

# Faculty of Science

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Dean's Strategic Space Planning Task Force

**Final White Paper**

December 11, 2020

## **Science Space Landscape**

The Faculty of Science assigned space is spread out across several buildings which are shared with other Faculties at York University. These buildings include:

- Lumbers (shared with Health; Environmental and Urban Change)
- Farquharson (shared with Health, and Lassonde)
- Chemistry Building (shared with Health; Lassonde; Athletics& Recreation)
- Petrie (shared with Lassonde)
- Life Sciences Building (shared with Health and Lassonde)
- Ross Building (Math/Stats occupies 5th and 6th floors)
- Dahdaleh Building (Math/Stats occupies a few offices only)
- Bethune College (shared with Lassonde; Health; LA&PS; Division of Students)
- Kinsmen Building (Math/Stats research team occupies part of the 2nd floor)
- Farquharson building (Greenhouse)

Upon starting his deanship in the Faculty of Science on January 1, 2020, Dean Rui Wang held consultations and discussions with staff and faculty members. He heard many concerns regarding space and space planning challenges within the Faculty of Science. In general, most concerns raised were about the lack of enough or adequate student, teaching, research and office space. Although some departments had specific challenges of their own, most challenges fit under these categories. The perception of a space shortage in these key areas was having an impact on student enrolment growth (especially in Biology), faculty complement hiring, staff hiring and student advising services (lack of privacy and crisis counseling). The Faculty of Science is experiencing a year-over-year growth in student enrolment, especially within the department of biology and space constraints were impacting our ability to accommodate students in biology courses. Faculty complement renewal and hiring were also being impacted due to difficulty in finding research lab space, office space and graduate student space for new faculty hires. Growth in research intensity and graduate student training also require more new and renovated research laboratories. Enrolment growth also requires some new staff positions to support students, teaching, research and administrative activity within departments, but office space is difficult to find for new staff and hiring is on hold or deferred until space is secured. Science Academic Services is located in a small, open area outside the Office of the Dean on the 3rd floor of the Lumbers Building. Personal discussions between a student and advisor are not private due to the open nature of the small service counter and there are only 4 seats available for students to wait their turn to speak with an advisor. Our buildings also lack adequate space for students to wait for their laboratory/class or to do collaborative work with fellow students.

In response to these concerns and challenges, Dean Rui Wang struck a task force (Dean's Science Strategic Space Task Force) to investigate the space issues, prioritize the needs and make recommendations to the Dean on short-term, mid-term and long-term space priorities. There is recognition and agreement that space planning needs to be an open and transparent process.

### **Important Note on the Impact of COVID-19:**

It should be noted that the Dean's Science Strategic Space Planning Task Force was established in early February 2020 and the work done by the Task Force members was completed between February and early June 2020, prior to and during the COVID-19 pandemic and closure of York University. We acknowledge that this may have a significant impact on future space requirements, configuration and usage of space. The implementation of innovative online teaching initiatives and remote delivery of

academic programs presents both challenges and opportunities for the space needs of our Faculty. The space strategy of the Faculty of Science would need to be adjusted and reviewed in response to post-COVID-19 new “normal”.

The task force membership is comprised of:

- Rui Wang (Dean) - Chair
- Helen McLellan (Executive Officer) - Vice-Chair
- Gerald Audette (Associate Dean, Faculty Affairs)
- Mike Scheid (Associate Dean, Student Affairs)
- Jennifer Steeves (Associate Dean, Research and Graduate Education)
- Almira Mun (Assistant Dean, Strategic Enrolment Management and Science Engagement Programs)
- Paul Szeptycki (Chair, Department of Mathematics and Statistics and now replaced by Stephen Watson)
- Robert Tsushima (Chair, Department of Biology)
- Brad Sheeller (Director, Safety and Business Operations)
- Jonathan Cevallos (Facilities Manager)
- Maksym Stolyarevsky (Associate Director, Advancement)
- Maria Mazzurco (Senior Laboratory Technician, Biology)
- Granit Studenica (Graduate Student, MSc Chemistry)
- Tanya Rajwani (Undergraduate Student, Honours BSc Biology)
- Alexander Pouliot (Graduate student, Physics and Astronomy)

The summary of space concerns brought forward by the task force members included the following (in no particular order):

- Shortage of student learning and interaction space (for social interaction as well as space to study individually and in teams)
- Shortage of office space for new approved staff hires & optimizing current staff office space
- Shortage of suitable wet lab space for faculty hires in the life sciences
- Shared research facility space overcrowding, potentially making the areas unsafe
- Science advising space for students lacks privacy and adequate waiting space - poor student experience
- Enrolment growth (especially in biology and also in chemistry) is constrained by the availability of the current teaching laboratories
- Misalignment of research lab space with active grant funding compared to the space being occupied
- Underutilization of graduate student office space where 1-2 students occupy a large office
- Shortage of office space for Postdoctoral Fellows (PDFs)
- Undesirable/poorly equipped seminar/colloquium rooms in some departments

## **Principles and Guidelines for Space Strategy**

The Task Force took the approach of putting our students first and applying this principle to our review of space planning for the Faculty of Science.

The Task Force used and reviewed the space allocation for the Faculty of Science from the York University Space Database (last updated October 2019) to research and confirm our existing space for students, teaching, research and office spaces.

The task force recognizes the value, scarcity and need to effectively utilize our allocated space to achieve the Faculty of Science's strategic objectives in teaching, learning and research.

## **Priorities Determined by Task Force Members**

After receiving feedback from students, staff and faculty by task force members, further exploration and discussion resulted in the following seven identified priority areas.

### **Student Study Spaces**

- Increase amount and number of student study space
- Important factors: Wi-Fi, multiple desks, windows to the outside

### **Science Academic Services Student Experience**

- Establish a better location for advising services
- Improve privacy for students seeking advising assistance
- Increase the service level of the student experience, while decreasing wait times

### **Classroom Space**

- More larger lecture rooms
- Improve the type of lecture rooms available (i.e., smart classrooms) for delivery of hybrid courses

### **Teaching Labs**

- Increase the space available for teaching labs
- Determine ways to more efficiently use teaching lab spaces

### **Research Labs**

- Increase the square footage allocated to research labs
- Determine ways to more efficiently use and allocate research lab space

### **Office Space**

- Determine ways to more efficiently use and allocate graduate student and postdoctoral fellow office spaces
- Increase the square footage allocated to faculty and staff offices

### **House departments under 'one roof'**

- Find sufficient and suitable space for departments currently spread out amongst many different buildings (predominantly Math/Stats, but also NATS and Chemistry)

## **Assumptions and Strategy**

### **Short-Term Strategy (1 year)**

#### **Teaching Labs**

In order to meet the growing demands for teaching labs in the short-term, the teaching stream administration should be consulted to analyze their labs spaces:

1. Seek efficiencies in the given square footage and maximize number of students per lab section. Student limits in teaching labs should be determined by possible restrictions from the CUPE collective agreement, equipment availability, room occupancy limits and pedagogical success. E.g., Biology labs made slight alterations to a lab room and were able to fit 4 additional students per lab section; Physics is adding 3 more benches and will be able to accommodate 12 additional students per section.
2. Maximize the number of labs that run in a single day.
3. Use a single lab room to run 2 smaller courses. For labs that run weekly, this would require scheduling one course earlier in the week and the second course later in the week, leaving time for changeovers. For labs that run alternate weeks, course directors would have to coordinate in order to ensure two sharing courses are scheduled for alternate weeks.
4. Work closely with other departments to look at possibilities of sharing lab space. e.g. Biology and NATS have shared labs in Lumbers; NATS and Faculty of Health share labs in Farquharson.
5. Departments should limit the number of sections offered during the registration process. Sections should open as there is more need for them. This would limit the number of sections with fewer than the maximum number of students.
6. Consider running lab courses on evenings and weekends (if all sections are already full). With all measures to increase the efficiency and frequency of teaching lab utilization, consider hiring more staff for teaching labs

#### **Research Labs**

The Task Force recognized that research space is mostly well occupied in the Faculty of Science. Without a new building on the horizon nor new available space in the short term, the Faculty must consider ways to address these challenges. It is recommended that the Dean establish a working group composed largely of research faculty members to:

1. Assess and develop metrics for how research space is assigned.
2. Develop specific policies on the assignment of research space to retired faculty members and faculty members who are on long-term leave without pay.
3. Develop parameters on how and when research space gets re-assigned.

4. Provide guidance on whether those decisions are made at the Faculty or departmental level.

### **Office Space**

While staying aligned with the respective collective agreements for the different labour groups:

1. Continue to create and develop consolidated, flexible workspaces for Emeritus Faculty and CUPE
- 2.
2. Aim to provide all graduate students and post-doctoral fellows with desk space.
3. Examine current use of office space to further optimize efficient use of office spaces. Develop specific policies on the assignment of office space.
4. Assess whether staff whose primary work takes place outside of the office and who do not hold sensitive information, could share office spaces.

### **Student Academic Services and Student Experience**

Literature on student mental health and wellness has highlighted the benefits of creating comfortable and familiar spaces and relationships for students. The Task Force recommends exploring the idea of creating spaces that are more conducive to the student's experience.

1. Help alleviate student stress levels and have them feel comfortable in seeking advice and help. A more comfortable space for students that is in close proximity to the Science Academic Services area would allow students to become familiar with staff and the services available to them.
2. Explore areas most traveled by our students and look at spaces across campus. One space that has potential is the Life Science Building, since it is a high traffic area with lots of students and may have enough space to allow renovations to support this goal.

The usage of space in Bethune College has evolved over many years and space is currently inhabited by several different Faculties (Science, Lassonde, Health, and LA&PS) and Student Clubs occupy a significant amount of space but it is not clear which rooms belong to which clubs and who is designated as the space "owner" (besides York University). The challenge is that the other potential space is not within the Faculty of Science's control and several Faculties/Divisions control the space. The Faculty of Science currently has a footprint in Bethune College for the following areas/departments:

- Rooms 102B-G - these are the physics labs (converted part of the Bethune dining hall which was underutilized)
- The Bethune Head's suite of offices is located in 203-210 (with the exception of 204 and 206) & 224
- NATS/STS occupies suite 217 & 218 as well as 227, 227A, 226, 226A
- The Paul Delaney Gallery (320) is located on the 3rd floor and is designated as part of the Bethune Head's space
- Some office spaces (about 6 for NATS/STS) on the 3rd floor and are interspersed amongst offices occupied by LA&PS faculty members.

Investigate the possibility of moving Science Academic Services to another more suitable space that would make Science Academic Services more accessible to students (e.g., LSB; Petrie; Bethune College; Steacie; etc.).

The Task Force recommends a review of student club spaces in the Faculty of Science by consulting with VP students to ensure that space is being allocated to student clubs who are actively using the space to provide meaningful improvement to the student experience in the faculty of science.

### **Student Non-Academic Spaces**

In order to enhance our student experiences, we should focus on renovating the current assigned student spaces and seek new locations.

While renovating existing student spaces; we should consider that the space be inviting and functional for students; while benefiting their learning. These spaces should provide adequate lighting, strong internet connection, acceptable seating options, writable surfaces, and durable furnishings.

A team should be put together to seek high-traffic areas in the Faculty and/or locations with potential to become new non-academic spaces for all future students.

### **Mid-Term Strategy (5 year)**

#### **Classroom Space**

The Task Force recognized that this item is not wholly in the control of the Faculty of Science and would require collaboration with Facilities Services and the Provost's Office.

1. Lobby for larger classrooms, specifically 500+ seat lecture halls. We need one additional hall in this size in the next 5 years. In addition to or in lieu of large classrooms, consider additional classrooms that stream video at the same time to manage overflow. We need to benefit from our online experience gained during the COVID-19 pandemic.
2. Address the condition of some classrooms. The university is currently going through a classroom refresh program, so the Faculty of Science should follow up on what is taking place with that program.
3. Increase the number of smart classrooms to improve student success experience.
4. Develop a list of classrooms that might benefit from the upgrade/renovation and create a development strategy that would involve donor naming opportunities for this spaces, and the targeted donation amounts needed for each of the classroom.

#### **Repurpose and Relocation of Existing Space**

The Task Force recognized that many of the following suggestions would require negotiations with other Faculties that may be having the same issues and may result in some of the following being long term solutions.

1. Ask that the University Space Planning Committee be re-instated and continue negotiating with Faculties of Health and Engineering.
2. Examine ways to bring the Department of Mathematics and Statistics under one 'roof'.
3. Investigate the possibility of moving SAS and the Dean's Office out of the 3rd floor of Lumbers. The space created on the 3rd floor of Lumbers could be used to build up new multi-purpose teaching labs and research wet lab space since the building is already set up with relevant infrastructure. This is complicated by occupation by Faculty of Health teaching labs that might be better suited elsewhere, like the first floor of Farquharson, but that would require further negotiations with other Faculties.
4. Consider using space off campus through joint partnerships and research collaboration. In addition to alleviating space needs, there must be other advantages that improve student experience or research excellence.
5. Consider establishing a separate development strategy for every room that would be repurposed or relocated (hence needing additional investment in infrastructure) including but not limited space naming/branding opportunities for philanthropists and corporate partners.

### **Long-Term Strategy (10 year)**

In order to meet long-term growth needs, any strategy involving building new infrastructure, will require the fostering of strong relationships with donors and/or lobbying university and government officials.

Some possible infrastructure builds include:

1. Examine the idea of build up on top of Steacie. It was previously confirmed that 2-3 more stories could be supported on top; however, Steacie has been designated as a Heritage Building, but are there possible exemptions that may allow for adding floors.
2. Investigate the possibility of expanding upon the current greenhouse infrastructure. If the foundation could support the structure, it might be possible to put a lecture hall on the 1st floor, teaching labs on the 2nd floor, research labs on the 3rd floor, and a new greenhouse on the 4th floor.
3. Renovate the 9th and 10th floors of the 'Markham campus' to include more Science labs. Financing this endeavor may require a mortgage model.
4. Participate in the design of a new Science/Engineering building.
5. Secure donor funding for naming opportunities (this requires architecturally interesting spaces with appealing interior design and elements of uniqueness).
6. Secure donor funding for the long-term infrastructure strategy of the department, create donor-centric stewardship opportunities for supporting philanthropists and corporate partners, including internal and external communication vehicles, branding and promotion and naming opportunities.

### **Next Steps**

The Task Force recommends the following actions:

1. Consulting with Faculty Council and each Department in our Faculty, staff, and student groups for feedback on this White Paper and soliciting department-specific space challenges.



2. Initiate discussions with teaching stream administration to maximize usage of teaching labs across all departments.
3. Assemble various working groups to address priority areas and develop plans and recommendations.
4. Assemble a working group to assess the assignment and deployment of research space and develop policies on the allocation of research space.
5. Approach each department on ways to consolidate office spaces.
6. Gather information on places to relocate SAS and expand accompanying space to improve the student experience.
7. Consult VP Students and review Student Club space assignments.
8. Lobby and liaise with Facilities Services and the Provost Office to improve and expand classrooms.
9. Initiate negotiations with other Faculties and solicit the re-instatement of a campus-wide Space Planning Committee.
10. Develop 'shovel ready' plans for potential new builds.
11. Conduct department specific space audits jointly between the Dean's Office and the involved Department Space Committees.