

# Innovation to Impact at the University of Toronto

## A legacy of transformative research discoveries

Building on a century of discovery, the University of Toronto is an innovation powerhouse providing the tools, resources and expertise that entrepreneurs need to start, grow and scale their ideas into impactful ventures. With strengths in fields ranging from artificial intelligence and quantum computing to regenerative medicine and cleantech, U of T startups are disrupting industries, creating new jobs, and developing solutions with a global impact.

Over the past 15 years, U of T alumni have launched more than 650 venture capital-backed companies, secured more than \$31 billion (CAD) in investments, and created 43,000 jobs. This year, U of T jumped six rankings as the fastest-rising institution for founders globally (PitchBook's Top 50 Global Ranking of best universities for founders, 2021).

## Changing the World Through Innovation

U of T has long supported innovators by creating an environment where entrepreneurs and researchers collaborate across disciplines, making research discoveries that are changing the world for the better.

From accelerating drug discovery using artificial intelligence to combatting climate change through cleantech, U of T combines student and faculty research talent, cutting-edge facilities and entrepreneurial expertise that advance regional and national prosperity.

One of the University's areas of focus is addressing the urgent issue of climate change. Its climate-positive plan charts a path to reduce emissions, provides opportunities for every student to be engaged in sustainability courses, and catalyzes inter and multidisciplinary research on climate change.

Helping to put this plan into action is CERT Systems, a company founded by U of T engineering students and faculty

which developed a system to convert carbon dioxide into carbon-based fuels before it enters the atmosphere.

"This is a critical time for our planet, and we need innovative solutions that can dramatically slow and ultimately reverse the impacts of climate change," says Christine Gabardo, co-founder CERT Systems Inc. "That's where we come in. CERT is creating and scaling an electrochemical system to convert carbon dioxide into the building blocks of products that would otherwise be derived from fossil fuels. We're proud that our technology will be installed on U of T's St. George Campus, supporting its plan to become climate positive by 2050."

## A Dynamic Community Fostering Discovery and Innovation

With experts in fields ranging from medicine and public health to artificial intelligence and information technology, U of T is the place for entrepreneurs seeking to bring their ideas to market.

U of T's extensive innovation network includes numerous entrepreneurship accelerators spread across its three vibrant campuses. These accelerators provide startups with the workspace, tools, mentorship, and the community they need to successfully bring their ideas to market.

"The support of U of T's Innovations and Partnerships Office and entrepreneurship community was integral in helping us commercialize our technology and protect our intellectual property," says Mike Cooke, co-founder of AmacaThera, a U of T startup co-founded by University Professor Molly Shoichet (ChemE, BME, Donnelly Centre).

AmacaThera developed a gel-based technology to dramatically extend the duration of local anesthetics injected at the site of a surgical incision. The U of T startup's discovery could eliminate the need to give patients powerful painkillers following surgery – a key source of the current opioid crisis.



*Founded by a team of U of T engineering students and faculty, CERT Systems developed a system to convert carbon dioxide into carbon-based fuels*

# THIS IS THE PLACE TO INNOVATE



UNIVERSITY OF TORONTO

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“As a young company deeply embedded in the U ofT community, we have received tremendous support from the university and accelerators, such as UTEST and the Creative Destruction Lab, to build and scale our business,” shares Cooke.

### Intensive Entrepreneurship Programs That Bring Ideas to Market

Recognizing that commercializing innovations requires more than great ideas backed by world-class researchers, the University of Toronto Early-Stage Technology Program (UTEST) provides startup companies founded upon cutting-edge U ofT research with access to intensive entrepreneurial education, advisory support, opportunities to raise capital, and dedicated incubation space.

“The University of Toronto research and innovation ecosystem has played a pivotal role in the growth and success of Deep Genomics,” shares Brendan Frey, co-founder of U ofT biotech startup, Deep Genomics.

The company, which uses artificial intelligence to find better drugs for genetic disorders to get them into the clinic and to patients faster, recently raised \$226 million (CAD) in Series C funding.

“We received early support through U ofT’s Innovation and Partnership Office (IPO) to help commercialize our technology and were plugged into an incredible network of mentors, investors, and structured programming as a participant in two world-class campus accelerators - University of Toronto Early-Stage Technology (UTEST) and the Rotman Creative Destruction Lab,” says Frey.

In addition to proven models such as UTEST, graduate students, early-career researchers, and interdisciplinary teams

can tap into Canada’s largest internal university research funding program. The Connaught Fund is a catalyst for innovation at U ofT. Since 1972, the fund has awarded more than \$174.8 million to U ofT researchers and innovators dedicated to addressing some of the world’s most important questions.

### Investing in the Future of Innovation at U of T

The key next step in catalyzing the impact of U ofT’s research, industry partnerships and startups is the opening of the Schwartz Reisman Innovation Campus, a 750,000-square-foot complex that will enable innovators to collaborate and build new companies. With space for world-leading artificial intelligence scholars, health science experts, and research-based startups, the innovation campus will further anchor Toronto’s and U ofT’s reputation as global innovation powerhouses.

For U ofT president Meric Gertler, the future of innovation is bright. “The University of Toronto is home to an incredibly diverse, dynamic and productive ecosystem of innovation, encompassing students, faculty and staff across our three campuses. It’s a deeply impressive community, transcending an amazing range of disciplines and collaborating with leaders in industry, business, and the not-for-profit sector. Through their energy, imagination, and drive, they’re helping to create jobs and to build a better world, here at home and around the world,” says Gertler.



*U ofT Professor Brendan Frey is the founder and CEO of Deep Genomics, which uses machine learning to develop treatments for genetic diseases*



*AmacaThera is built on a gel technology developed by renowned U ofT researcher Molly Shoichet and her team*



*Opening in December 2022, the new Schwartz Reisman Innovation Campus will turbocharge the next wave of Canadian innovation*



*U ofT’s three campuses in Mississauga, Downtown Toronto and Scarborough*