

# Science for the Future

## Faculty of Science Strategic Plan 2021–2025

Fostering  
discovery.  
Engaging  
community.  
Inspiring  
futures.



science



# Science for the Future

## **Preamble: Contingency mechanism**

This strategic plan represents our forward-looking approach to the next five years (2021–2025). In 2021, there remains considerable uncertainty regarding the global COVID-19 pandemic and the return to in-person learning on university campuses. As the pandemic continues to evolve, it is possible that a further extension to online learning will be required. In this scenario, the Faculty of Science will pivot to a contingency plan focused on remote learning and support for research, strengthening its online teaching and learning capabilities and investing significant resources into e-learning and technology enhancement.

## **Vision**

**Fostering discovery. Engaging community. Inspiring futures.**

## **Mission**

The Faculty of Science is a hub of research and teaching excellence, fostering scientific discovery and tackling global challenges to create positive change in our world. Our students learn from leading scientists and benefit from a contemporary curriculum and hands-on opportunities, enabling their transition to impactful careers. Our researchers collaborate and engage globally and here at home, enhancing our academic excellence, diversity, and our capacity to build a better future for everyone. Our dedicated, service-oriented staff allow our Faculty community to flourish.



# Strategic Priority:

## TEACHING & LEARNING

### GOAL

Provide students with a high-quality education and the knowledge, skills, and credentials they desire to successfully transition into rewarding and impactful careers.

### INITIATIVES

- 1 Deliver high-quality academic programs in high-demand fields that reflect the aspirations of students; meet or exceed University-established enrolment targets for both domestic and international students.
- 2 Identify and target geographic markets for international enrolment growth; create strategic initiatives that promote and position the Faculty of Science as a preferred collaborator and partner on the international stage.
- 3 Develop and promote high-quality, leading-edge curriculum that will differentiate the Faculty of Science, such as:
  - a. In-demand programs that correspond directly to societal needs.
  - b. In-demand micro-credentials, certificate programs, and professional degrees that enhance employability.
  - c. Increased intra- and inter-faculty collaborative programs.
  - d. Optimized online and blended in-person/online courses and programs to diversify learning.
  - e. Advancement of academic programming at the forthcoming Markham campus.
- 4 Excel in teaching through pedagogical excellence and innovation; support and acknowledge faculty members' pedagogical efforts.
  - a. Promote teaching excellence through training, workshops, and engagement with all faculty members, working with the Committee on Teaching and Learning (CoTL) and the Teaching Commons.
  - b. Encourage and promote avenues for constructive and impactful learning evaluations.
- 5 Promote alignment of course learning outcomes, teaching and learning activities, and assessments, to be confirmed in curriculum reviews. Improve communication between Dean's Office and departments regarding the outcomes of curriculum reviews and implementation. Promote and support curricular mapping of programs within each unit.
- 6 Recognize teaching excellence through internal and external award nominations and celebration of these achievements; track nominations and awards at department and Faculty levels.



## Strategic Priority:

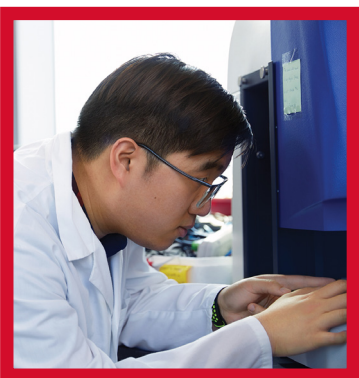
### RESEARCH

#### GOAL

Foster research excellence through recruitment and retention, recognition, and support of world-class faculty and trainees, combined with a targeted focus on existing and emerging areas of research excellence, making the Faculty a hub of cutting-edge research and innovation in both fundamental and applied areas. Promote impactful, research-intensive culture across the Faculty.

#### INITIATIVES

- 1 Identify research strengths and areas of concentration to leverage and grow, such as those that:
  - a. Align with the UN's Sustainable Development Goals and tackle key societal challenges.
  - b. Are global, diverse, and collaborative.
- 2 Substantially increase external research funding compared to 2015–2020 average levels from diversified sources including government, industry, foundations, and philanthropy, in part by supporting strategic/team applications (e.g., CFI, ORF, NFRF-T, CREATE, Genome Canada) and potential commercialization opportunities.
  - a. Encourage formation of Organized Research Units to help support these endeavours.
  - b. Encourage engagement by all faculty in research activities.
- 3 Raise the number, visibility, and impact of research chair appointments with a view to strengthening and building research clusters in the aforementioned areas.
- 4 Promote our research successes to key audiences to reinforce their relevance to our community; track and measure the impacts of these promotional efforts.
  - a. Support researchers' engagement in public outreach efforts to communicate their research to broader audiences, including industry and policymakers.
- 5 Support and centrally track research awards, enabling more faculty across all ranks to receive major internal (e.g., President's Research Excellence Award) and external research awards and honours (e.g., FRSC, NSERC McDonald Fellowships, Sloan Fellowships, CIFAR Global Scholar Awards).
- 6 Expand research connections and partnerships with industry and government – locally, nationally, and internationally.
- 7 Optimize and strengthen our internal research support mechanisms for researchers and students.
  - a. Keep research infrastructure competitive and develop sustainable models for maintenance and support of centralized and shared equipment, including YSciCore (our core facility for microscopy, nuclear magnetic resonance, and mass spectrometry).
  - b. Provide enhanced personalized grant and award development support.





## Strategic Priority:

### STUDENT EXPERIENCE & SUCCESS

#### GOAL

Using a student-focused lens, provide supports that enhance our students' experience in the Faculty of Science and facilitate their success during their time with us and beyond.

#### INITIATIVES

- 1 Consistently measure and improve student satisfaction, performance, and retention using validated tools.
- 2 Improve quality and efficiency of undergraduate advising and support:
  - a. Measure and improve quality, consistency, and response time of advising across departments and the Faculty.
  - b. Improve quality, accessibility, and organization of Faculty of Science online resources and contact channels for current and prospective students.
- 3 Enhance experiential learning opportunities and access to career paths:
  - a. Increase co-op, experiential learning, research, and industry mentorship opportunities; create experiential education experiences available to all science majors.
  - b. Create mechanisms to support faculty interaction and engagement with industry.
  - c. Create a science alumni network for mentorship, networking, and career opportunities for students and recent graduates.
  - d. Expand opportunities for research (e.g., summer research awards) and experiential learning (e.g., Mitacs placements, co-op programs) for students at all levels.
- 4 Establish new undergraduate and graduate scholarships/awards and bursaries for both domestic and international students; increase support to help students identify and apply to available scholarships and bursaries, including external awards.
- 5 Support and work with Faculty of Graduate Studies and other relevant Faculties/ partners to offer professional development opportunities for postdoctoral fellows and graduate students.
- 6 Initiate partnerships and collaborations to leverage the GTA entrepreneurial ecosystem (e.g., MaRS, ventureLAB, other incubators/accelerators) and existing university resources (e.g., YSpace) to help prepare our students for the job market and open opportunities to entrepreneurial career paths.
- 7 Ensure that diversity and accessibility are reflected in curricula and program offerings:
  - a. Create more opportunities for all students to have international exchange and field course experiences.
  - b. Add and improve existing supports to ensure a supportive and equitable educational and cultural environment for all students.
  - c. Improve accessibility and accommodations for students with disabilities.



## Strategic Priority:

### ORGANIZATIONAL EXCELLENCE

#### GOAL

**Make the Faculty of Science an enabling, empowering, and inclusive community that attracts and retains high-quality faculty, staff, researchers, and students. Encourage and promote individual excellence as well as collaboration and teamwork.**

#### INITIATIVES

- 1 Implement the principles of Equity, Diversity and Inclusion (EDI) in every aspect of the Faculty of Science community; increase and improve communication surrounding related goals and initiatives.
- 2 Incorporate accessibility fully into our planning, keeping in mind the requirements under the *Accessibility for Ontarians with Disabilities Act* for all public and private institutions to be fully accessible by 2025.
- 3 Actively support the mental and physical wellbeing of faculty, researchers, staff, and students by supporting, promoting, and increasing awareness around the university's mental and physical health resources.
- 4 Implement Dean's Space Strategy Taskforce Report to strategically manage our Faculty's space needs; upgrade and create spaces for students, teaching, research, and services that are welcoming, collaborative, accessible, and help attract and retain students, faculty, researchers, and staff.
- 5 Support the ongoing professional development of our faculty, researchers, and staff with resources and programming, and communication of available supports.
- 6 Promote a culture of community, collaboration, and celebration of our successes within the Faculty:
  - a. Provide more opportunities for faculty, researchers, staff, and students to give input and feedback for improvement to all aspects of our Faculty.
  - b. Support and facilitate Faculty-wide events/programs that promote intellectual and social interactions across disciplines and departments, and between students, faculty, staff, and researchers.
  - c. Solicit, support, and track nominations for awards and honours for faculty, staff, researchers, students, and alumni to celebrate their contributions to our success.
- 7 Enhance transparency and communication surrounding Faculty governance, operation, and key metrics to encourage and support strategic decision-making by all members of the Faculty.



# Strategic Priority:

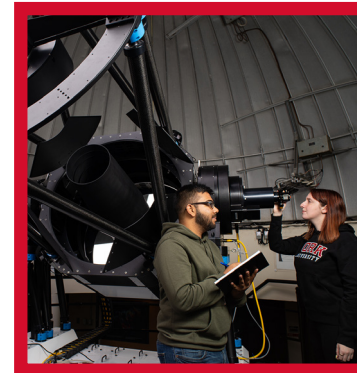
## REPUTATION, ENGAGEMENT & OUTREACH

### GOAL

Promote the Faculty of Science effectively to key audiences both within and outside of York University. Offer innovative outreach programs that raise the profile, reputation, and impact of the Faculty of Science.

### INITIATIVES

- 1** Develop a strategic and comprehensive communications plan targeted to Faculty of Science constituencies and stakeholders, including: Prospective and current students; decision makers (parents/guardians); faculty and staff; alumni and recent grads; industry; government/funders; prospective and current donors, and internal/external media.
- 2** Raise the profile of the Faculty by promoting its research, teaching, student, and alumni successes both internally within the university and externally to media and the public. Offer supports to enable this, including:
  - a. Communications, social media, and marketing resources and best practices for faculty, researchers, and staff.
  - b. Raising awareness of and encouraging participation in communications/media training offered by central communications.
- 3** Continue to serve and engage the wider community through innovative outreach programs including:
  - a. Continuation and expansion of programs for children/youth, high school students, teachers, and the general public.
  - b. Identification of and outreach to underrepresented communities.
  - c. Opportunities for the general public to directly engage with Faculty of Science research and faculty members.
  - d. International engagement and outreach programs in identified target markets.
- 4** Foster alumni connectivity and new alumni engagement opportunities to expand our reach and profile.
- 5** Work with York University's Advancement team to increase efforts and outcomes of philanthropic activities.







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