2. Culture of Excellence

It is our pursuit of excellence that drives us each day to achieve, impact, and innovate. It is the goal of U of T Engineering to lead among the very best schools in the world. We measure our progress toward this goal in a number of ways.

Awards and Honours

Our Faculty continues to be the leader among Canadian peers in awards and honours, while making steady progress in increasing our nominations of junior faculty for early career awards. In 2013-14, we garnered 21.3 per cent of all major awards received by Canadian Engineering Faculties with only 5.9 per cent of the overall faculty members in Canada. Our early career professors and alumni also won a remarkable number of major emerging leader awards including:

- The McLean Award
- The Engineers Canada Young Engineer Achievement Award
- The Professional Engineers Ontario Young Engineers Medal
- and one Steacie Fellowship

In addition, our professors received more than 20 major awards and fellowships from national and international professional societies, including six Canadian Academy of Engineering Fellows, three Engineering Institute of Canada Fellows, the PEO gold medal, and the Engineers Canada gold medal. One of Canada’s most prestigious scholarly awards, the Killam Prize, was also awarded in recognition of outstanding career achievement for work in new laser applications. In 2014, the University of Toronto also honoured our Faculty with three Inventor of the Year awards, the U of T Faculty Award, a Distinguished Professorship, and a University Professorship.

U of T Engineering is also exceedingly proud of the awards received in recognition of our outstanding educational achievements, such as the Alan Blizzard Award for an exemplary collaborative educational endeavour (presented by the Society for Teaching and Learning in Higher Education), and the Sharon Keillor Award for Women in Engineering Education and Donald E. Marlowe Award for Distinguished Education Administration, both from the American Society for Engineering Education.

Alumni Achievements

This pursuit of excellence inspires our students long after they graduate. One only has to glance through recent headlines to see the tremendous achievements of our alumni. Whether it be the first-ever sustained flight of a human-powered helicopter (AeroVelo), the world’s most efficient light bulb (Nanoleaf), or biometric authentication solution (Bionym – which recently raised $14-million in venture capital funds), U of T
Engineering continues to have a profound impact on the world through our talented and entrepreneurial graduates.

**Diversity in Faculty and Student Recruitment**

Our reputation for excellence is a key driver in attracting world-class students and faculty. Our objectives to grow opportunities for interdisciplinary and collaborative research were recently bolstered with the recruitment of three excellent female professors, each of whom is cross appointed to two departments. The proportion of international and female students relative to our total enrollment numbers continue to grow. More than 35 per cent of the first year class is comprised of international students, and 30 per cent of the total first year class is female.

The strategic efforts to recruit women to careers in Engineering begins at an early age through the Faculty’s pre-university outreach efforts. We created and deliver a number of programs targeted at girls from school age through high school to interest them in Science, Technology, Engineering and Math (STEM). Our recruitment office continues these efforts through special initiatives. For the third year in a row we have hosted GLEE (Girls’ Leadership in Engineering Experience), which empowers and inspires female engineering applicants – most of whom later accept their admission to U of T – by connecting them with women faculty, students and alumni. New this year was a March Break Open House event specifically targeted to the recruitment of female students.

**Curriculum Innovation**

We recognize that we cannot rest on our laurels as the top ranked engineering school in Canada and among the very best in the world. We must always lead, assess, and improve. To that end, we appointed a task force to review our first year curriculum, which had last been reviewed a decade before. The task force not only met with constituents to gather input at Faculty Council, town halls, and departmental meetings, but also looked at peer institutions and relevant literature. Feedback was synthesized into a number of recommendations that were discussed with Chairs and Directors in May 2014. Implementation will continue through 2014-15 and focus on areas such as improved first year teaching and course delivery, in-depth mathematics and science curriculum reviews, integration between courses, and transition to the University learning experience.

Additionally, we continue to measure our progress within departments through cyclical external reviews. This past year the Department of Materials Science & Engineering, the Edward S. Rogers Sr. Department of Electrical and Computer Engineering, the Department of Mechanical & Industrial Engineering, and the Engineering Communication Program (ECP) underwent reviews. These resulted in reflective self-studies, thoughtful recommendations and praise for the excellent quality of our educational programs, research, faculty and students. In tandem with these reviews, we conducted Chair searches in these departments and a Director search for the ECP. All
three department Chairs were reappointed for five-year terms and a new Director was appointed to the ECP as of July 1, 2014.

2. CULTURE OF EXCELLENCE: YEAR 3 PROGRESS HIGHLIGHTS

2.1 Maintain a strong Faculty vision for excellence in engineering education and research.

- Maintained our position as the premier Canadian engineering institution in all international rankings
- Garnered 21.3 per cent of all major awards received by Canadian engineering Faculties with only 5.9 per cent of overall faculty members in Canada

2.2 Measure our progress in achieving our mission and vision.

- Assessed our progress through key metrics and published our 6th Annual Report of Performance Indicators
- Reviewed our actions towards achieving our Academic Plan goals and published our Year 3 Progress Report

2.3 Increase diversity, focusing on gender diversity among students and faculty.

- Attracted 4 new faculty members, 3 of which are women, in 2013-14
- Percentage of women academic staff rose slightly to 16.9 in 2013-14
- Achieved an impressive gender mix among undergraduate students: first year female students now comprise approximately one-third of the class; overall, one quarter of the undergraduate student body is female; similarly, international students also make up one-third of the first year class and one quarter of the undergraduate student body as a whole
- Increased the profile of female faculty members and students through nominations for awards and honours

2.4 Support the development of faculty members as outstanding engineering educators and researchers.

- Established a peer review or mentorship program in each department to support and guide faculty members in the development of their NSERC Discovery Grant (DG), Discovery Accelerator Supplements (DAS), and Research Tools and Instruments (RTI) grant applications
- Won a remarkable number of major emerging leader awards by early career professors and alumni, including the McLean Award, Engineers Canada Young
2.5 Support our students by strategic efforts to build upon educational, extracurricular and co-curricular experiences.

- Experienced a 5% increase in participation in summer research abroad
- Participated for the second year in the Globex program with Peking University; 5 MIE students took part in an intensive four-week summer program in 2014
- Reached a historic high of 723 engineering students placed by PEY in 2014
- Established an undergraduate Certificate in Engineering Leadership
- Launched a graduate collaborative program (MASc and PhD) in Engineering Education in partnership with OISE

2.6 Maximize the skills of our staff members and create opportunities to strengthen their performance and develop them as integral contributors to the Faculty’s mission.

- Recognized the successes and contributions of staff through Faculty awards
- Through the newly established Human Resources office, engaged in discussions with business officers and Chairs and Directors to assess needs and priorities in this area
- Encouraged secondments throughout the Faculty, as appropriate, to enable development of new skills

2.7 Increase staff retention and enhance succession planning within the Faculty.

- Established a working group of business officers and human resources staff who meet regularly to share information and best practices
- Increased HR service delivery and resources for staff

2.8 Build upon alumni involvement with the Faculty to share their world-based expertise and perspectives, to strengthen our reputation and to inspire the next generation of U of T engineers towards innovation and excellence.

- Added recruitment and new student welcome receptions to alumni events abroad
- Created mentorship and sponsorship opportunities for alumni through the Entrepreneurship Hatchery; 59 mentors participated in 2014
- Hosted 61 alumni events with nearly a dozen taking place outside of Canada
• Proactively participated in events such as the U of T Arbor Awards
• Organized a successful Spring Reunion
• Engaged alumni through volunteer roles on advisory boards and the mentorship program

2.9 Enhance governance processes, cyclical reviews and quality assurance processes.

• Utilized the UTQAP review process at the local level by initiating a Decanal review of the Engineering Communication Program (ECP)
• Commissioned the first external review at the Decanal level of an EDU:C – the Institute for Leadership Education in Engineering (ILead) – to assess the quality of educational offerings
• Initiated regular reviews of all EDU:Cs and EDU:Ds by the Faculty Research Committee