

FACULTY OF SCIENCE

2020-2025

STRATEGIC INTEGRATED PLAN



Carleton
University

Faculty of Science



TERRITORIAL ACKNOWLEDGEMENT

We, the people of the Faculty of Science at Carleton University, acknowledge that our campus is located on the traditional, unceded territories of the Algonquin Anishinabeg people. Miigwetch for your hospitality and stewardship of this territory and the teachings that come from it. We are grateful for this land, the air that we breathe, and the water that sustains us all as well as for the animals, plants and other living beings: these enable us to research, teach, mentor, support, study, and learn. We recognize our responsibility to our natural environment and to reconciliation with Indigenous peoples.

OVERVIEW

Following consultation with faculty, staff, students and the Ottawa community, Carleton University presented a Strategic Integrated Plan (SIP) for 2020-2025. Carleton's SIP asks individuals, Departments, Schools, and Faculties to answer the following three questions:

- **HOW CAN WE SHARE KNOWLEDGE AND SHAPE THE FUTURE?**
- **HOW CAN WE STRIVE FOR WELLNESS AND STRIVE FOR SUSTAINABILITY?**
- **HOW CAN WE SERVE OTTAWA AND SERVE THE WORLD?**

This document outlines the Faculty of Science's response, under the framework of the values we rely upon, including the pathways we will follow. It articulates out the highest-level actions we will take to meet the challenges of our time and the opportunities of the future. This document will guide detailed planning within our academic units. The intention of this response is to bridge the gaps between scientific disciplines to ensure we capitalize on the individual strengths.

OUR VALUES



We ensure equity, diversity, and inclusivity are incorporated into and actioned within the Faculty of Science's academic enterprises



We support fundamental research and uphold its critical role in scientific discovery, advancing knowledge and driving innovation

WE BELONG

WE COMMIT

Inspiring people to
disrupt the status
quo and be leaders
of action in our
everchanging world

WE IMPACT

WE INNOVATE



We connect to our community and the world through experiential learning, research, science communication, knowledge mobilization, and entrepreneurship



We build interdisciplinary strengths in life sciences, sustainability, next-generation technologies, and data science



OUR CONTEXT

Science contributes solutions to the world's greatest challenges, such as climate change, sustainability, food security, and global health. Despite this, however, is an undercurrent of public distrust and misinformation that, if left unchecked, could impede scientific progress. The COVID-19 pandemic underscored the need for improved science communication, science-informed policies, and the value of interdisciplinary collaborations.

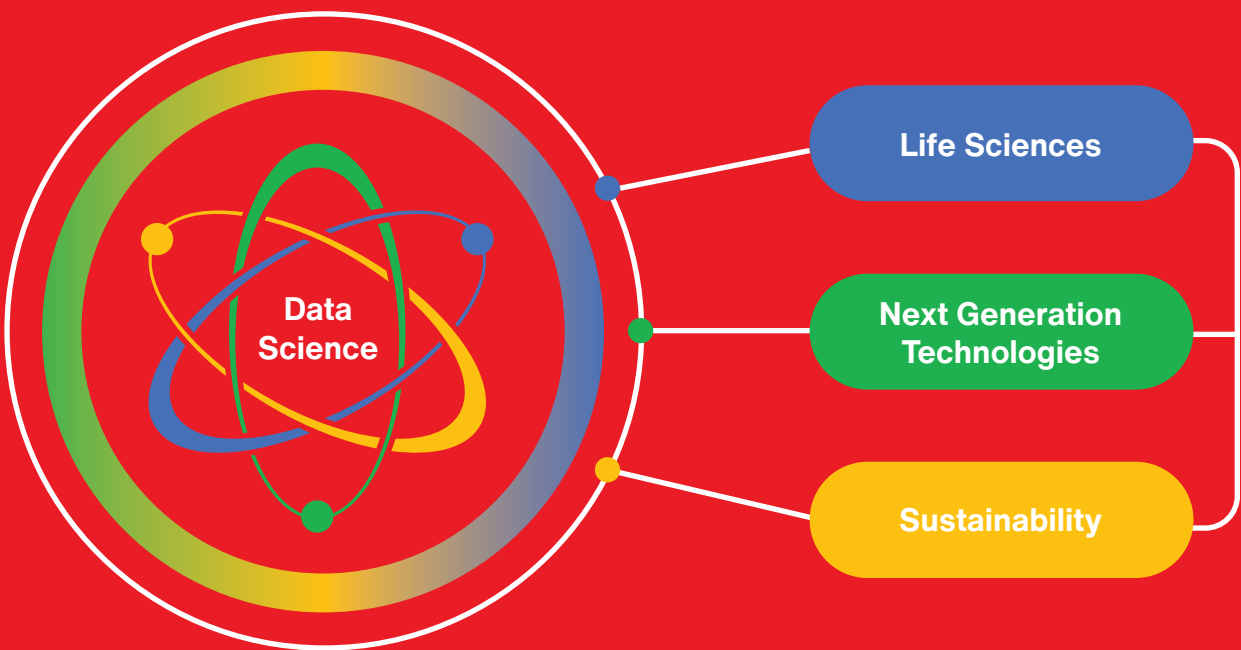
The Faculty of Science is well-placed to respond to this global context. We are home to emerging and established research leaders in fields ranging from subatomic physics to human-computer interaction to ecology and beyond. Carleton's enrolments are bolstered by growth in areas such as health sciences and computer science. The Faculty of Science is committed to supporting the whole student experience from admission to graduation through the Science Student Success Centre. We recognize the value of collaboration and have launched programs such as Interdisciplinary Science and Practice and a specialization in Data Science. New certificate programs in Science Communication and Science and Policy provide students with practical skills and foundational knowledge to ensure success.

We are also committed to fully honouring Kinàmàgawin, Carleton's Indigenous Strategy, by working with Indigenous knowledge holders to learn together, inform each other of salient commonalities and complementarities, and enhance outcomes. We strive to braid Indigenous knowledge with western science and interweave them into our research and teaching enterprises. Our strong foundation enables us to take bold but calculated risks to better position ourselves as a leader within Canada and beyond.

OUR FUTURE

The Faculty of Science's Schools, Departments, and Institutes bring forward unique disciplinary strengths to serve our core academic missions in teaching and research. Fundamental scientific research unites these strengths and expands scientific knowledge which, when applied, can solve key societal challenges. Science is committed to continuing our investment in fundamental science.

It is at the nexus of many of our disciplinary strengths that we see opportunities for substantial growth and impact. Three areas that draw greatly on our current expertise and will benefit from interdisciplinary approaches are: life sciences, sustainability, and next-generation technologies. All have the potential to fold in traditional knowledge and perspectives, allowing us to learn together. At the core of each pillar is our interdisciplinary strength in data science, as the ability to collect, analyze and interpret vast amounts of data generated in every field is essential for scientific growth. The Faculty of Science will invest and grow our strengths in life sciences, sustainability, next-generation technologies to advance our local and global communities, to benefit the next generations, while we simultaneously grow our interdisciplinary approach to data science.





SHARING KNOWLEDGE, SHAPE THE FUTURE

- **To solve critical issues, meet societal needs and leverage the power of our research and teaching, we will:**
 - Identify and work to remove institutional barriers to interdisciplinary research and teaching
 - Strive for interdisciplinary cluster hires in life sciences, sustainability, next generation technologies and data science
 - Develop and promote interdisciplinary programs (including professional programs)
 - Lead impactful Canadian research clusters that leverage our interdisciplinary strengths in the life sciences, sustainability, next generation technologies and data science
- **To showcase our strengths in science communication and science mobilization and to better leverage the venues we already have, we will:**
 - Build a science communication community of practice by: launching a Science Communication Day event and providing cross-faculty training in Science Communication; showcasing initiatives such as our Science Communication courses and Certificate program and our Science Café, Data Day, Life Sciences Day events; highlighting faculty members who bridge the gap between scientific disciplines by communicating and mobilizing Science

SHARING KNOWLEDGE, SHAPE THE FUTURE CONT.

- **To ensure our research programs are more inclusive, we will:**
 - Launch REDI (Research Experience for Equity, Diversity, and Inclusivity) for Science to ensure students who identify as being from traditionally-underrepresented groups gain research experience throughout their program
- **To prepare students for success in an ever-changing future, we will:**
 - Promote and reward evidence-based teaching practices by establishing a STEM-ED fund to support scholarship of teaching and learning
 - Train students to use disruptive technologies productively and ethically
- **To enhance student employability outcomes, we will:**
 - Increase experiential learning opportunities (e.g., research, industry, museums, government, hospitals, NGOs, or community members)
 - Increase the suite of micro-credential offerings so our students can enhance their skill sets prior to graduation





STRIVE FOR WELLNESS, STRIVE FOR SUSTAINABILITY

- **To strive to make our campus, country and world accessible for all, we will:**
 - Hire a CIHR-based CRC with expertise and lived experience in accessibility and/or patient-centered care, and leverage this position to create new strategic partnerships

- **To learn and take action together towards reconciliation, we will:**
 - Hire an Indigenous Science faculty scholar
 - Hire a CIHR-based CRC with expertise and lived experience in Indigenous, racialized, and/or vulnerable populations
 - Develop a plan to address the calls to action of Kinámágawin, including:
 - Developing land-based courses with Indigenous leaders
 - Ensuring undergraduate Science students encounter at least one Collaborative Indigenous Learning Bundle
 - Launching an Indigenous Research in Science (IRIS) program for undergraduate Indigenous students

- **To foster individual distinctiveness and a sense of belonging, we will:**
 - Audit and start to improve the accessibility of our teaching and research labs
 - Double the number of ACT to Employ students hired in the Faculty of Science
 - Create an Associate Dean portfolio focusing on student wellness and success
 - Launch a faculty mentoring program to support wellness, EDI, research, teaching, and administrative success
 - Integrate EDI into research, teaching and mentorship by:
 - Adding EDI into new faculty orientation and ongoing training
 - Incorporating EDI into faculty awards, and promotion, tenure, and confirmation guidelines
 - Building/maintaining an EDI teaching toolkit and research toolkit
 - Prioritize creating a healthy science culture where faculty, staff, grant-funded employees, and trainees feel respected, motivated, and connected

STRIVE FOR WELLNESS, STRIVE FOR SUSTAINABILITY CONT.

- To become a leader in sustainability, we will:
 - Expand our research and teaching in areas aligning with the United Nations Sustainability Goals, including climate change and action, biodiversity solutions, environmental solutions, conservation science, good health and wellbeing, global food security, affordable and clean energy, and systems thinking
 - Commit to a pilot project that facilitates labs in obtaining “My Green Lab Certification” to enhance sustainability





SERVE OTTAWA, SERVE THE WORLD

- **To open our doors to the community, encourage community engagement in research and teaching, and to develop and foster partnerships with purpose, we will:**
 - Dedicate resources for outreach activities to foster partnerships in research and training with government, hospitals, NGO's, industry, embassies, museums, and others
 - Create a Director of External Affairs position to augment our Front Door program, to leverage grant opportunities with external partners in our interdisciplinary and fundamental research areas of life sciences, sustainability, next generation technologies and data science
 - Create training and mentoring opportunities for faculty members to develop skills in engaging in applied research partnerships and best practices for working with external organizations
 - Create a new Professional Programs Officer position to engage partners and units in designing impactful professional programs for training and talent development in the areas of life sciences, sustainability, next generation technologies and data science;
 - Showcase faculty trailblazers using community-engaged pedagogy in their teaching and/or research practices
 - Work with the Science Student Success Centre and the Community Engagement and Outreach Officer to foster interactions between community members, Science alumni and current students through panels and mixers, alumni meet-ups, job shadowing, and networking forums