established leaders, and exploring the benefits of experiential learning to help students engage in their classrooms and communities.

Research foci include: Indigenous approaches to teaching and learning; teaching tools to build critical thinking; ethics of student volunteerism internationally; fostering active citizenship and civic engagement; and gender and generational issues affecting leadership.

E2 Priorities

Community music

Researchers in Community Music examine music as a social practice based on foundational principles of inclusivity, lifelong learning, health and well-being, and social justice. Laurier researchers work in diverse contexts, from schools to hospitals to social services to faith organizations. Research is often collaborative, with partnerships emerging across Canada, in the United Kingdom, Germany, Australia, and New Zealand. The Laurier Centre for Music in the Community, established in 2008, supports these collaborations through the mandate of disseminating research through symposia, conferences, publications, and online webinars.

Research foci include: leadership competencies in community music across Canada; intersections of music and racial justice; Indigeneity in music peda-

gogy; music technology and ageing populations; effects of music participation on health; and analysis of community music discourses.

Digital humanities

Recognizing that the printed word is no longer the main medium for knowledge production and distribution, Laurier researchers are bringing digital tools and study methods to the humanities. By producing and using novel applications and techniques, scholars are making new kinds of teaching and research possible, while at the same time studying and critiquing how they impact cultural heritage and digital culture.

Research foci include: digitizing texts and archival material; digital 'tagging' of material through mark-up systems; 3D modelling of historical artifacts; data mining of large archival holdings; and development of hypertext and hypermedia material.

Experiential learning and student affairs

Current and ongoing research in education has highlighted the importance of experiential learning and international experiences in elementary, secondary, and post-secondary contexts as an area of innovative programming with positive impact on community partners. In addition, research is being conducted on the mental health of university students and how higher education addresses specific needs through diverse strategies and supports.

Research foci include: work-integrated learning; innovative practicum models; HyFlex teaching in post-secondary settings; professional development with international communities; role of mentorship; and impacts of stress on mental health of university students

Heritage studies

Laurier researchers engage in both archaeological and historical studies with reference to North America and other parts of the world. There is a strong tradition of studying the heritage of the Mediterranean world, Europe, the Middle East, Africa and East Asia. At the same time, faculty study the political, social and cultural history of Canada and the United States, with a commitment to training both undergraduate and graduate students as future researchers.

Research foci include: archaeological site excavation, documentation, evaluation and protection strategies; analysis and interpretation of artifacts and skeletal remains; Indigenous histories; military history; socio-cultural history; social and political movements; and international relations.

Muslim studies

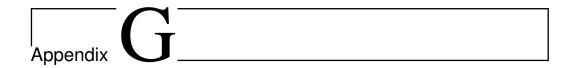
Muslim studies focus on textual sources and interpretive traditions of Islam, and on the social and historical contexts of Muslim experiences. Laurier researchers are examining the vital importance of literacy and history, as well as the diversity of identities, life circumstances and concerns that animate contemporary Muslim communities.

Research foci include: Muslim cultures and communities in historically Islamic world regions; Muslims in Canada and North America; transnational linkages and regional specificities; intra-Muslim cultural politics; and Muslim voices on issues such as gender relations and democratic citizenship.

Storytelling

Storytelling is both an output and a focus for researchers in Laurier's Faculty of Liberal Arts. Through creative and arts-based research, researchers are developing new ways to share results with the communities they work with through podcasts, digital humanities, visual art, open-access publications and social media.

Research foci include: digital media and journalism; feminism and the practices of oral history; user experience design; digital privacy; and deep-mapping of historical spaces using geographic information systems.



Consultation Process

The Vice President: Research led the consultation process for the university. The Office of Research Services manager of compliance and the strategic projects officer managed the consultation process throughout.

The proposed consultation process was first proposed to the executive leadership team in early August 2019, and then to senior academic leaders at the VPAC retreat later that month. The Senate Committee on Research and Publications (SCRAP) was then briefed in early September, followed by the full senate later in September. The process is depicted schematically in Figure G.1.

Information requested

Departments, centres and institutes were each asked to identify one area of current strength and one area of emerging strength. For each of these areas, they were asked to answer the following questions:

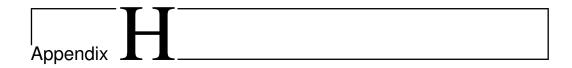
- Identify the area of (emerging) strength. Provide both a name for this area and a brief description of the scholarly activities encompassed by that area.
- What resources would you need?
- What evidence suggests that this area has (or is gaining) national or international recognition?

Board of Departments Governors Facilitation (1) (8)Deans' Research Executive (4)Advisory Services Leadership Committees Council Team **(2) (5)** (1) (3) I (7) Centres (6)Senate SCRAP Institutes For approval

Office of Research Services

• What measure of success would indicate that an investment in this area was well spent?

Figure G.1: Consultation process. The numbers indicate the order of flow.



Plan Implementation

Laurier does not dictate particular research programs. The choice of research topics is rightly the domain of individual faculty members. However, we must make resource allocation decisions and we may better achieve our research goals by making strategic investments. Such decisions are complex and involve considerations of need and equity as well as strategy and the likely outcomes of such investments. Some areas of research are more productive and creative if they have a 'critical mass' of researchers who all work on related and complementary research topics. Such 'research clusters' can help scholars leverage each other's strengths and interests by: fertilizing new research ideas, providing collegial feedback to improve each other's research, sharing important research infrastructure, creating a thriving intellectual environment for graduate training, working together on larger collaborative research projects, and so on. While still providing a strong and supportive environment for all individual researchers, Laurier will look for ways to foster and maintain critical mass in the selected research themes, nurturing research successes that go well beyond the sum of the individual faculty members' successes.

Laurier's Strategic Research Plan identifies six broad research themes, each with a number of current and emerging research strengths. We will use the SRP to **justify** Laurier's Canada Research Chair (CRC) nominations and Canada Foundation for Innovation (CFI) applications. These are not just 'nice to have' functions but are requirements to even apply to these two programs. In practice this means that applications from the faculties for a CRC allocation must place the proposed allocation within at least one of the

six research themes and show how the proposed chair would bring leadership to one or more current or emerging research strengths. Proposals for CFI's infrastructure programs would be based on similar considerations.

Beyond its function of allowing access to the CRC and CFI programs, the SRP will be used to *inform*:

- prioritization of **fundraising activities** that support research,
- institutional talks with external organizations in seeking out **new re**search opportunities;
- institutional support for new graduate programs,
- faculties' recruitment plans,
- establishment and continuation of research centres and institutes,
- investments in new research infrastructure,
- plans for **support staffing**, and
- many other research-related investments.

The SRP is a strategic plan, not an operational plan. It gives voice to our obvious research goals, and it describes the state of our current and emerging research strengths. The SRP does not tell us how we will achieve 'research excellence' but provides guidance about what we have to build on as we consider future research-related investments. It also guides how we staff and organize our support activities to achieve research excellence.

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