Carleton University | Research and International

CARLETON UNIVERSITY

STRATEGIC RESEARCH PLAN SUMMARY 2023-2025

Major Objectives of the Strategic Research Plan:

Our Strategic Research Plan will support Carleton in fulfilling our role as an innovative university, leveraging the power of research to solve critical issues. We will continue to pursue and advance knowledge in all forms across all disciplines. We will continue to innovate in novel ways to foster collaboration across the campus. We will engage in novel research and collaborations that push the boundaries of understanding and current practices.

Focus Areas for Research and Research Training:

In concert with our Strategic Integrated Plan (SIP), Carleton has identified three focus areas for research and research training:

1. **Sustainability:** the health and growth of the natural and built environment. Considers fundamental elements of our natural and built environments and examines the impact of climate change while studying how sustainability translates into effective policy.
2. **Wellness:** the social, economic, cultural, mental, and physical health of humankind. Considers how social, cultural, and economic factors impact our daily lives and future endeavours.
3. **Connectivity**: a healthy relationship with the world around us, the critical inter-relatedness of individuals and communities and how they communicate. Considers community as the cornerstone of Carleton's culture, our way of connecting in person and online with partners, innovators, and diverse populations at home and across the globe.

Our three identified areas of strength and priority are connected by cross-cutting themes of artificial intelligence and big data; equity, diversity, and inclusion; entrepreneurship; Indigenous cultures and communities; public policy; sensors; and cybersecurity. This living document will be updated on a regular basis as new areas emerge.

Areas of Research where Chairs will be Deployed:

As of spring 2023, Carleton has an allocation of 33 Chairs: six Tier 1s and 27 Tier 2s, comprising 3 NSERC and 3 SSHRC Tier 1s; 16 NSERC Tier 2s; 8 SSHRC Tier 2s; and 3 CIHR Tier 2s. Carleton has used flexible options to split 3 NSERC Tier 1 Chairs into 6 NSERC Tier 2 Chairs, 1 SSHRC Tier 1 Chairs into 2 SSHRC Tier 2 Chairs, and 1 CIHR Tier 1 Chair into 2 CIHR Tier 2 Chairs.

ALLOCATION OF CRCS BY STRATEGIC RESEARCH AREA					
Research Area	**Tier 1**		**Tier 2**		**Target 2025**
	Active	**Planned**	**Active**	**Planned**	
Sustainability	0	1	3	1	**5**
Wellness	0	0	5	6	**11**
Connectivity	5	0	7	5	**17**

				Total	**33**

All CRC positions are widely advertised and are open to all researchers both within Canada and located internationally.

Gender Representation in CRC nominations:

As of December 2022, our representation of Women and Gender Minorities amongst CRC holders exceeds our target level for December 2025.

Carleton's CRC Program EDI goals are indicators of our progress in equity and inclusiveness. We manage CRC vacancies through a planning process that tracks both equity and diversity targets and available CRCs two years in advance of any expected vacancy. The Carleton Office for Research Initiatives and Services is responsible for monitoring compliance with Carleton's CRC equity and diversity targets and shall advise the Vice-President (Research and International), the Associate Vice-President, Equity and Inclusive Communities, and the Deans whenever the University's compliance status is at risk or changes. Full details of Carleton's process are available in our Canada Research Chairs Equity, Diversity, and Inclusion Action Plan.

Actions to Develop Research and Research Training in Priority Areas and Plans for New Ones:

To achieve each of our objectives, we will use the following key actions:

1. *Support increased research funding and sponsorship* by continuing to streamline research administration processes for the whole life cycle of research projects, continuing to provide access to research-related information technology support, increasing our participation in partnered funding opportunities by leveraging relationships with partners from all sectors, and expanding support to multi- and interdisciplinary research clusters (i.e., REALISE).
2. *Maximize impact of foundational and applied research* by hosting, supporting and participating in major academic initiatives, engaging end users in research programs to promote innovation and uptake of research (i.e., CU@Kanata), and providing additional support for the commercialization of novel research.
3. *Improve the dissemination of research with increased promotion of knowledge mobilization, publications, and citations* by increasing coordination across campus to effective promote our research strengths and successes, enhancing the accessibility, visibility, and impact of research undertaken at Carleton through supports for open access, and increasing nominations for national and international awards and prizes.

Inter-institutional and Inter-sectoral Collaborations:

Carleton will continue to intentionally pursue collaborations with other institutions and partners from all sectors (governments, community, private sector, health-care providers, and foundations). Community engagement is a prominent feature of Carleton's Strategic Integrated Plan (SIP), as well as in other institution-wide plans including: the Kinàmàgawin Report (Carleton's Indigenous strategy); International Strategic Plan; Equity, Diversity, and Inclusion Action Plan; and Coordinated Accessibility Strategy and Sustainability Plan. Anchoring community engagement across campus, Carleton established the Centre for Community Engagement and launched a dedicated Strategic Plan for Community Engagement in 2022.

The Kinàmàgawin Report, released in 2020, represents a marked shift in Carleton's approach to conciliation with Indigenous Peoples. Among the report's 41 Carleton-specific calls to action is the need for Carleton to have an Indigenous-specific community engagement process. This process is Indigenous-led, and engagement is undertaken in a culturally appropriate way. The Centre for

Indigenous Support and Community Engagement, in partnership with Indigenous communities and the Centre for Community Engagement, began leading this important work in the winter of 2023.

Carleton will continue to support our research community's participation in externally-funded partnered research and research training programs, especially in areas related to sustainability, wellness, and connectivity. We anticipate supporting partnered research and research training initiatives in areas including, but not limited to, accessibility; building performance; cognition and mental health; connected and autonomous systems; cybersecurity; data studies; health technology and healthy aging; heritage and conservation engineering; human-computer interaction; human rights; Indigenous cultures, communities and governance; media and Internet industries; modeling, simulation, and visualization; northern research; public safety and security; refugees and forced migration; sustainable energy; and virtual/augmented/mixed reality.

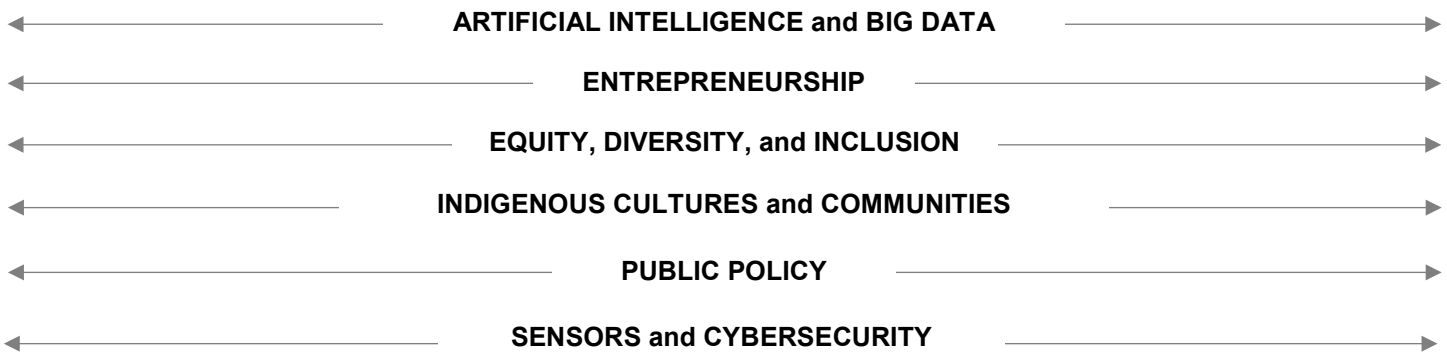
Assessing Progress:
Each January the University holds a 2-day retreat with the full executive team (Vice-Presidents, Associate Vice-Presidents, and Executive Directors) of each functional planning group to report on, review and revise goals and objectives against the Strategic Integrated Plan (SIP).

University Planning and Approval Process:
These Strategic Research Priorities are drawn from the Carleton Academic Plan and the University's SIP. The SIP was developed through a full-year consultation process, including a speakers series and stakeholder consultations, and received tremendous engagement by faculty, staff, students, community partners and alumni. Each year, OVPRI compiles an annual report for the wider campus community that articulates achievements and key actions to deliver on the Strategic Research Priorities.

The objectives of the CAP are to:

a) Articulate a cohesive academic (teaching, learning, and research) strategy;
b) Provide concrete objectives for implementing the commitments of the SIP;
c) Bridge the SIP and the faculty-level plans.

Any changes or updates to the CAP will follow the initial approval process, which was consult with the individual Faculties on their research priorities, then consolidate and rationalize these into draft priorities for the CAP, and conduct a public consultation on the draft priorities via e-form for the community at large and Associate Deans Research in each of the Faculties. The final CAP was presented at Senate and then for approval at Vice-Presidents Academic and Research Committee.



SUSTAINABILITY	WELLNESS	CONNECTIVITY
Sustainability is the health of the planet Considers fundamental elements of our natural and built environments -- from sea to earth to air -- and examines the impact of climate change while studying how sustainability translates into effective policy.	**Wellness is the health of individuals** Considers mental wellness and physical health and explores how social, cultural, and economic factors impact our daily lives and our future endeavours.	**Connectivity is a healthy relationship with the world around us** Considers community as the cornerstone of Carleton's culture, our way of connecting in person and online with partners, innovators, and diverse populations at home and across the globe.
SUB-THEMES		
Natural Environment Conservation biology Geographic information systems Landscape ecology Northern studies Resource development **Built Environment** Advanced and applied materials science	**Mental and Physical Wellness** Accessibility Aging Assistive and biomedical devices, diagnostics, and data Biomedical engineering Cognition and mental health Disability justice Future of remote work and wellness Indigenous, racialized, and vulnerable Population health	**Community Connections** Creative arts Cultural connotations of space Housing and homelessness Income security Indigenous knowledge and languages Indigenous land treaties and governance Municipal-provincial-federal relations Policing and Public Safety

Buildings in the 21st century: sustainable, resilient, affordable, and accessible
Heritage conservation
Infrastructure protection and security
Smart environments
Spatial justice and decolonization of design practices

Climate & Environmental Concerns

Climate impacts on northern communities
Climate stabilization and adaptive response
Ecology and the environment
Energy and climate change communication and policy
Energy efficiency
Environmental pollutants, toxicology, and measurement
Low carbon economy, smart grid technology, and energy storage
Sustainable communities
Sustainable energy
Water and food safety and security

Healthy childhoods
Human development across the lifespan
Indigenous, racialized, and vulnerable population health
Medical physics
Mental health
Patient-centred care
Poverty alleviation and prosperity
Public health engineering
Psychology
Tissue engineering
Work-life balance

Socio-Cultural & Economic Wellness

Care economy
Circular economy
Corporate social responsibility
Economic development and entrepreneurism
Health policy and economics
Inclusive workplace
Indigenous economic development
Organizational and management relations
Political economy
Public history, oral history
Public policy and knowledge mobilization
Social movements and social justice
Sustainable accounting

Prisons and criminalization
Public safety and security

Global Connections

Aerospace
Africa and its diaspora
Democratic institutions
Entrepreneurship and inclusive entrepreneurship
Ethics, human rights, gender equality
European studies
Globalization
International relations and democracy building
Language acquisition and endangered languages
Migration and diaspora studies
Particle physics and robotics in an evolving universe
Philanthropy and non-profits
Racialized inclusion and representation
Refugees and Migration

Cyber Connections

Cloud computing
Communication and information systems
Communications-enabled applications
Computer science
Data analytics and emerging digital tools (artificial intelligence, machine learning, deep learning)
Digital humanities and interactive technologies
Digital technologies and social change
Human computer interaction
Information and Communications Technology

		Intelligence, security, and defense Media policy and regulation Quantum Technology Remote sensors and applications Robotics Social media, robo-news, disinformation, consumer/human behaviour, and economic impact Transportation and autonomous systems User-centred design Wireless communications