

# McMASTER ENGINEERING

## Innovation from Excellence 2017



Ishwar K. Puri  
Dean, Faculty Engineering  
McMaster University

“McMaster  
Engineering is  
committed to  
excellence.”

Over the past four years, McMaster Engineering has created opportunities to enhance our local, national and global impacts, which emerged through our Innovation from Excellence strategy.

This strategy enhances diversity and experiential learning. It improves student retention, professional development, and engagement with our community, and advances the impact of our research and innovation.

We are proud of the gains we've made in several key areas, including hiring more female faculty, launching an innovative joint engineering and health sciences program, offering students more opportunities to create start-ups, decreasing student attrition, bolstering our partnerships with industry and alumni and improving our international reputation.

We continue to hire top faculty members in important research clusters, such as bioinnovation, smart systems, and nanotechnologies to meet the big challenges facing our world. Collaboration and interdisciplinary research across campus is a focal point, with new partnerships launched in the areas of smart systems and biomedical research.

From our academic programs to our research to an extracurricular innovation ecosystem, McMaster Engineering is laser focused on improving the value that we bring to society.

We encourage our graduates, faculty members, and staff, as best as they can, to focus on openness, to be unafraid of being pioneers and become among the first to ward off the bad associated with disruptive change.

Our students are educated to recognize that engineers alone will not be able to change the world. We teach our students that diversity of thought and disciplines matters.

We are educational innovators because we aspire to educate engaged citizen scholars who will transform our world.

Our future is bright. Our guiding principle is simple: There is no substitute for excellence.

Sincerely,

A handwritten signature in black ink that reads "Ishwar k. Puri".

Ishwar K. Puri  
Dean and Professor  
McMaster University's Faculty of Engineering

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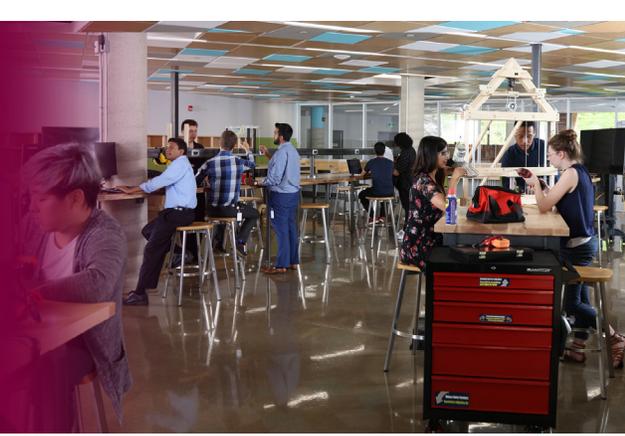
## Innovation from Excellence: Increasing diversity and building an engaged community

### Vision

**McMaster Engineering** is committed to the pursuit of excellence in teaching and learning, research, and service and engagement, and to fostering the quality of academic life.

### Mission

**McMaster Engineering** will be known as a global leader in discovery, education and engagement supporting innovation and engineering practices in a sustainable and prosperous world.



#### **1 ATTRACTING TOP STUDENTS** **Recruiting exemplary young citizen scholars**

Proactive recruiting has led to a significant increase in the number of students who enter our Engineering program with academic averages higher than 90%. Evidence-based strategies, targeted activities for students with offers and several pipeline programs for youth have contributed to the Faculty's ability to attract high-performing students. A supplementary video application was introduced in 2017 to better assess students for success. A new Integrated Biomedical Engineering and Health Sciences program (iBiomed), to launch this fall, has attracted top students.

#### **2 IMPROVING GENDER DIVERSITY** **Enhancing gender equity and creating a welcoming community**

Diversity drives innovation and enables the Faculty's global leadership in discovery, education and engagement. We continue to engage girls and women in engineering from as early as Grade 1 to University, through a range of programs, overnight activities, clubs and mentorship programs. We continue to proactively recruit female faculty members and require diversity training for hiring and awards committees. We have introduced new measures such as graduate supervision during leaves and partner placements.

#### **3 ENHANCING STUDENT RETENTION** **Supporting student success**

Our Faculty has continued to improve student retention by strengthening our admissions process and offering current students the support they need to succeed. Academic advisors monitor student progress and offer interventions for those who need them. The Faculty's reputation has improved, with Maclean's ranking McMaster Engineering 8<sup>th</sup> up from 10<sup>th</sup> in previous year. Four disciplines ranked within the top 100 of the 2017 [Shanghai Ranking's Global Ranking of Academic Subjects](#), including Civil Engineering at 29<sup>th</sup> in the world.

#### **4 PROFESSIONAL DEVELOPMENT** **Educating the whole engineer**

We partner with alumni, industry and community representatives to offer mentorship, workshops and co-op experiences. In 2016, a new 'Building Thinkers' initiative was launched to equip students with the emotional and societal awareness toolkit they need for success. Funding for our student clubs and teams was enhanced, professional development training amplified, and a new for-credit course for technical based team members launched. The new Gerald Hatch Centre for Experiential Learning will open in September 2017. Graduate students now have the option of a co-op work experience, an industrial Ph.D. and, in future, online professional skills courses and teaching assistant training.

#### **5 COMMUNITY** **Improving climate**

We take creating a welcoming environment seriously, and have demonstrated this commitment in a variety of ways, including launching a comprehensive employee engagement survey, ensuring the inclusivity of Welcome Week activities with our student partners, and supporting the Engineering Graduate Society. Our community goes beyond campus borders, extending to our alumni and key industry and academic partners worldwide.

#### **6 RESEARCH AND INNOVATION** **Finding innovative solutions**

We continue to advance our research in several key areas, including bioinnovation, smart systems and nanotechnology by establishing key interdisciplinary relationships and participating in collaborative committees. Embedding research and innovation into the student experience continues to be a focus, with the launch of a new Makerspace in the Thode Library, and an ongoing partnership with The Forge, McMaster's on-campus student entrepreneurship initiative.