uOttawa
Faculté de génie
Faculty of Engineering

2024 RESEARCH AND IMPACT REPORT

Make the future: Engineering solutions, driving change

Welcome to the 2023-24 Research and Impact Report of the University of Ottawa's Faculty of Engineering

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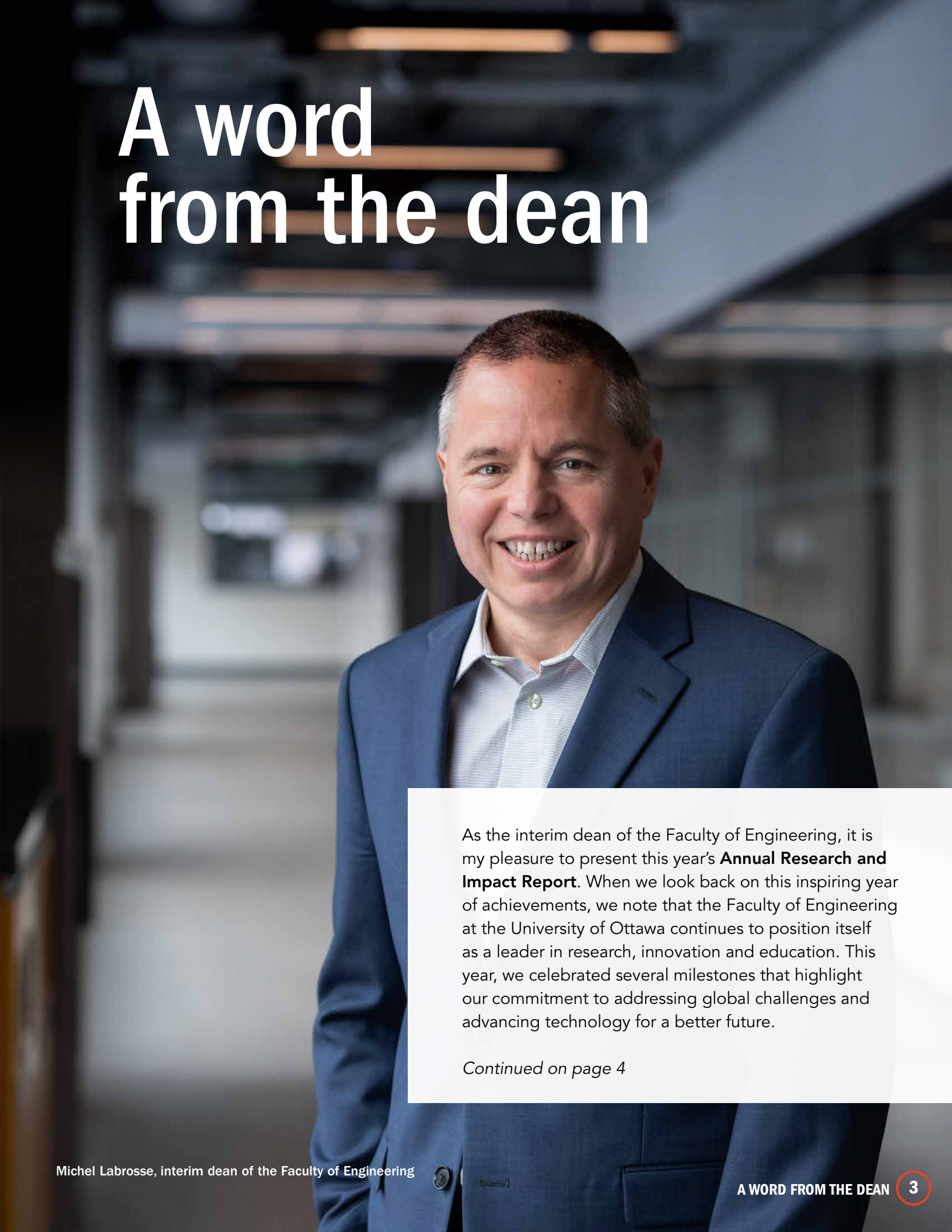
A word from the dean



As the interim dean of the Faculty of Engineering, it is my pleasure to present this year's **Annual Research and Impact Report**. When we look back on this inspiring year of achievements, we note that the Faculty of Engineering at the University of Ottawa continues to position itself as a leader in research, innovation and education. This year, we celebrated several milestones that highlight our commitment to addressing global challenges and advancing technology for a better future.

Continued on page 4

Michel Labrosse, interim dean of the Faculty of Engineering

We witnessed **extraordinary strides in research, innovation and education**. Our researchers have continued to address some of the world's most pressing challenges, from advancing sustainable technologies and building resilient communities to enhancing cybersecurity through the uOttawa-IBM Cyber Range. Our researchers not only push the boundaries of knowledge, but also make a tangible difference, both locally and globally.

We have also strengthened our **partnerships with industry leaders**, such as Canadian Nuclear Laboratories, Ciena and Cisco, to create new opportunities for research collaboration, student engagement, and innovative solutions. These alliances amplify our impact by driving advancements that shape the future of engineering and beyond.

We have also embraced a transformative shift in education by **launching two new online master's programs**, namely a master's degree in artificial intelligence and a master's degree in digital transformation. These programs are designed to equip professionals to lead in rapidly evolving technological environments, which reflects our commitment to accessible, forward-looking education.

Our Faculty's commitment to encouraging **entrepreneurship and design** has never been stronger. Through initiatives such as our entrepreneurship incubators, design competitions and multidisciplinary collaborations, we continue to empower students and professors so they can bring their innovative ideas to life, shaping industries and creating lasting impact.

And thanks to our **outreach programs**, we continue to extend the impact of engineering education and innovation to a wide range of audiences across Canada, impacting over 43,000 youth yearly.

This report also highlights the **critical role of our students**, whose creativity and passion drive many of our initiatives. By working alongside our researchers and industry partners, they are shaping a future that is equitable, innovative and sustainable.

As we reflect on these achievements, we remain committed to **fostering an environment that encourages diversity, interdisciplinary collaboration, and excellence in engineering and computer science**. I am immensely proud of the contributions of our researchers, staff, students and partners, and I invite you to explore the transformative projects featured in this report.

Together, we are making the future.

Sincerely,
Michel Labrosse

About the University of Ottawa

Growing global recognition of the University of Ottawa (uOttawa)'s research strength and its leadership in sustainability has powered the institution to its best-ever result in the influential QS World University Rankings 2025. Climbing 14 places, uOttawa has surged into the Top 200 with a global ranking of 189th out of 1,503 universities.

1 Source: QS World University Rankings 2025
2 Source: Ontario Ministry of Colleges and Universities — Ontario University Graduate surveys
3 Source: Maclean's Canada Best Medical Doctoral Universities rankings for 2025

Quick facts

Located in the heart of **Canada's capital**

48,000 students

266,037 alumni

Member of the U15 group of Canada's leading research-intensive universities

26 state-of-the-art research facilities

Research chairs

94 Canada Research Chairs

44 University of Ottawa Research Chairs

10 Chaires de recherche sur le monde francophone

62 Endowed and Sponsored Research Chairs

1 University of Ottawa Senghor Chair

4 Distinguished Research Chairs

About the Faculty of Engineering

The Faculty of Engineering at the University of Ottawa is a leader in engineering and computer science education and research, providing its students with top quality degrees and experiential learning experiences to prepare them to meet the ever-changing needs of society.

Departments and schools

- Chemical and Biological Engineering
- Civil Engineering
- Mechanical Engineering
- School of Engineering Design and Teaching Innovation
- School of Electrical Engineering and Computer Science

Online programs

Our online master's programs are designed with engineering professionals in mind. Through a combination of core courses and electives, tailor your online program to your career goals.

QUICK FACTS

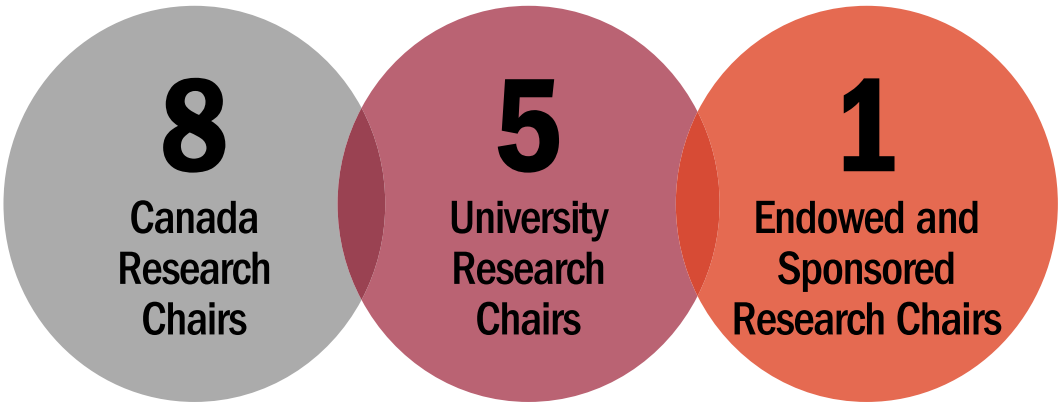
- **5,000+** undergraduate students
- **2,000+** graduate students
- **140** professors
- **130** support staff
- **24+** students' clubs and competitive teams
- **28,400** alumni in 103+ countries
- **193** international collaborations in 58 countries
- **43,000** yearly youth outreach including girls and indigenous youth

Research impact

Areas of research

- Enabling technologies for health care and augmented life
- Technology for the digital transformation of society
- Sustainable and resilient infrastructure
- Emerging materials and processes
- Photonics for devices, networks and energy

Research chairs



Research funding

Total value of research funding for 2022-2023

$18,545,228

92% of professors with external funding

90% of professors with tri-agency funding

Research output*

7607
number of science publications from 2019-2022

800 in the top 10%

428 in the top 5%

95 in the top 1%

Partnerships and innovation

67 active corporate research partnerships

5 invention disclosures

11 patent applications

* Source: CWTS Leiden Ranking 2024

Awards

We honor the outstanding members of our community and recognize their achievements.

Dr. Robert Delatolla, Professor, Faculty of Engineering

Dr. Robert Delatolla aims to integrate wastewater-based surveillance into public health decision-making processes to protect Canadians, especially at-risk, marginalized and priority populations, against health threats.

WASTEWATER SURVEILLANCE EXPERT ROBERT DELATOLLA NAMED APPLIED PUBLIC HEALTH CHAIR

Dr. Robert Delatolla, environmental engineering professor at the uOttawa Faculty of Engineering and director of the national CoVaRR-Net Wastewater Surveillance Research Group, is part of the fourth cohort of Applied Public Health Chairs announced by the Government of Canada. The twelve new chairs will receive a total of $13.8 million to tackle research projects related to public health and will work with the government to inform policy decisions and solutions.

Delatolla aims to build on his groundbreaking COVID-19 wastewater surveillance work and better integrate this data into decision-making processes.

Making this data available to policymakers and the public helps protect people against health threats, including possible pandemics, and promotes health equity.

Delatolla's research during the COVID-19 pandemic made it possible to detect spikes in virus levels early through wastewater surveillance. His team's data was used by agencies and individuals to inform public health decisions. The wastewater research group has since started applying its surveillance system to other viruses and health threats such as tuberculosis and respiratory syncytial virus.

>> READ THE FULL ARTICLE

Dr. Mamadou Fall, Distinguished University Professor, Faculty of Engineering

Dr. Fall's research in the field of geotechnical and geoenvironmental engineering has been recognized through several prizes and distinctions.

FACULTY OF ENGINEERING RESEARCHER MAMADOU FALL NAMED EIC FELLOW

Dr. Mamadou Fall, chair of the Department of Civil Engineering and distinguished professor in the Faculty of Engineering at the University of Ottawa, has been named a fellow of the Engineering Institute of Canada (EIC), for his exceptional contributions to the field of engineering in this country.

Approximately 20 outstanding researchers from the 14 federated societies that comprise the EIC are named fellows every year. Dr. Fall, also University Research Chair in Geotechnical Engineering for Net Zero Transitions and vice-president, technical, of the Canadian Geotechnical Society, was recognized at the EIC gala banquet on April 20. This prestigious honour recognizes the career achievements of Dr. Fall and his contributions to his field and to society.

Dr. Fall has studied mine waste management, underground disposal of nuclear waste, energy geotechnics, landslides, geotechnical hazards, and sustainable and recycled construction materials. He has authored or co-authored over 250 research publications and serves on the editorial boards of several scholarly journals. His collaborations with industry have led to his research findings being implemented in a number of companies and agencies and highlighted in conferences and seminars globally.

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Research highlights

Our focus: collaborative, interdisciplinary research that is of public value and considers the social, environmental, and economic impact of its solutions and findings.

Dr. Paria Shirani, Assistant Professor, Faculty of Engineering

PROTECTING THE INTERNET OF THINGS FROM CYBERATTACKS

Our world is filled with smart devices that are connected to each other. This interconnectedness, which makes our everyday lives easier, is also what makes these devices vulnerable to cyberattacks. In light of such vulnerabilities and the potential to target critical infrastructure within our smart cities, preventing cyberthreats is of utmost importance.

The Internet of Things (IoT) is a system of interconnected devices that share data across networks in real time, often through various communication protocols. "Deploying these devices almost everywhere increases the attack surface and provides more opportunities for the attackers to compromise critical infrastructure," explains Professor Paria Shirani, an assistant professor at the School of Electrical Engineering and Computer Science.

Such attacks can lead to severe service disruptions across cities, provinces, and even the country, so developing practical solutions to secure IoT devices is critical to preventing devastating effects.

Shirani's research stretches into analyzing malware, identifying malicious actors through code fingerprinting, enhancing IoT security, researching specific vulnerabilities and generating intelligence about threats.

>> READ THE FULL ARTICLE

Mandy Lewis, Electrical engineering doctoral candidate & the paper's lead author

RESEARCHERS AT UOTTAWA BOOST EFFICACY OF SOLAR PANELS

Solar energy is a crucial asset in the fight against climate change, and researchers at the University of Ottawa have devised a smart approach to optimize its effectiveness. Their innovative method includes incorporating artificial ground reflectors, a simple yet powerful enhancement.

The researchers found that by integrating these reflectors into solar setups, they could improve the system's energy production and efficiency, making such projects more economically viable. This discovery is significant in assessing the costs and benefits of using artificial reflectors in solar energy ventures.

To study how reflective ground covers affect solar energy output, the University of Ottawa's SUNLAB, led by electrical engineering Professor Karin Hinzer, who is also vice-dean, research of the Faculty of Engineering, collaborated with the National Renewable Energy Laboratory (NREL) in Golden, Colorado, a world leader in clean energy research, development, and deployment. The study, which was conducted by electrical engineering doctoral candidate Mandy Lewis in Golden, Colorado, found that placing reflective surfaces under solar panels can increase their energy output by up to 4.5%.

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Dr. Pierre Berini, Distinguished University Professor, Faculty of Engineering

A UOTTAWA PROFESSOR IS LEADING ADVANCES IN NANOFABRICATION FOR FUTURE TECHNOLOGIES

For the past ten years, uOttawa Engineering professor Pierre Berini's nanofabrication research at the NanoFab, a core facility at the University of Ottawa, has been shaping the future of technology.

"Nanofabrication is essential to integration and to access operational regimes in materials that are not accessible naturally. For example, we want to have increasingly powerful electronic devices with more functions: to enable these, components and circuits must be miniaturized and integrated into small form factors," explains Professor Berini.

Over the past ten years, Berini has been collaborating with academic and industrial researchers to advance their projects in the NanoFab and creating materials and devices that are smaller and more efficient.

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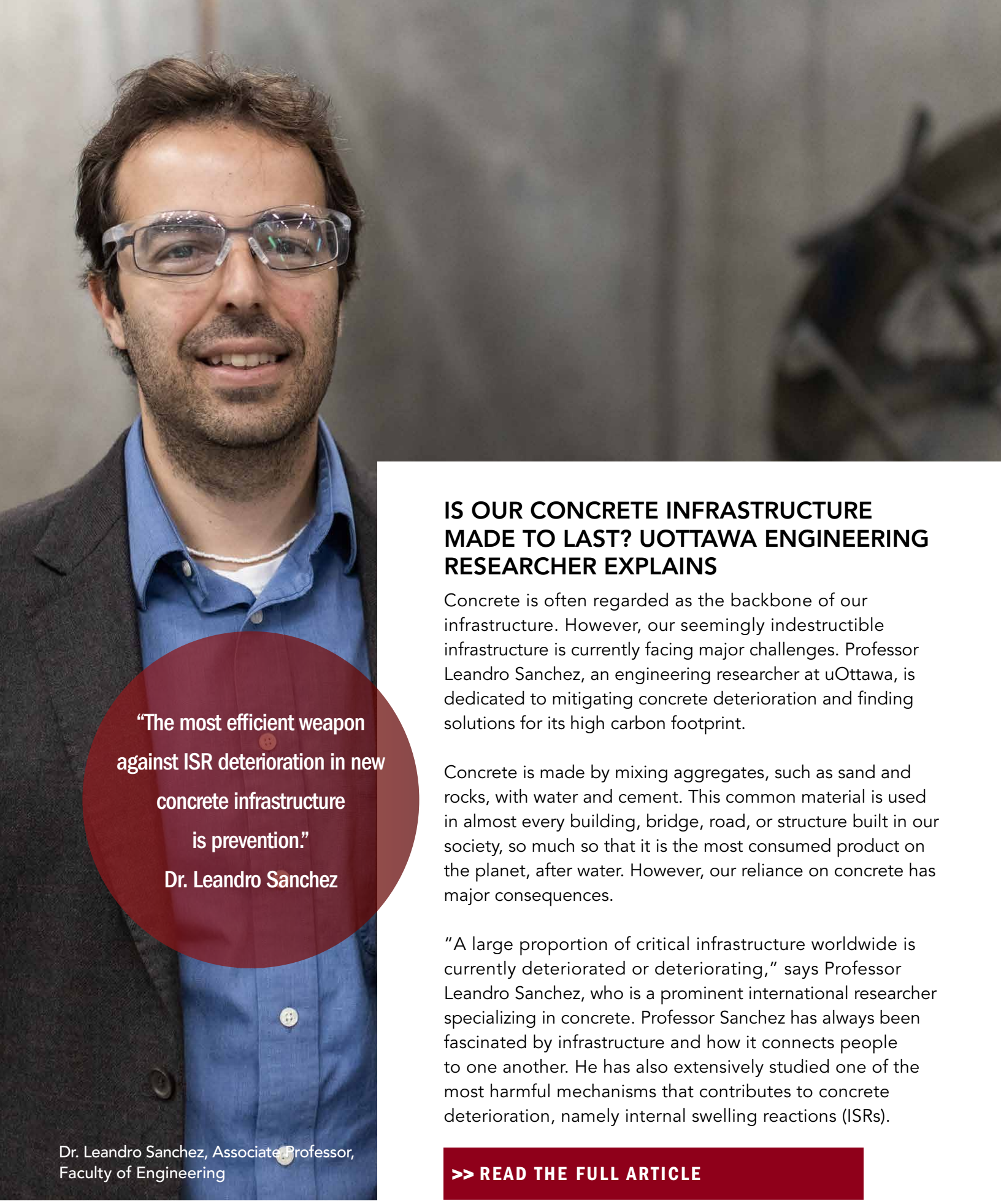
Located at the University of Ottawa, the NanoFab is a unique, $30-million technology platform that hosts three labs: wet chemistry; metrology; and white and yellow clean rooms (Class 10,000).

Its sophisticated and cutting-edge equipment allows users to create structures, circuits and devices at the nanometric scale with higher precision and increased efficiency.

"The platform has huge potential to support the objectives of a wide range of user profiles in a variety of sectors. We welcome graduate students and post-docs as users, collaborators from different faculties, and industry, ranging from two-person companies to multinationals," says Pierre Berini.

The facility has supported a host of projects in fields ranging from electronic, optical and photonic circuit production to the design of biological sensors.



"The most efficient weapon against ISR deterioration in new concrete infrastructure is prevention."
Dr. Leandro Sanchez

Dr. Leandro Sanchez, Associate Professor, Faculty of Engineering

IS OUR CONCRETE INFRASTRUCTURE MADE TO LAST? UOTTAWA ENGINEERING RESEARCHER EXPLAINS

Concrete is often regarded as the backbone of our infrastructure. However, our seemingly indestructible infrastructure is currently facing major challenges. Professor Leandro Sanchez, an engineering researcher at uOttawa, is dedicated to mitigating concrete deterioration and finding solutions for its high carbon footprint.

Concrete is made by mixing aggregates, such as sand and rocks, with water and cement. This common material is used in almost every building, bridge, road, or structure built in our society, so much so that it is the most consumed product on the planet, after water. However, our reliance on concrete has major consequences.

"A large proportion of critical infrastructure worldwide is currently deteriorated or deteriorating," says Professor Leandro Sanchez, who is a prominent international researcher specializing in concrete. Professor Sanchez has always been fascinated by infrastructure and how it connects people to one another. He has also extensively studied one of the most harmful mechanisms that contributes to concrete deterioration, namely internal swelling reactions (ISRs).

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BIOMEDICAL ENGINEERING MASTER STUDENT'S RESEARCH COULD IMPROVE OUR HEALTH CARE SYSTEM

Prompt diagnoses of diseases is crucial to optimize treatment outcomes. Zachary Morris, who is a master's student in biomedical engineering, is conducting research that will help detect diseases earlier, allowing doctors to begin treatment earlier and thus improving the patient's chances of recovery.

"We are developing a testing platform that can perform bedside diagnostics in minutes. We intend to use a chemical assay that converts the biomolecules that are correlated with a target disease, also known as disease biomarkers, into nanoparticles. Our system then uses a nano-filter to capture and count the proxy nanoparticles. When these particles are captured, they affect on-chip fluid pressures, which we can then quantify using a new type of integrated microfluidic pressure transducer" says Zachary Morris.

Zachary Morris' research, supervised by Professor Michel Godin, will significantly accelerate the diagnostic timeline for patients with bedside diseases. His work won first place in the Enabling Technologies for Health Care and Augmented Life category of the 2024 Engineering and Computer Science Graduate Poster Competition held at the Faculty of Engineering.

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Partnerships and funding

We strive to enhance our research activities and experiential learning with provincial, national, and international partnerships.

uOttawa | Kanata-Nord Kanata North

Partnerships between academia and industry in Kanata North drive innovation and impact.

DRIVING IMPACT IN CANADA'S LARGEST TECH PARK: UOTTAWA AND CIENA'S COLLABORATION IN DEVELOPING AI TECHNOLOGIES

Over the course of almost five years, the uOttawa Kanata North campus has worked with over 120 partners in the area to help support innovation and impact in Canada's largest tech park.

An example of an impactful collaboration between uOttawa and industry in Kanata North is one between communications tech giant Ciena and uOttawa's Dr. Shervin Shirmohammadi, a computer and software engineering professor, with the Faculty of Engineering.

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Gina Strati, Director of academic partnerships, CNL

From celebrating student awards of excellence to showcasing student-led research, CNL is enhancing the learning experience for uOttawa STEM students.

PARTNERSHIP WITH CANADIAN NUCLEAR LABORATORIES TO BOOST RESEARCH AND STUDENT OPPORTUNITIES

Collaborations between industry and academia have long spurred research and development. The partnership between Canadian Nuclear Laboratories (CNL) and the University of Ottawa not only advances knowledge, but also plays a key role in talent acquisition and development.

The partnership has recently expanded to identify, nurture, and recognize exceptional students. CNL is looking to the University of Ottawa to be a primary source of STEM graduates as clean energy development has become a priority to address climate change and support Canada's net zero emissions goals. Through a multi-year sponsorship agreement, CNL will support student-facing initiatives across three faculties, including the Faculty of Engineering. From celebrating student awards of excellence to showcasing student-led research, CNL is enhancing the learning experience for uOttawa STEM students.

This term, CNL is lead sponsor of Design Day, one of Ottawa's largest student competitions, organized by the Faculty of Engineering and featuring engineering design projects developed to solve real-life client issues.

"CNL's support is invaluable. By providing us with opportunities to apply our in-class education to real-world challenges, they have empowered us to make a meaningful impact while learning new skills. This opportunity is so important as we imagine our future career paths. I appreciate their dedication to nurturing the next generation of engineers, their meaningful insights, and the chance to expand our learning beyond the classroom!" shares Luis Ibarra Perez, third-year biomedical mechanical engineering student.

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Together, Cisco and uOttawa are addressing Canada's digital skills gap.

uOttawa-IBM Cyber Range

CISCO AND UNIVERSITY OF OTTAWA EQUIP ENGINEERING STUDENTS WITH JOB-READY IT AND CYBERSECURITY SKILLS

Cisco and the University of Ottawa partner to arm engineering students with job-ready training needed for IT roles after graduation. Cisco's Certified Network Associate certification (CCNA), an industry-recognized credential, will be integrated into the university's Computer and Software Engineering programs, and equipment will be provided to support cybersecurity research.

Students enrolled in the Computer and Software Engineering programs can expect to take the CCNA certification as part of their third-year courses starting in the Winter 2025 semester.

>> READ THE FULL ARTICLE

Dr. Thomas Uchida, Associate Professor, Faculty of Engineering

PROFESSOR THOMAS UCHIDA RECEIVES FUNDING FROM THE NEW FRONTIERS IN RESEARCH FUND

Professor Thomas Uchida is an award recipient of the 2023 Exploration Competition. The Exploration stream promotes high-risk and high-impact research across disciplines. It encourages collaborations that challenge conventional approaches, empowering teams to push boundaries and explore the unknown.

Dr. Uchida's research proposes a novel, non-invasive treatment for Parkinson's Disease which uses a glove built to deliver vibrotactile stimulation targeting the patients' peripheral nerves.

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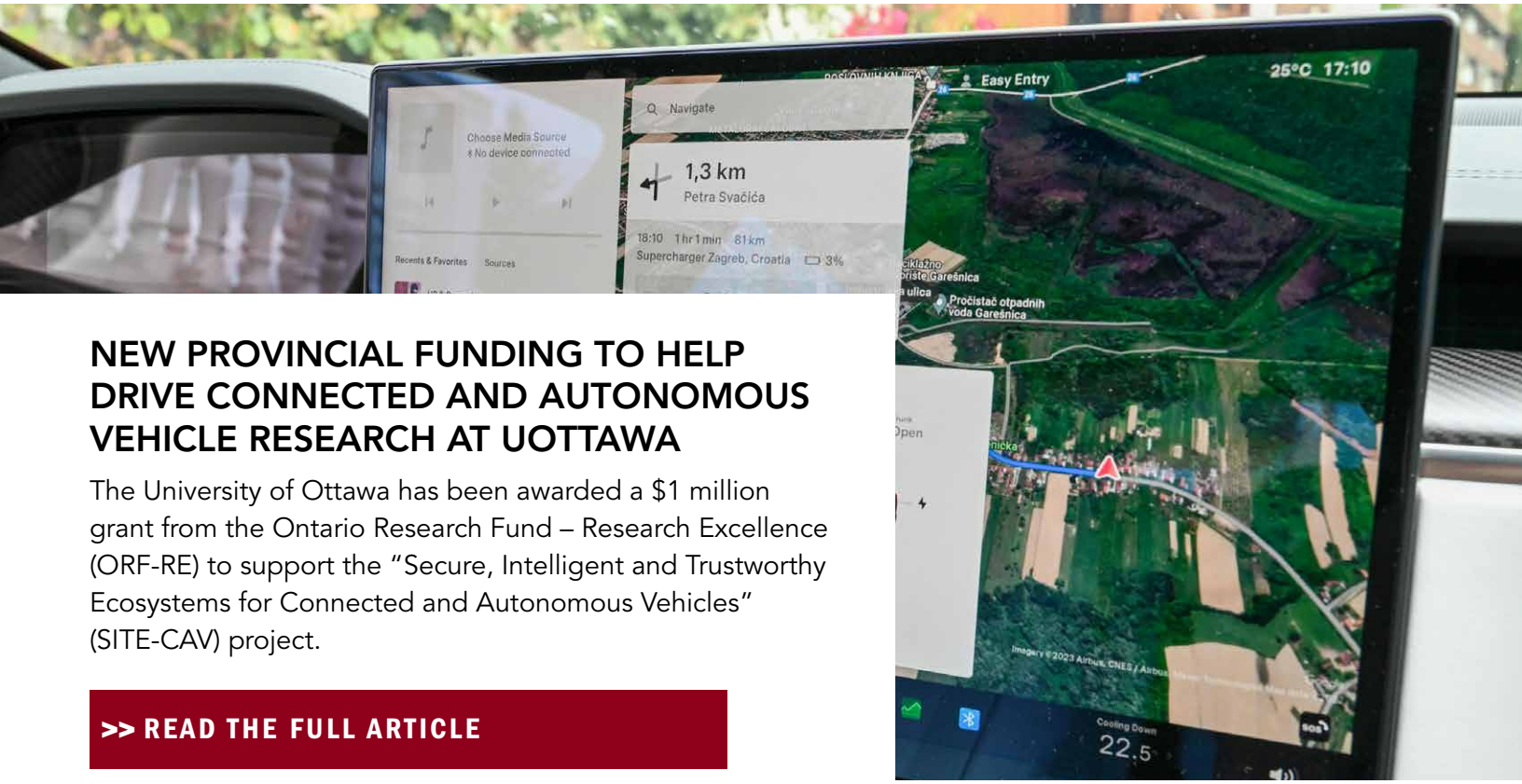

NEW PROVINCIAL FUNDING TO HELP DRIVE CONNECTED AND AUTONOMOUS VEHICLE RESEARCH AT UOTTAWA

The University of Ottawa has been awarded a $1 million grant from the Ontario Research Fund – Research Excellence (ORF-RE) to support the "Secure, Intelligent and Trustworthy Ecosystems for Connected and Autonomous Vehicles" (SITE-CAV) project.

>> READ THE FULL ARTICLE

Teaching innovation

We are redefining the engineering learning experience at the Faculty of Engineering. With an approach adapted to the realities of the 21st century, our mission is to train the next generation of change makers.

The Supermileage team and their electric car

The Faculty of Engineering received funding from the Ontario Vehicle Innovation Network (OVIN) to host a Regional Future Workforce (RFW) program.

BUILDING THE FUTURE WORKFORCE FOR THE AUTO SECTOR

The Faculty of Engineering received funding from the Ontario Vehicle Innovation Network (OVIN) to host a Regional Future Workforce (RFW) program, which aims to introduce students to opportunities in the auto sector and help them develop the skills they need to secure jobs in their field after graduation.

Ontario's auto manufacturing sector is expanding, and its future workforce must meet the growing demands of this industry in the coming years. Through this OVIN program, students can participate in internships in which they can build connections and gain experience in the auto sector, giving them a chance to explore different career opportunities.

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Innovative curriculums are meeting people where they're at and focusing on a hands-on approach.

Students and professors in the Smart Connected Vehicles Innovation Centre

UOTTAWA'S FACULTY OF ENGINEERING IS FILLING SKILL GAPS IN THE TECH INDUSTRY

The Faculty of Engineering has introduced a three-year Bachelor of Multidisciplinary Design program to equip students with the critical skills required for the future: creative thinking and adaptability. This undergraduate degree offers customizable streams that enable students to collaborate with industry and community partners to address societal challenges.

To further support the growing demand for technology skills, the Faculty has launched two new online master's programs: Digital Transformation and Innovation and Interdisciplinary Artificial Intelligence. These evening courses are designed to accommodate working professionals, enabling them to enhance their expertise while balancing their careers.

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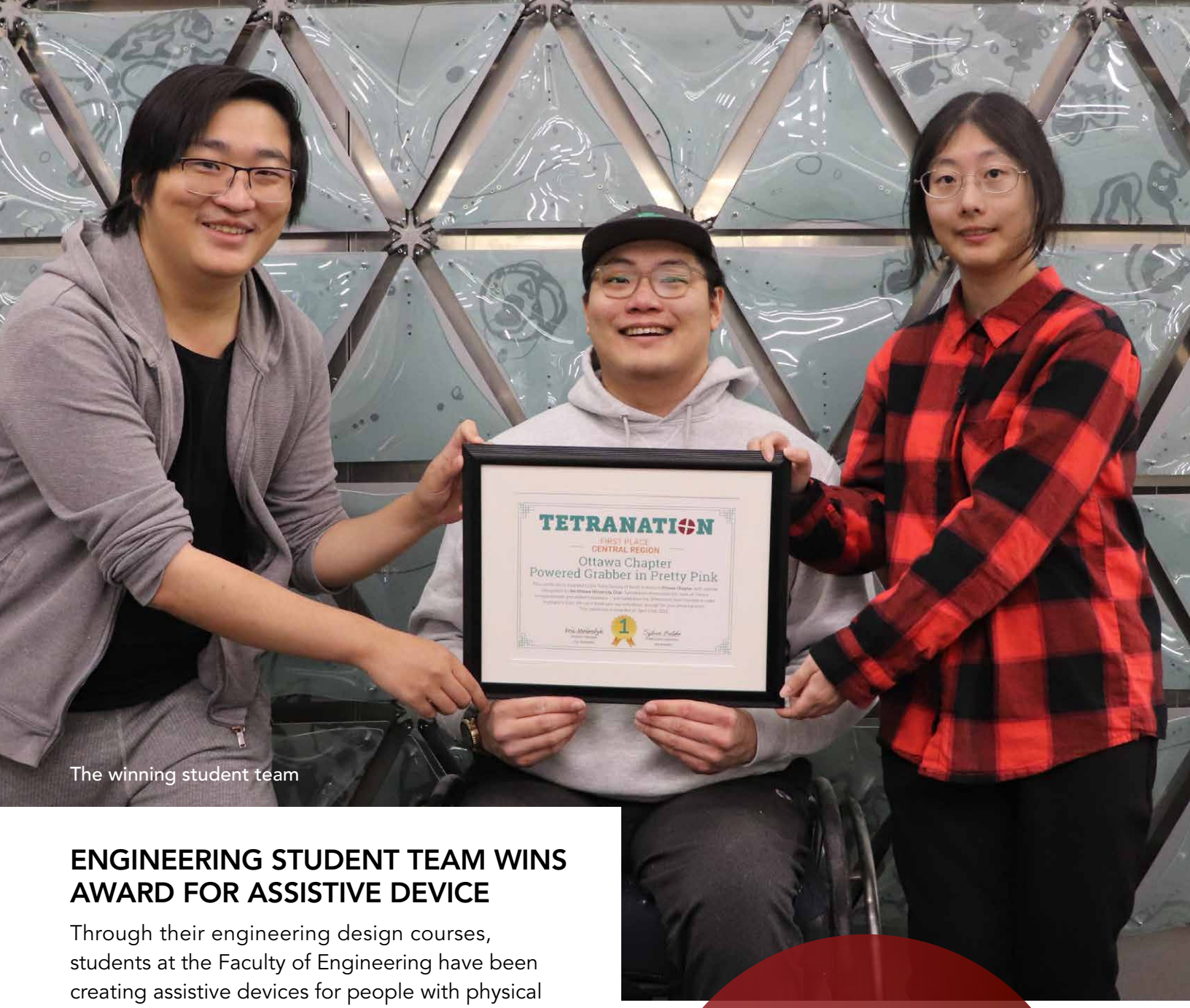
Entrepreneurship

Our students are creative thinkers and builders. We support them along their chosen path and provide them with the tools and space to create tomorrow's leading companies.



The winning student team

ENGINEERING STUDENT TEAM WINS AWARD FOR ASSISTIVE DEVICE

Through their engineering design courses, students at the Faculty of Engineering have been creating assistive devices for people with physical disabilities. One project in particular, a pickup stick, has received national recognition from the Tetra Society of North America.

The Tetra Society of North America uses skilled volunteers to create innovative solutions and build custom-made assistive devices for people with physical disabilities. The devices are provided at no cost to help people overcome environmental barriers and experience greater independence, quality of life and inclusion.

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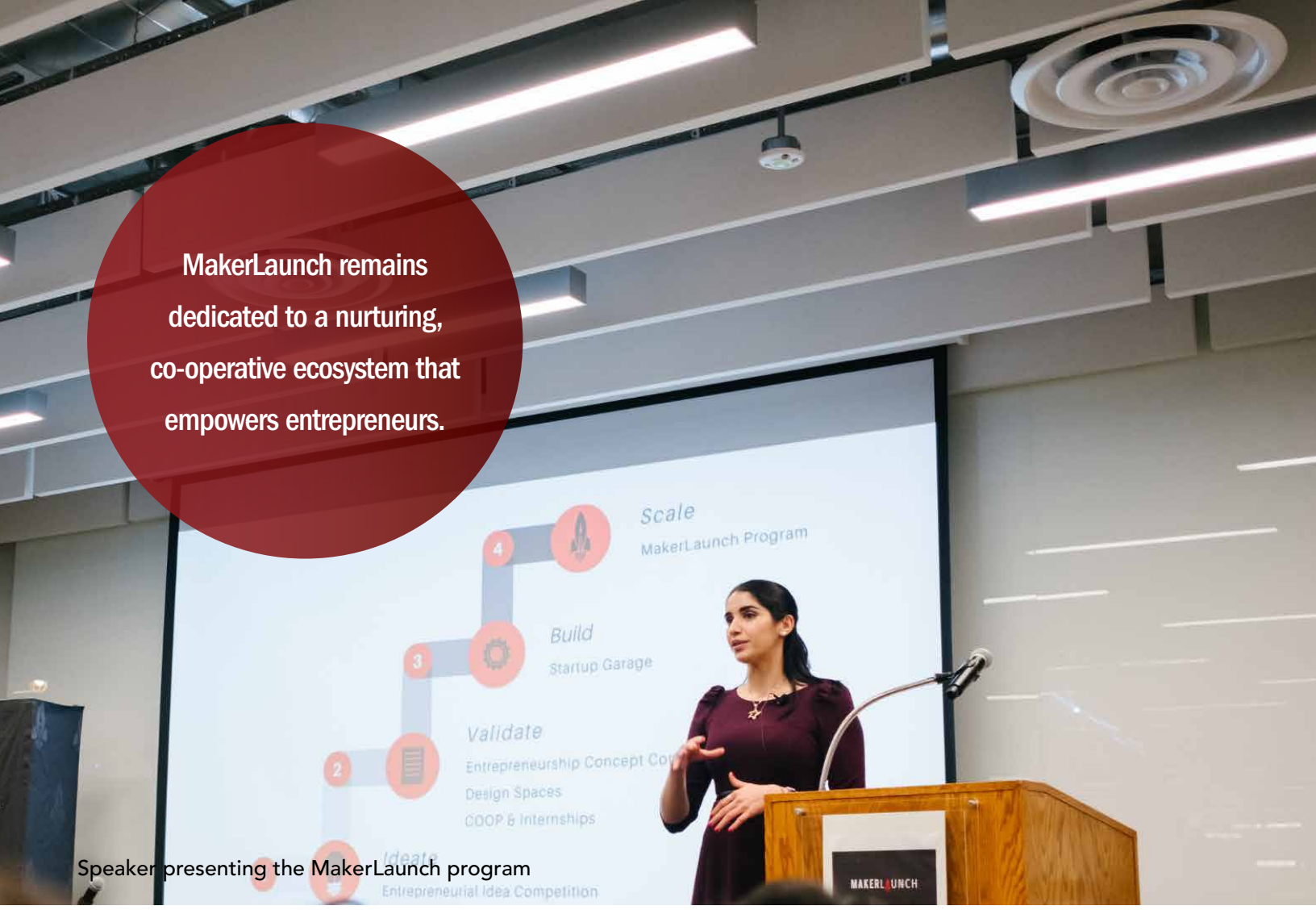
Over the past four years, the Ottawa Tetra chapter has collaborated with CEED and the campus Tetra Club to produce 24 unique assistive devices.



Speaker presenting the MakerLaunch program

TERRAFIXING, GASTROTRACKAI AND NXOCARE JOIN MAKERLAUNCH STARTUP ACCELERATOR AT UOTTAWA

The MakerLaunch startup accelerator at the Faculty of Engineering of the University of Ottawa is thrilled to introduce three innovative technology ventures joining its 2024 cohort: TerraFixing, GastroTrackAI and NXoCare. These startups will gain access to resources including funding, mentorship, prototyping facilities and networking avenues, all geared towards propelling their products and services to market.

MakerLaunch plays a pivotal role in fostering strategic partnerships and facilitating connections with investors, venture capitalists and prominent figures in various industries. The startups benefit from a wealth of resources, from non-dilutive funding to dedicated dry lab and office spaces, as well as prototyping tools. They also gain access to industry-specific mentorship and guidance from seasoned entrepreneurs.

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Sherlock AI winning team and professors

TURNING START-UP DREAMS INTO REALITY AT THE 2024 ENTREPRENEURSHIP CONCEPTS COMPETITION

Amidst the rush and excitement of Design Day, uOttawa Engineering student innovators prepared to turn their dreams into reality at this year's Entrepreneurship Concepts Competition. This competition gives engineering students the opportunity to present a business plan to a panel of expert judges and the chance to win a grant to bring their business idea to life.

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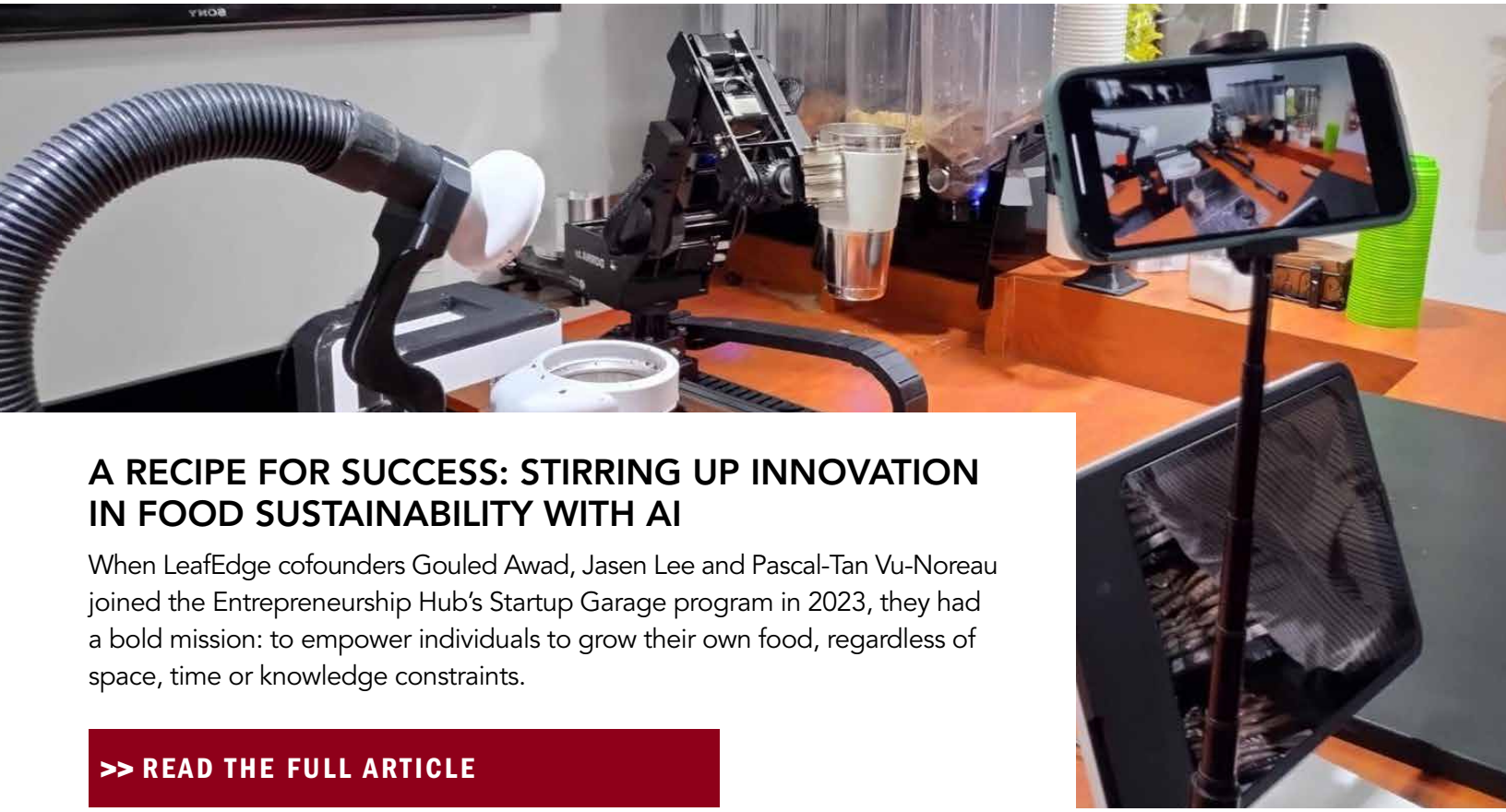

A RECIPE FOR SUCCESS: STIRRING UP INNOVATION IN FOOD SUSTAINABILITY WITH AI

When LeafEdge cofounders Gouled Awad, Jasen Lee and Pascal-Tan Vu-Noreau joined the Entrepreneurship Hub's Startup Garage program in 2023, they had a bold mission: to empower individuals to grow their own food, regardless of space, time or knowledge constraints.

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Equity, diversity and inclusion

We believe that a diversity of backgrounds and perspectives in the future generation of engineers is critical to ensuring that the new solutions and technologies developed truly respond to our society's needs.

Dr. Catherine Mavriplis, Professor, Faculty of Engineering

UOTTAWA RESEARCHER CATHERINE MAVRIPLIS WINS EDI AWARD FOR TRANSFORMING THE STEM LANDSCAPE IN CANADA

Trained as an aerospace engineer, Professor Catherine Mavriplis has first-hand experience being one of few women in a male-dominated field. This fuelled her passion for equity, diversity and inclusion (EDI), leading to a dual-research career studying aerospace engineering as well as the systematic gaps that impede gender diversity in STEM and developing ways to address these gaps.

Mavriplis' work has had an undeniable impact on Canadian society. From 2011 to 2020, she was NSERC's Chair for Women in Science and Engineering. During this time, female enrolment in software engineering doubled in Canada, and the percentage of women professors in engineering rose from 14% to 17%.

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Dr. Sawsan Abdul-Majid with a group of participants from her ANCWT program

CHAMPIONING INCLUSION AND DIVERSITY: PROF. SAWSAN ABDUL-MAJID WINS ONTARIO GOVERNMENT DIVERSITY AWARD

In recognition of her exceptional, long-standing contribution to strengthening the role of immigrant and refugee women in science, technology, engineering and mathematics (STEM), Dr. Sawsan Abdul-Majid has received Ontario's 2023 Champion of Diversity Award in the inclusion and diversity category.

The Ontario Government Diversity Awards recognizes outstanding community leaders who support immigrant success, economic growth, cultural diversity and inclusion in the province.

Abdul-Majid has over 25 years of experience in teaching and research, as well as eight years of industry experience in engineering. Her journey began in Bulgaria, where she earned a PhD in optical communication systems from Varna University. She then joined the Faculty of Engineering at Al Zawiya University in Libya as a professor, before holding further positions at Baghdad University of Technology, Iraq, and Koya University of Kurdistan, Iraq.

Abdul-Majid has published over 45 research papers on silicon photonics, PIC, optical amplifiers and optical systems. A community leader, she received a Professional Engineers of Ontario (PEO) Certificate of Recognition for five years of volunteer service in engineering in Ottawa. She is licensed as a professional engineer by PEO and has been a member of the Faculty of Engineering at uOttawa since 2008.

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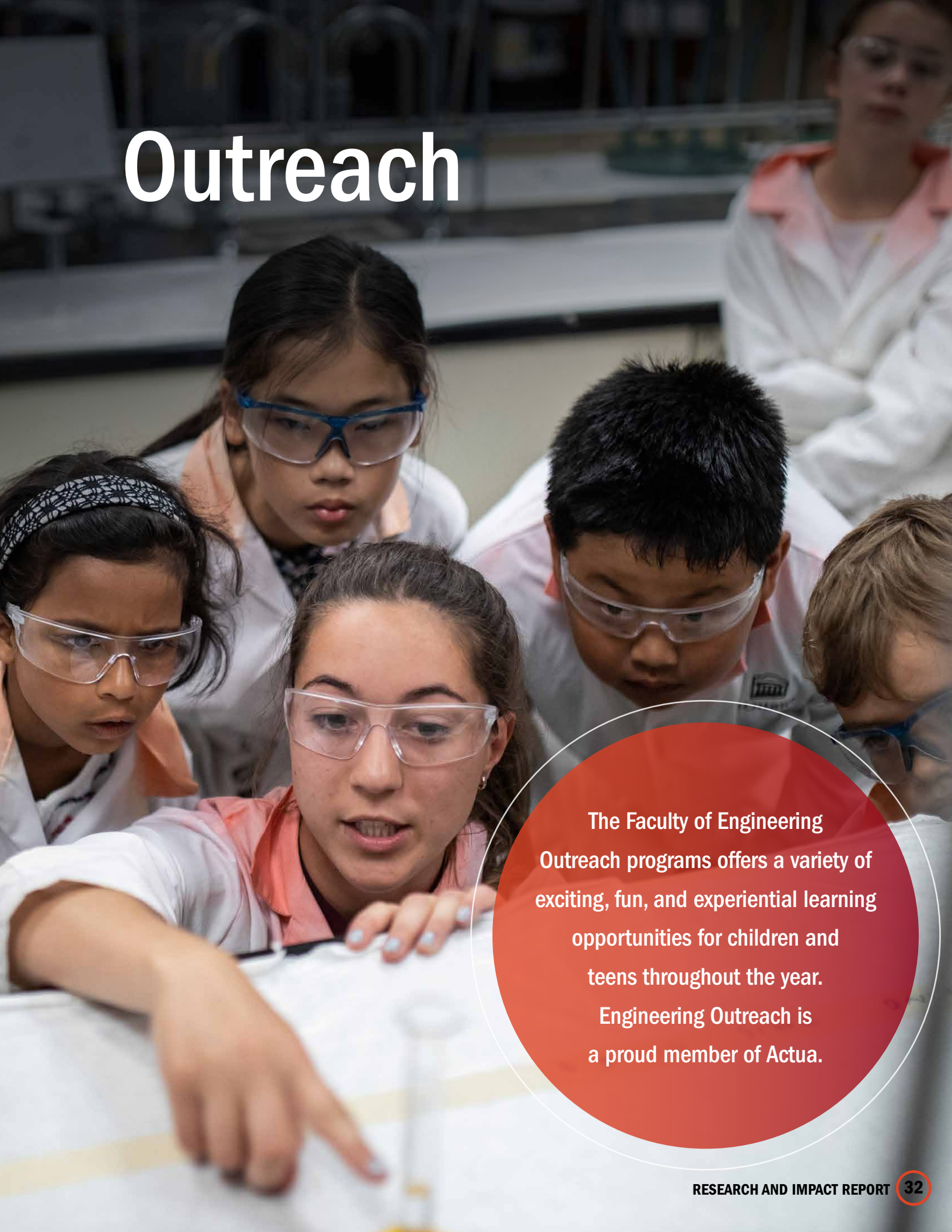
Outreach



The Faculty of Engineering Outreach programs offers a variety of exciting, fun, and experiential learning opportunities for children and teens throughout the year. Engineering Outreach is a proud member of Actua.

WHY IS IT IMPORTANT TO ENGAGE YOUTH IN ENGINEERING?

Traditional STEM (science, technology, engineering and math) teaching methods sometimes create barriers for elementary and high school students. Participation in activities from a young age can help students overcome them.

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At the University of Ottawa, our first activities of this type go back to 1991, when 60 youth took part in the very first Adventures in Engineering summer camp. Today, more than 30 years later, over 43,000 youth a year register for the Engineering Outreach Office's workshops, events and camps.

A TECH SECONDARY SCHOOL AT UOTTAWA'S FACULTY OF ENGINEERING

The Faculty of Engineering at the University of Ottawa offers more than higher education in STEM (Science, Technology, Engineering, and Mathematics). As part of their youth outreach programs, Ontario high school students can take technological design and computer science courses while earning credits towards their Ontario Secondary School Diploma.

The Faculty of Engineering Secondary School is a hidden gem for Ottawa students interested in STEM and is located right in the heart of Ottawa's downtown campus. Students get to immerse themselves in a university setting and take courses taught by highly qualified instructors.

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Alumni

We are proud of our alumni who represent the Faculty and its name with pride and excellence, in their respective fields of work and around the world.

Sandra Odendahl, BASc in chemical engineering

Sandra Odendahl who's built an outstanding career in finance, shares her story, and offers advice to current engineering students.

ALUMNA'S JOURNEY: FROM CHEMICAL ENGINEERING TO FINANCE

When people hear the word "engineering," they often associate it with design, construction and problem-solving in fields such as technology, infrastructure, or machinery. That's part of what engineers do — but not all.

This is the story of one remarkable alumna, Sandra Odendahl, who studied chemical engineering at uOttawa and is currently senior vice president and head, sustainability, diversity, and partnerships, at BDC.

Odendahl knew that to build a career and live a life with purpose and impact, you have to be willing to step out of your comfort zone. She worked as a risk analyst in the banking sector, to understand how resource projects get financed. This position, which she initially saw as a detour before returning to her field of expertise, has been the springboard for a successful career spanning more than 25 years in finance, including leading enterprise-wide sustainability, environmental and social risk management and social finance programs and strategies at two of Canada's chartered banks.

A committed community volunteer, Odendahl has enjoyed serving on non-profit boards, expert panels, and advisory groups throughout her career. She has received several honours for her contributions to creating more stable, sustainable, and inclusive communities, including the 2023 Faculty of Engineering Alumni Award of Excellence for her trailblazing work in sustainable finance and volunteer efforts.

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