7. Resource Allocation

The quality of our education and research is evident in our innovation and impact. However, in order to achieve the goals of our Academic Plan, we also require adequate resources in the form of funding, space, infrastructure, and personnel. These resources, when utilized creatively and strategically, enable us in our pursuit of excellence.

Over the past four years, the Faculty has been operating under a budget model that was designed to increase transparency, share revenues, and incentivize departments and institutes to take ownership in the way they manage their funds, while continuing to meet their academic priorities and contain costs. This past year, we established a task force to review impacts of the budget model over the first three years of implementation, with a view to determine what (if any) adjustments were necessary. A set of recommendations was presented to, and accepted by, Chairs and Directors. The vast majority of changes were minor in nature, and others served to formalize practices in certain areas. Overall, the budget model is proving to be extremely beneficial and we will continue to review and refine the mechanism, as necessary.

We maintained our strong financial position in 2013-14 with total revenue growing by 7.9 per cent over last year. Revenues increased most significantly from rising philanthropic donations and international enrolments, both graduate and undergraduate. This revenue growth, combined with a prudent operating budget and careful fiscal management, has enabled us to rebuild reserves, upgrade much-needed infrastructure, and invest in the Dean’s Strategic Fund to seed a range of new initiatives across the Faculty.

Now in its fourth year, the Dean’s Strategic Fund has committed over $14-million to projects designed to further the goals identified in our Academic Plan, such as enhancing the student experience and fostering multidisciplinary collaboration. Several exciting initiatives were recently approved including the Initiative for Global Urban Shelter (IGUS) from CGEN and the Department of Civil Engineering, the creation of a Centre for Social Services Engineering through the Department of Mechanical and Industrial Engineering, and the development of a University of Toronto Engineering Distinguished Visiting Scholar program.

In 2013, a portion of the Dean’s Strategic Fund was allocated to the Engineering Instructional Innovation Program (EIIP) to assist development of innovative teaching approaches for larger undergraduate courses that have broad impact across the curriculum. Funding for eight projects has been committed for development, to date. This year the EIIP will fund three projects that focus on: (i) curriculum renovation of a core second year ECE course, (ii) improving students’ abilities to make informed and meaningful decisions when ethical situations arise, and (iii) creating resources to support instruction of team effectiveness in non-traditional classroom settings.
We have made tremendous progress this past year in realizing our vision for the Centre for Engineering Innovation & Entrepreneurship (CEIE). This new building will be a vibrant hub bringing together faculty, students, alumni, and industry partners to further our goals of cross-disciplinary collaboration and entrepreneurship. It will be the future home to several of our new and established research and education centres, including the Centre for Global Engineering (CGEN), Institute for Sustainable Energy (ISE), Toronto Institute of Advanced Manufacturing (TIAM), Institute for Leadership Education in Engineering (ILead), and the University of Toronto Institute for Multidisciplinary Design & Innovation (UT-IMDI). Our researchers will be clustered in “nerve centres” that foster open collaboration and idea generation. Our students will benefit from access to the dedicated club space that will be assigned in the CEIE, and will thrive in the hands on collaborative learning spaces in our Technology Enhanced Active Learning (TEAL) classrooms, design meeting rooms, interactive auditorium, as well as light fabrication and prototyping facilities. The establishment of the Entrepreneurship Hatchery within the CEIE will help students learn how to turn their ideas into viable start-ups, will greatly support student development and will strengthen mentorship links between students and alumni. We anticipate that the finest global engineering leaders and entrepreneurs of the future will have their start at the CEIE.

The Faculty received approval for the CEIE from all levels of University governance, culminating in Governing Council’s assent in February 2014. However, the project timeline has been set back slightly, as the City of Toronto has advised that the project plan must undergo a rezoning process. We are now optimistically awaiting approval to proceed, which is expected in late February 2015. In the interim, we are proceeding with the detailed design phase and preparing the call for tender. We anticipate holding a celebratory ground breaking in the late spring, and look forward to progressing to the next phase of this transformative project.

The CEIE is a key component of our future plans to alleviate some of our critical space issues. However, it is a longer term solution and does not address our current, equally pressing needs. Our most immediate path to bring some relief to the challenges we share in space shortages and aging facilities is to carry forward with our creative and strategic approaches to space allocation and renovations. This past year several facilities were renovated and revitalized, including the laser/combustion lab at UTIAS, Phase IV of BioZone, the IBBME Undergraduate Teaching Laboratory, and the MIE Computer Lab. Earlier this year we were informed that our student clubs located in 245 College Street would need to vacate to make way for redevelopment of the site for a future student residence. The majority of the clubs were relocated to 256 McCaul Street in May, and we are now looking at options to bridge club accommodations to the opening of the CEIE.

We completed our second space audit to assess our current systems and maximize our use of space. This included a phased implementation of a shared meeting space, and we are currently evaluating its effectiveness and ongoing utilization. We have now progressed to the third phase of the space audit by establishing a committee to conduct an audit of our undergraduate teaching labs.
While our Faculty continues to be effective in managing space and budgets, philanthropy remains vital to realizing our ambitious plans. We are greatly encouraged by the nearly $22-million in major gifts we raised in 2013-14. Approximately half of this record-setting sum is dedicated to the CEIE.

The impact of these donations is immense. The CEIE will be a physical reminder of the generosity and support of our community, while the significant balance of donations that have been dedicated toward student scholarships will enable many more of our bright and talented future engineers to study free from financial burden. Graduate students will receive funding and support to commercialize their inventions, and facilities will be created that will house state of the art equipment and enable the creation and transfer of knowledge. The generosity of our donors over this past year allows us to continue on our path toward further excellence in research and education.

Infrastructure, well balanced budgets, and revenue generation are essential to proper resource allocation. However, without our talented faculty and staff, nothing would be possible. In order to meet the evolving needs of our growing Faculty, we created a Human Resources office dedicated to Engineering. The office was fully staffed as of fall 2013 and the new team has been meeting with chairs, directors, business officers and managers to assess both the current and future needs of U of T Engineering. As we move forward, we will continue to address the Faculty’s professional development and succession planning needs, which is crucial to ensuring top tier support for achieving our mission.

7. RESOURCE ALLOCATION: YEAR 3 PROGRESS HIGHLIGHTS

7.1 Maximize quality academic time and effectiveness by increasing engagement in high value activities that support students’ academic experience, contribute to knowledge creation, and advance engineering research frontiers.

- Created senior level administrative support positions to further the mandates of BioZone, UT-IMDI, and the Centre for Water Innovation which has a new focus on sustainable water management for water resource industries
- Marked progress on our long term goal of a 60:40 undergraduate-to-graduate student ratio (currently 72:28), with the aim of optimizing academic time and classroom resources
- Regularly review departmental work load policies

7.2 Place emphasis on Engineering’s strategic research areas when considering faculty hires.

- Strategically hired 3 new interdisciplinary faculty members, each cross-appointed in two departments

7.3 Provide a supportive environment for faculty members through mechanisms such as start-up funding, teaching skills workshops, and assistance via Associate Chairs,
Research to create successful research proposals.

- Offered lunch time panel series *Best Practices in Research* on topics such as impactful research and the Early Research Award
- Established a peer review or mentorship program in each department to support and guide faculty members in the development of their NSERC Discovery Grants (DGs), Discovery Accelerator Supplements (DAS), and Research Tools and Instruments (RTI) grant applications
- Created workshops, through the Teaching Methods & Resources Committee, on developing learning outcomes
- Relocated and upgraded facilities for the Instructional Technology group to better enable instructors in their design of digital learning objects

7.4 Improve our chances of being awarded funding for capital projects by pre-planning for various opportunities consistent with our goals and suitable for external funding sources such as CFI, Ontario Ministry of Training, Colleges and Universities (MTCU) and other capital grants. Increase the quality and quantity of space particularly through fundraising for new and revitalized buildings.

- Attracted 17 CFI grants that were matched by ORF for a total of over $3.4-million
- Provided support services in aid of 7 new CFI/ORF grant applications which included infrastructure upgrades
- Raised over $10-million in support of the CEIE building

7.5 Enhance teaching and design facilities, upgrade undergraduate laboratory space, and make flexible space available for extra-curricular activities.

- Received a $2-million donation from Bill (ChemE 6T7) and Kathleen Troost in support of the Unit Ops Lab and undergraduate scholarships
- Consolidated student clubs’ space at 256 McCaul Street and 701 Spadina Avenue, including all music clubs, establishing a new multi-purpose room for events and rehearsals
- Currently testing new, flexible furniture in Bahen Centre tutorial rooms in aid of design courses
- Through matching from the Dean’s Strategic Fund, upgraded the facilities and equipment in the IBBME Undergraduate Teaching Lab
- Upgraded A/V and wireless capabilities in MC 102
- Provided new, mobile flat screens for use in shared meeting rooms
- Renovated SF3201 into a TEAL room to gain experience prior to designing TEAL spaces in the CEIE

7.6 Provide reliable, accessible, effective computing services; create study spaces within and outside computer laboratories, library and classrooms so as to enhance interactive learning and socialization where today’s student ‘lives’.

- Added 88 student study spaces to the Bahen Centre inventory of hallway seating
• Developed plan for a new 64 seat capacity computer lab in the CEIE building, along with significant informal student study seating in common areas throughout the building
• Initiated a plan to install digital scheduling displays outside all ECF computer labs to provide students with scheduling information for all of the computer labs, identifying opportunities for drop-in use
• Upgraded half (200) of the ECF lab PCs and all (400) of the monitors to high quality 24” LCDs
• Established a new MIE computer lab in the Lassonde Mining Building
• Approved funding for 5 Dean’s Strategic Fund proposals to improve design, club, and meeting spaces throughout the Faculty

7.7 Encourage timely degree completion among doctoral stream students; increase research funding and graduate fellowships to support graduate students.

• Decreased the time to completion slightly to 5.2 years (down from 5.3 last year)
• Piloted software tracking system for PhD completion in our ECE department
• Began development of detailed data on time-to-completion, fast tracking and scholarship success rates with the goal of using the data to identify and share best practices, as well as identify problems to be addressed
• Total graduate funding grew by 9.1% in 2012-13; graduate students received nearly $1-million more in total scholarships during this year

7.8 Establish a strong Case for Support that addresses the Faculty’s resource requirements and aligns the Faculty’s critical need for improved space in the context of addressing educational and research priorities.

• Received record support with over $10-million in donations towards the CEIE building, the cornerstone of our Engineering Campaign
• Nearly half of all funds raised in 2013-14 were designated to research, student experience and programs, and student scholarships and awards

7.9 Increase long-term philanthropic support by strengthening the culture of advancement within the Faculty.

• Established the Young Alumni Board, comprised of recent graduates who are recognized leaders in their fields and philanthropic supporters of the Faculty, to engage and involve younger alumni in fundraising and community-building initiatives
• Supported successful fundraising campaigns in Asia-Pacific for nationality named spaces in the CEIE
• Launched our first Faculty and Staff Campaign Enhanced the Faculty’s philanthropic endeavours and outreach to corporate partnerships through the activities of our directors of corporate partnerships