



**CONCORDIA UNIVERSITY'S
CRC and CFI STRATEGIC RESEARCH PLAN
2023-2028
(SUMMARY)**

Office of the Vice-President, Research and Graduate Studies
Senate approved – April 14, 2023

CONCORDIA

STRATEGIC RESEARCH PLAN 2023-2028 SUMMARY

Concordia University is reimagining the future of higher education. Our innovative approach to cross-functional research, research collaboration and experiential learning has cemented our place among the [top-ranked universities in North America under 50](#). Located in vibrant Montréal, on the traditional lands of the Kanien'kehá:ka, Concordia University practices social responsibility to create a more equitable and sustainable world through its research and training of the next generation of researchers and innovators.

Concordia University's *Strategic Research Plan 2023-2028* (the Plan) is a framework for the focused growth of research activity over the next five years. It outlines a series of principles and commitments to support and enhance existing and emerging clusters of research and research-creation activities across the university. Research at Concordia happens in a wide variety of fields and the university will continue to foster a vibrant and supportive research environment that values the diverse nature of research carried out by Concordia researchers. In this Plan, we have opted to focus on major existing and emerging research *themes* where research expertise, research units, and facilities are currently concentrated. These themes enhance the strategic vision and capacity of the university to leverage its strengths and its position in the socio-environmental, cultural, and economic fabrics of Montréal, Québec and Canada, to address pressing local, national, and global challenges through research, collaborations/partnerships with diverse stakeholders, innovation, and knowledge mobilization activities. The clusters of strength identified in this Plan have emerged from the research underway across all disciplines, research units, and Faculties and Schools: the Faculty of Arts and Science, the Faculty of Fine Arts, the Gina Cody School of Engineering and Computer Science, the John Molson School of Business, and the School of Health. The Plan will also inform strategic level resource allocation for high-profile initiatives such as Canada Research Chair (CRC) nominations, Canada Foundation for Innovation (CFI)-funded projects, and other major institutional research grants and commitments.

STRATEGIC OBJECTIVES

The Plan identifies four strategic objectives. These are:

Objective 1: Achieve smart, sustainable, and resilient growth and global leadership in research and innovation

Objective 2: Support research innovation that helps tackle local, national, and global challenges

Objective 3: Embrace inclusive excellence and Indigenous knowledges

Objective 4: Enhance impact and engagement through academic, industrial, and community networks and partnerships

Each of these objectives will contribute to increasing Concordia's research excellence in a wide array of fields, including – but not limited to – the areas of research identified as strengths in this plan. They are overarching and inform all four strategic research themes that follow. They are informed by our vision for, and commitment to, a diverse and inclusive environment where researchers and students dare to push the frontiers of knowledge, pursue different ways of knowing and learning, embark on high-risk, high-reward research endeavours and embrace a collaborative spirit that brings together key actors and mobilizes knowledge in innovative ways to tackle grand challenges and strengthen Canada's position in the world. These objectives will guide Concordia's actions and performance measures in research and innovation over the next five years. The university's success in fulfilling these commitments depends greatly on the supportive partnerships within our research and innovation ecosystem: all relevant units

across the university, as well as our numerous governmental, industrial, and not-for-profit partners, communities, organizations, and institutions.

STRATEGIC RESEARCH THEMES

Our Plan identifies four thematic areas that engage our research community and our partners. Our researchers use diverse research methods to examine questions driven by scientific curiosity, leading to both fundamental and applied discoveries, and contribute to the quest for innovative solutions to pressing challenges. These themes should be viewed as porous. They intersect and interact in many ways and on many levels: interdisciplinary and intersectoral research at Concordia happens within each of the themes and sub-themes, and across all four of them; they can also expand into new areas over time. Through emphasis on these four broad themes and several sub-themes, we will support and enhance our existing and emerging strengths in both disciplinary and interdisciplinary research, with a view to achieving further breakthroughs that will in turn translate into solutions to challenges on local, national, and global scales. The themes and sub-themes are not meant to be exhaustive of all the excellent research at the university – nor limit the emergence of new strengths – but rather aim to explore and shape a vision for how Concordia can, in the short and medium terms, pool or distribute its resources to enhance our research standing, and increase the value of our contributions. Concordia has also concentrated investments through university-recognized research units and infrastructure platforms, the large majority of which fall into one or more of the themes presented below. The university has also invested in the creation of three institutional-level research institutes, which serve as federators of units and enhance interdisciplinary collaborations.

THEME 1: RE-DEFINING/RE-IMAGINING LIFE AND SOCIETY THROUGH DIGITAL TECHNOLOGIES AND DIGITAL CREATIVITY

Concordia's researchers and trainees are working in innovative ways to better understand how the digital revolution is impacting individuals, and transforming organizations, economies, and society at large. They are also at the forefront of the innovation ecosystem and leaders in the development of emerging and enabling technologies such as artificial intelligence, machine learning, internet of things, information and communications technologies, bioimaging, and the study of how their application(s) can redefine possibilities in areas as diverse as: health care; education; urban development and climate change mitigation; sustainable design, sustainable development, and sustainable living; advanced manufacturing; media, arts, and entertainment; business, finance and entrepreneurship; and governance and public policy. Concordia researchers are building and exploring human interactions with complex technologies, and examining the human, ethical, social, economic, and other implications of how we design, plan, and deploy new technologies.

The following sub-themes have been identified under theme 1:

Sub-theme 1.1: Computational advances: data analytics, software engineering, artificial intelligence + applications

Sub-theme 1.2: Cybersecurity

Sub-theme 1.3: Arts, identities, politics, and media through a digital lens

Sub-theme 1.4: Smart, innovative, and entrepreneurial solutions to contemporary problems

THEME 2: ENHANCING INCLUSION AND SOCIAL JUSTICE

Concordia's researchers explore the foundations of social and economic organization, the underpinnings of poverty, economic inequality, gender oppression, racism, ageism, migration, and other forms of discrimination based on disabilities, sexual orientation, ethnicity, or citizenship. They also explore what

motivates and spurs social movements, public protest, uprisings, and political change. It is crucial to explore not only the what, but also the why and how questions of inclusion and social and economic justice. The exploration of these questions requires not only input from many academic disciplines, but also the public. The lived experiences and voices of various groups/communities/minorities are crucial to understanding the source of grievances and problems, as well as to finding solutions. Through understanding the various underpinnings of these experiences, and how new challenges affect groups within society differently, we better address grievances, enhance social and economic justice, promote inclusion, and tailor solutions in ways that are appropriate, mindful, and inclusive. Our researchers collaborate across multiple disciplines, and partner with a variety of communities, locally, nationally, and internationally, to better understand the contexts and experiences of specific communities, with a view to better understanding the particularities but also the commonalities of experiences and bringing about positive changes. Our researchers prioritize working with communities to co-create creative solutions to the socio-economic challenges stemming from historical and/or contemporary injustices.

The following sub-themes have been identified under theme 2:

Sub-theme 2.1: Inclusion and exclusion

Sub-theme 2.2: Indigenous histories, territories, languages, arts, present, and futures

Sub-theme 2.3: Social justice, public protest, and change

Sub-theme 2.4: Cultural production and performance in the public sphere

Sub-theme 2.5: Mobility and migration

THEME 3: UNDERSTANDING THE FOUNDATIONS OF HUMAN HEALTH AND ENHANCING HEALTHY LIVING

Concordia researchers at the intersection of a variety of disciplines collaborate and conduct fundamental and applied research in a wide array of health-related areas. These encompass the human life span, from the basis of life to living societies. This work pioneers new understandings, approaches, technologies, and devices, and engages with citizens, community groups, policy-makers, end-users, and industrial collaborators. Further, the new School of Health aims to be a global reference point for next-generation approaches to health research and training focused on enhancing the quality of human life and the innovative design of healthy communities. Research on aspects of physical and psychological health, development across the life span (including but not limited to aging), synthetic biology and applications, and biomedical engineering, can be identified as key.

The following sub-themes have been identified under theme 3:

Sub-theme 3.1: Physical and psychological health and well-being

Sub-theme 3.2: Synthetic biology and genomics, and their applications

Sub-theme 3.3: Empowered Aging

Sub-theme 3.4: Biomedical engineering and bioengineering

THEME 4: SECURING A SUSTAINABLE AND CARBON-NEUTRAL FUTURE

Concordia is committed to supporting the United Nations Sustainable Development Goals (SDGs) across all our activities, and this year ranked [5th in the world for Creating Smart Cities and Communities](#) in the Times Higher Education Impact Rankings (20th in the world on Climate Action). The university has made longstanding and significant efforts to support and provide resources to researchers conducting research in topics related to climate change such as: the development of alternative, renewable, and sustainable sources of energy; corporate social responsibility and sustainability; design and support of energy efficient

and resilient buildings, civil structures, infrastructure, communities, and transportation; circular economy and waste management; material recovery and innovation; transportation infrastructures and logistics; decarbonization and resilience of the economy; sustainable aerospace; spill response and remediation; ecological systems; and water resource management. Concordia is home to the Canada Excellence Research Chair in *Smart, Sustainable and Resilient Communities and Cities*, the *Next-Generation Cities Institute*, and the Canada First Research Excellence Fund in *Electrifying Society: Towards Decarbonized Resilient Communities*, which explore – through interdisciplinary research and public engagement – how cities and communities can be designed and operated sustainably while maintaining necessary services for their citizens.

The following sub-themes have been identified under theme4:

Sub-theme 4.1: Electrification of society

Sub-theme 4.2: Sustainable, smart, and resilient aerospace

Sub-theme 4.3: Sustainable built environment design, living, and practices

Sub-theme 4.4: Sustainable natural and social systems

STRATEGIC SUPPORT FOR RESEARCH DEVELOPMENT AND MOBILIZATION

Concordia's internal funding programs include seed funding (team and individual), university research units, facilities support, research events, and Concordia University Research Chairs. These programs position Concordia to support and leverage external funding opportunities and investments. Concordia has also adopted research institutes and units as critical tools for the development of research and interdisciplinarity. The Office of the Vice-President, Research and Graduate Studies provides, in concert with the Faculties/Schools, institutional funding for major initiatives such as CFI; the Social Sciences and Humanities Research Council Partnership and Partnership Development programs; the Canada First Research Excellence Fund, the Canada Excellence Research Chairs, the New Frontiers in Research Fund Transformation, the Natural Sciences and Engineering Research Council (NSERC) CREATE and Alliance programs; and the *Fonds Recherche Québec Regroupements Stratégiques*.

CANADA RESEARCH CHAIR (CRC) ALLOCATIONS

Equity, Diversity and Inclusion

Concordia University recognizes the essential role of diversity in fostering excellence by improving learning, advancing research, inspiring creativity, driving productivity and enhancing the experience and morale of the entire institution. Our Equity, Diversity and Inclusion Action Plan for the Canada Research Chairs Program specifically details key actions by the university for meeting and exceeding the targets for the four designated groups (Indigenous Peoples, Persons with Disabilities, Racialized Minorities and Women). The current equity targets and gaps may be found at: https://www.concordia.ca/content/dam/research/docs/CRC/Concordia_CRC_Equity_Target_Setting_TOL_JUNE_2021_PUBLIC.xls

Filling CRC allocations 2023-2028

A current list of CRC allocations, including vacant positions, may be found at: https://www.concordia.ca/content/dam/research/docs/CRC/Concordia_CRC_Utilization_Table_2022-12-01.pdf

New CRCs will be filled using the process outlined below, while also respecting the EDI Action Plan.

Process, Retention and Recruitment

The current Senate-approved [Policy on Research Chairs \(VPRGS-7\)](#) stipulates that allotted CRCs be used to recruit external researchers and that a significant portion of CRC funds be invested in the Chairholder's research program. The process starts with a university-wide call for Letters of Intent (LOIs) where the strategic impact of allocating a CRC to a research area must be demonstrated, including the fit with the SRP and following the recommendations of the EDI Action Plan for CRCs. LOIs are prioritized by Faculty Research Committees (FRC) and then submitted to the University Research Committee, which will take into consideration FRC rankings and justifications to select the strategic areas for allocation of CRCs. The search process is initiated with the home department(s) of the selected LOIs, as per the Concordia University Faculty Association (CUFA) collective agreement. In general, searches are unrestricted with regards to awardees from inside Canada vs outside.

CANADIAN FOUNDATION FOR INNOVATION (CFI) ALLOCATIONS

All CFI applications must be justified considering the SRP. Concordia holds open, university-wide calls for the CFI IF program, and strongly encourages both intra- and inter-institutional collaborations. The CFI-JELF program is managed centrally and used in the first instance to fulfill our commitment that each candidate for a new CRC nomination have an amount available to request infrastructure that will support the CRC research program (Research Chairs Policy VPRGS-7). The second priority is support of other externally-funded institutional research chairs and major projects, and if any additional funds are available they are allotted strategically to help support the research programs of recent faculty hires.

ALLOCATIONS PER STRATEGIC RESEARCH THEME

The following table indicates the distribution of major resources amongst the four strategic research themes at the end of 2023.

Strategic Research Theme	Canada Research Chairs	Concordia University Research Chairs	Other Research Chairs	University Research Units & Infrastructure Platforms
Digital technologies and digital creativity	7	13	8	7
Inclusion and social justice	4	9	5	3
Foundations of human health and healthy living	9	16	5	10
Sustainable and carbon-neutral future	5	21	7	5
TOTAL	25	59	25	25

PLANNING AND APPROVAL PROCESS

The CRC and CFI Strategic Research Plan was developed through an iterative and collaborative planning process under the leadership of the Vice-President, Research and Graduate Studies in consultation with researchers, all Faculties, and Concordia's Senate Research Committee. The Plan was then approved by Senate and endorsed by the President.