# **Bold Ideas** for a Better World

Support U of T Engineering as we take on today's greatest challenges



UNIVERSITY OF TORONTO FACULTY OF APPLIED SCIENCE & ENGINEERING





Our world is changing—fast. Carbon emissions are rising, populations are aging, inequality is worsening and new pandemics are emerging.

Thankfully, U of T Engineering has the talent, diversity, impact and reach to rise to these threats and meet them head-on through cutting-edge education, research and innovation—a spirit that has defined the Faculty for 150 years.

Because U of T engineers don't take the world as a given. We constantly strive to find ways to improve, iterate and reinvent. For us, great ideas are just the beginning —what matters is making them a reality. To change the world for the better in a way that helps everyone.

# **150 Years** of Impact

For a century and a half, U of T Engineering has driven innovation and redefined the field.



## By the Numbers

6 degrees offered (2 undergraduate & 4 graduate)

25+ multidisciplinary research centres **50,000**+ alumni across Canada & the world

**5,628** undergraduate students **3,011** graduate students

280 total professoriate

93

research chairs & professorships **400**+ collaborating industrial

industrial research partners worldwide

**38.8%** proportion of women undergraduate students

## U of T Engineering Rankings 2023

Rank In Canada

Times Higher Education— Elsevier World University Rankings for Engineering and Technology

QS World University Ranking for Engineering and Technology Rank Among North American Public Institutions

6

World Ranking

27 27

### **150 Years of Firsts**



# 1927

Elsie MacGill (BASc 1927) is the first woman in Canada to graduate from electrical engineering, and becomes the first female aircraft designer.

### 1934

Frank Henry Ralph Pounsett (BASc 1928) designs the first car radio for General Motors Canada.



George Klein (BASc 1928) invents the first electric wheelchair.

# 1957

Lewis Urry (BASc 1950) develops the first commercial alkaline battery, spurring a revolution in consumer electronics.



### 1980s

Prof. K.C. Smith, of electrical engineering, develops the origins of touchscreen technology.

## 2009

Co-created by Dongjun Wang (BASc 1995), the Instant Pot debuts. With millions of units sold, the appliance quickly becomes a staple in kitchens around the world.

# 2021

A portable solar-powered battery made by Reeddi, a startup headed by Olubenga Olubanjo (BASc 2019), is named one of *TIME* magazine's 100 best inventions of the year.



A multidisciplinary team led by Prof. Milica Radisic grows a small-scale model of a human left heart ventricle in the lab.

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# Our Campaign Priorities

By supporting the following four areas of focus, you can help U of T Engineering make a lasting impact on some of the greatest challenges of our time.



# Campaign Priority Sustainable and Thriving Global Communities

Amid a warming planet and environmental degradation, U of T Engineering is meeting the climate crisis head-on. We are working on some of the most cutting-edge and practical climate and environmental solutions today, including innovative sustainable energy and clean water technologies and policies. We are also home to cross-disciplinary initiatives such as Climate Positive Energy—a hub for interdisciplinary clean energy research linking engineering, social science, economics and policy researchers to transform our energy systems. Your support will help us expand these exciting new areas of sustainability science. By giving to U of T Engineering, you can open up new avenues for frontier-leading research and prepare tomorrow's engineers with the skills they need to help Canada lead the world in protecting and sustaining our fragile environment.

# Campaign Priority Healthy Societies

U of T is an international leader in biomedical engineering, and we are continually finding novel and exciting ways to diagnose, treat and prevent a wide range of diseases. Through programs such as the Centre for Health-Care Engineering and the Institute of Biomedical Engineering, we partner with hospitals and clinical networks to protect the health of communities in Canada and worldwide. Your support can help draw international faculty and new research to accelerate these efforts, for which U of T Engineering is increasingly becoming a major hub. Join us today in broadening our foundation in health to provide groundbreaking care to patients everywhere.



# Campaign Priority Intelligent Machines for Good





Advances in data analytics, robotics and Al are fundamentally changing the way we do business, treat disease, interact with technology and communicate with each other. U of T Engineering and the Robotics Institute are at the forefront of this work, using machine learning to build selfdriving vehicles, creating cost-effective autonomous flying robots and inventing assistive technologies to support elder care, among many others. With greater student supports and expanded research opportunities, U of T Engineering can help usher in this exciting new age of robotics. By giving to one of the premier leaders in this field, you can revolutionize how we treat disease, move people from place to place and care for some of society's most vulnerable people.



# **The 21st-Century Engineer**

At U of T Engineering, we believe the engineers of the 21st century must reflect the communities they serve and bring a wide-ranging perspective to their work. This is a core part of our research and teaching and sets us apart as a leader in some of the fastestgrowing areas of engineering today.

You can support these efforts through establishing scholarships and contributing to programs such as Blueprint, which aims to inspire young Black students to become engineers; My Academic Preparation

Sessions (MAPS), which focuses on assisting grade 12 students who wish to study engineering; and the Institute for Transdisciplinary Education and Practice (iSTEP), which is changing how we teach the profession in our current age. Together, we can help empower a generation of engineers from all walks of life to build a better world.

## Help Engineer a Brighter Future

The Faculty of Applied Science & Engineering is poised to reimagine a better world through innovative ideas and breakthrough technologies—and we need your help.

Our priorities are part of Defy Gravity—the largest fundraising and alumni engagement effort in Canadian history. This campaign aims to raise \$4 billion for the University's highest priorities and inspire 225,000 alumni to collectively contribute their time and talent to the University one million times.

As we mark our 150th year, you can join us in building on a century and a half of excellence. We will break new ground and challenge the status quo in Al and data analytics, health-care technologies and robotics, sustainable energy and clean tech and practical, lowcost manufacturing.

With your support, we'll imagine creative solutions to our most urgent societal challenges and make them a reality.



#### **Join Us Today**

Please contact us to learn more about our campaign priorities and how you can make a powerful, lasting impact through Canada's top engineering school.

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