FACULTY OF ENGINEERING 2024-2025

IMPACT REPORT

UNIVERSITY OF ALBERTA

JANUARY 2026

Territorial Acknowledgement

The University of Alberta, its buildings, labs and research facilities are primarily located on traditional Indigenous territory, lands that are now known as part of Treaties 6, 7, and 8 and homeland of the Métis. We respect the sovereignty, lands, histories, languages, knowledge systems and cultures of First Nations, Métis and Inuit nations.

Editors: Annie Aguilar, Sasha Roder Mah, Donna McKinnon and Priscilla Popp

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Faculty of Engineering
College of Natural and Applied Sciences
Donadeo Innovation Centre for Engineering
9211 116 Street NW, Edmonton, Alberta, Canada T6G 1H9
780-492-0503 | enggdo@ualberta.ca | ualberta.ca/engineering

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Message from the Dean

Engineering a Future Without Limits.

Our journey at the University of Alberta has always been defined by a singular, restless ambition: to solve the world's most pressing challenges. Since 1908, this faculty has stood at the forefront of progress, and today, that legacy is more vibrant than ever. Our mission is clear — to be the most daring engineering community on the planet.This past year has been nothing short of remarkable. Guided by a "no-limit" philosophy, we have pushed the boundaries of energy, environment and quantum technology. Our collective dedication has earned us a place as the fifth-ranked engineering faculty in Canada according to Times Higher Education World University Rankings by subject 2026, a testament to the brilliance and resilience of our people.

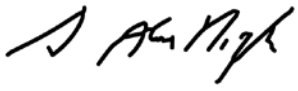
We are currently experiencing an energizing influx of talent, with a record 4,992 undergraduate and 1,581 graduate students. This new generation is entering an ecosystem designed for radical innovation. This year alone, we launched the first Mechatronics and Robotics co-op cohort and our first fully online MEng program, opened the Centre for Applied Research in Defence and Dual-use Technologies and the Centre for Hydrogen Innovation Workforce Development and Outreach, and advanced undergraduate renewals and secured national accreditation to ensure engineering students have a world-class foundation for their future careers.

The future of engineering is interdisciplinary. We are blurring traditional lines to uncover breakthroughs at the intersection of diverse fields. By uniting our expertise with partners across the university and industry, we are transforming "what is" into "what could be."

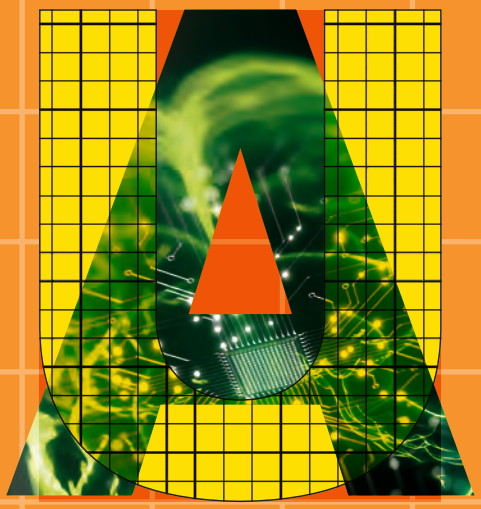
To sustain this momentum, we are expanding our research capacity, empowering a positive and inclusive culture and investing in the top-tier facilities our community deserves.

I am profoundly grateful for your unwavering support. As you explore this Impact Report, I hope you feel the same sense of pride and purpose that I do. Together, we are not just teaching engineering; we are engineering a better world.

With profound gratitude and utmost respect,



Simaan Abourizk
Dean, Faculty of Engineering



MISSION, VISION, VALUES

We are:
Driven. Daring. Curious. Supportive. Grounded. Considerate.

Our vision:

Be the most daring engineering community on the planet.

Our mission:

Be united in our unwavering dedication to solving the world's greatest challenges and building a better future for our society.

Our core values:

Building our future through people:

We support world-class research in a collaborative, cross-functional environment. We aim to diversify the engineering field and apply ingenuity, opening our process and potential for students, faculty and staff.

Developing minds and hands with a heart:

We take a holistic approach to deliver an exceptional student experience, equipping graduates with technical acumen and emotional intelligence.

Demonstrating the ever-expanding value of our contributions:

We promote an understanding and deep appreciation for the value we provide to society through our engagement in the community, research impact and in our contributions.

Solving the world's greatest challenges:

We position our engineers to uplift the whole of humanity by focusing on research programs and exemplary educational and extracurricular experiences.

BY THE NUMBERS

We aspire to become the top-ranked engineering program in Canada.

Top 5

Our current place among engineering programs in Canada

10

The number of programs accredited by the Canadian Engineering Accreditation Board and the Co-operative Education and Work-Integrated Learning (CEWIL) Canada

19

The number of discipline specializations available to students

10

The number of institutes and centres
(For more information, see page 32)

Fast Facts

105,000: The number of total tool hours in the NanoFab, a core facility supporting nanofabrication and advanced characterization, supporting teaching, research and commercial activities.

Narin Hessari, Oliver Kurzaj and Hossein Mehnatkesh evaluating machine-learning based model predictive controller performance results

RESEARCH IMPACT

What Research Does

In the Faculty of Engineering, we don't just study the future — we build it. As a powerhouse of collaborative research, we unite the world's brightest minds to confront the 'Grand Challenges' of our time. From the Helmholtz-Alberta Initiative's global pursuit of health and environmental resilience to the Institute for Oil Sands Innovation's drive for a sustainable energy legacy, we are redefining what is possible. Through nanoFab, we are turning microscopic discoveries into macroscopic economic engines, ensuring that every breakthrough in nanotechnology fuels a more prosperous tomorrow.

No. 1 The Faculty of Engineering received the highest dollar value of NSERC Alliance Grants among all Canadian universities in the most recent reporting period (2019-2023). The total value was **$49.6M**.

$6.6M
in financial support awarded annually

$85M
in research revenue in 2024-2025
($15M increase over last year)

Research Impact by the Numbers

Your Faculty of Engineering is home to:

22 NSERC Industrial Research Chairs (current and past holders)

17 Endowed chairs and professorships

#1 in dollar value of NSERC Alliance Grants awarded to Canadian universities for 2019-2023*

17 Canada Research Chairs

29 University of Alberta Engineering Research Chairs

FACULTY STORIES

New mechatronics and robotics engineering program will help students 'create the next generation of the world we live in'

The University of Alberta's Faculty of Engineering launched a new undergraduate degree program integrating the high-demand fields of robotics and electrical, computer and mechanical engineering.

The five-year program — including 20 months of industry co-op placement — is the first of its kind in the Prairie provinces, and a direct response to the aims of the *Alberta 2030: Building Skills for Jobs* strategy.

The program provides students with the skills needed to solve complex problems in product design, manufacturing and maintenance.

"A big part of this program is getting students to think in systems," says Pierre Mertiny, associate dean. "Mechanical and electrical engineers typically focus on components, and if they need to design a system, they start thinking upwards from the components. Mechatronics engineers think the other way around. They think big-picture system, and then break that down to components."

There has been growing demand for mechatronics, says Mertiny, with students inquiring about training in the field for years.

"Students want to create the next generation of the world we live in — all the gadgets and the automated systems."

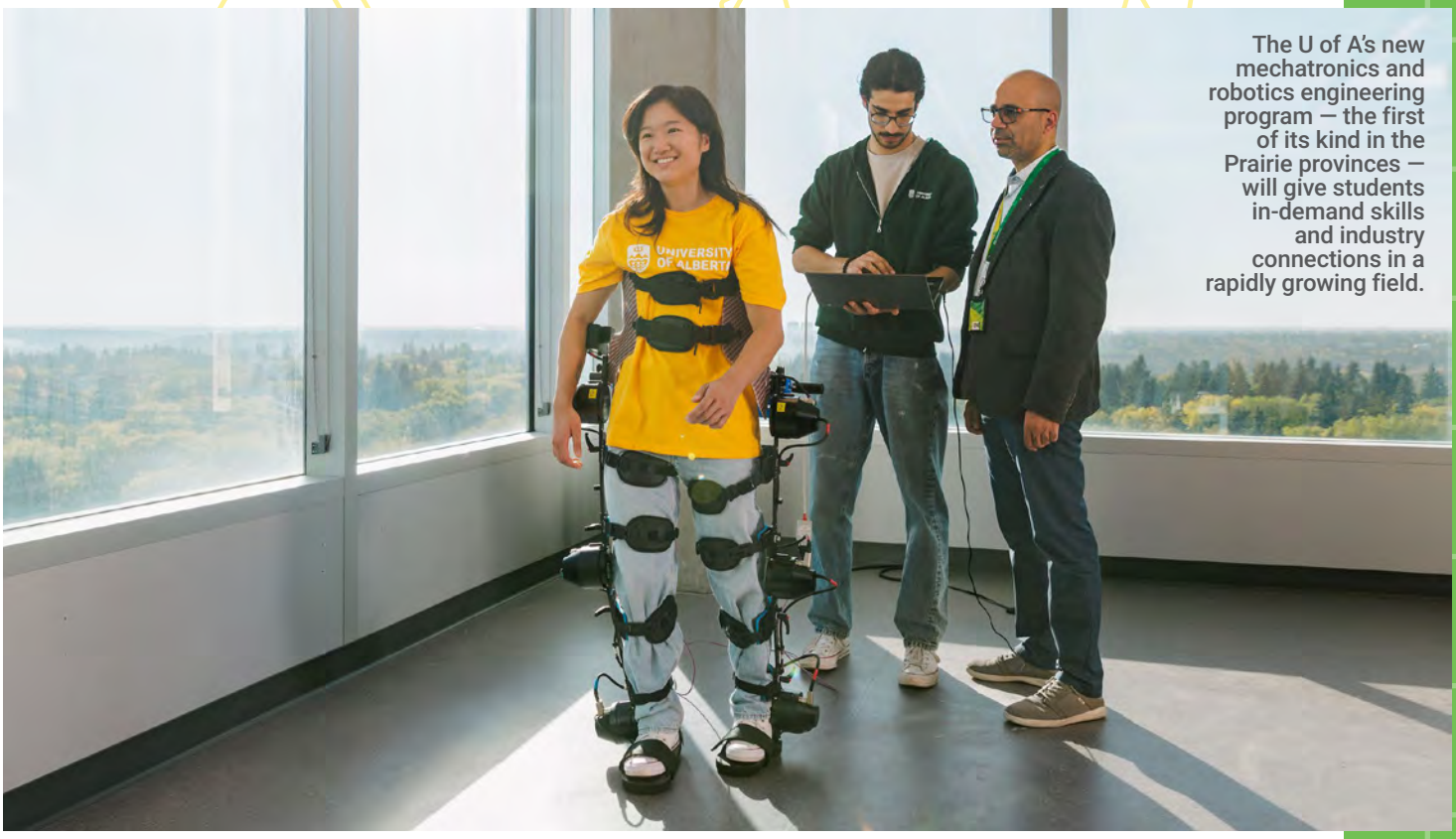
Mechatronics also requires expertise in the rapidly accelerating field of artificial intelligence, he adds.

More and more of today's industries are becoming automated, including automotive manufacturing, chemical production, oil and gas mining and refining, energy grids, aerospace engineering, precision health care and drones for environmental monitoring. They are also central to emerging green-energy technology.

Even the residential and commercial building industry is becoming increasingly automated. Landmark Homes, for example, founded by U of A engineering graduate Reza Nasseri, fabricates home components with robotic systems.

"Companies like that often can't find qualified people in Alberta, so they have to recruit mechatronics graduates from Eastern Canada," says Mertiny.

The program's first cohort in mechatronics and robotics began in fall of 2025 after completing a foundational first-year engineering program.



The U of A's new mechatronics and robotics engineering program — the first of its kind in the Prairie provinces — will give students in-demand skills and industry connections in a rapidly growing field.

"Mechanical and electrical engineers typically focus on components, and if they need to design a system, they start thinking upwards from the components. Mechatronics engineers think the other way around. They think big-picture system, and then break that down to components."

— Pierre Mertiny, associate dean

Busting myths with the power of math

In the hugely popular fourth-year course, "Busting Myths with Analysis," mechanical engineering students tackle problems based on common urban myths, applying mathematical equations based on physical laws such as gravity, aerodynamics, terminal velocity and fluid dynamics.

The course was conceived in 2009 by Warren Finlay and Jason Carey, now dean of Campus Saint-Jean, with a nod to television series *Mythbusters*.

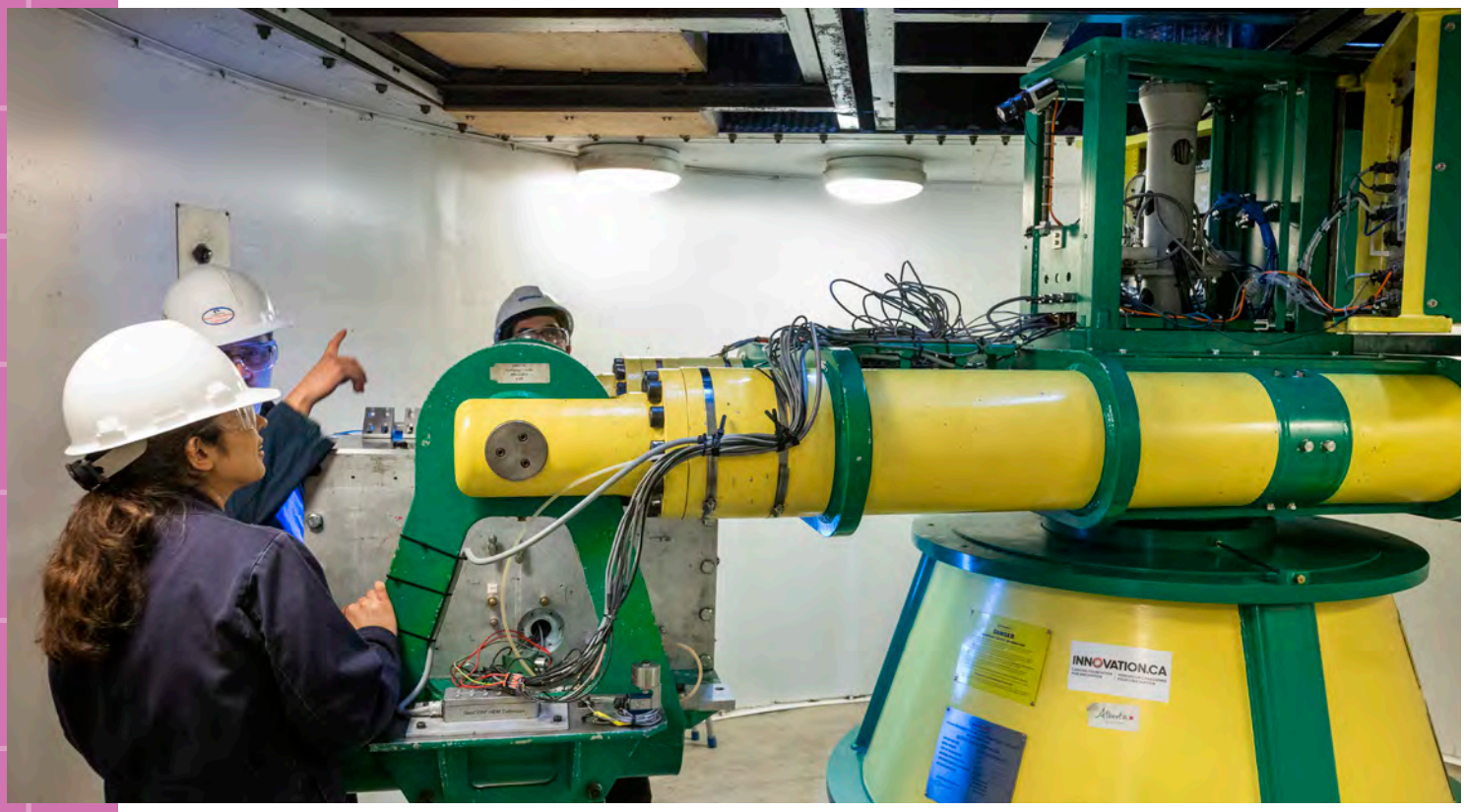
Carey and Finlay's take on the concept proved so successful that in 2013 they published a book called *Ice Bullets and Killer Pennies: 14 Myths Get the Scientific Shakedown*, designed to appeal to a general audience, with a foreword by Bob McDonald of CBC's *Quirks and Quarks*.

Ideas for the course are derived from various sources, including the students themselves. There are also regular class debates, sometimes on controversial subjects that go beyond mathematical equations, such as the ethical implications of artificial intelligence. The course is now taught by Ahmed Samir Ead, an Assistant Teaching Lecturer in the Department of Mechanical Engineering.

"A big part of being an engineer is being a good person," says Ead. "That means knowing how to communicate. How do you present yourself in a civilized manner? How do you present an argument?"

"Engineers are supposed to solve problems for society. If we can't communicate our thoughts, how are we supposed to do that effectively?"

2600+ The number of training sessions offered to students, staff and alumni in the Elko Engineering Garage makerspace.



Defying gravity: Aspiring astronaut recognized as a role model for women in STEM

In December 2024, mechanical engineering grad Makenna Kuzyk was awarded Polytechnique Montréal's prestigious Order of the White Rose, a $50,000 memorial scholarship given each year to a Canadian female engineering student to pursue graduate studies anywhere in the world.

Kuzyk has wanted to be an astronaut for as long as she can remember. As an undergrad, she started a student club called Mission Space Walker, the first all-women group in a national competition called the Canadian Reduced Gravity Experiment. The program allows post-secondary students to design and test a small scientific experiment on board the National Research Council of Canada's Falcon 20, which has been modified for reduced-gravity flight with the help of the Canadian Space Agency.

After one reduced-gravity flight she knew she had found her dream career: she wants to run the Canadian Reduced Gravity Experiment program and help Canada keep pace in the space race.

"My dad was a space enthusiast, so we'd go out and look at the stars," says Kuzyk. "I remember seeing the International Space Station, and I said, 'Dad, one day I'm going there.'" And she's on her way: She has obtained her pilot's licence, and, in January, Kuzyk began her master's degree in flight test engineering at the International Test Pilot School in London, Ont.

U of A, EPCOR team up to launch water research centre

The University of Alberta has launched an interdisciplinary research centre aimed at keeping water and wastewater services safe, reliable and sustainable for generations to come.

Based in the Department of Civil and Environmental Engineering and the School of Mining and Petroleum Engineering, the newly launched Water Research Centre was kick-started with a contribution of $1.4 million from EPCOR as the founding member. The centre will build on research already underway at the university, says director Mohamed Gamal El-Din, drawing on expertise across faculties to examine problems of water supply, demand, treatment, reuse and infrastructure.

"It's not just about engineering and science," he says. "It also includes sociology, rural economy, Indigenous communities and anything related to water across the entire university to cover a wide variety of global challenges related to water."

With EPCOR providing water and wastewater samples as well as access to infrastructure for certain projects and hands-on training or work opportunities, U of A researchers will train students and postdoctoral scholars in three main areas — water supply; water demand, treatment and reuse; and water infrastructure — and work with national and international institutions, governments and academia. One important mandate will be facilitating the transfer of knowledge to water industries, government ministries, utilities, agriculture and municipalities and communities, while working directly with remote, underserved and Indigenous communities to tackle critical issues of water supply and safety.

"We're trying to cover the entire water cycle," says Gamal El-Din. "That would include rainfall, infiltration into soil, runoff into rivers, groundwater — the whole hydrological cycle — as well as how water is used in society in municipal, industrial, commercial and agricultural contexts, and how all of that affects the environment."

He adds that researchers will also look at how extremes related to climate change, such as droughts and flooding, affect water resources and communities.

"It's not just about engineering and science. It also includes sociology, rural economy, Indigenous communities, and anything related to water across the entire university to cover a wide variety of global challenges related to water."

Tleukhan Mussin, walking on a treadmill wearing the lower limb exoskeleton. Maryam Shakourisalim and Andor Siegers monitor progress of the lower limb exoskeleton during walking.

DIVERSE PERSPECTIVES, SINGLE PURPOSE

Nima Shirzad Ghaleroudkhani and Sheila Obi discussing automated routing and mapping of drones for post-disaster assessment

RESEARCH NEWS

Engineering Without Limits: Where Collaboration Ignites Innovation

Innovation refuses to be contained. Our focus on the integration of multiple subfields in engineering is enhanced through our strategic partnerships to expand and streamline the biomedical engineering teaching and research program. Pushing boundaries, we endeavour to innovate new solutions and technologies such as mechatronics, bioprocessing and healthcare engineering to pave the way for our future. We are creating an ecosystem where biomedical engineering thrives, giving our students and researchers the tools to solve complex global challenges and pioneer the health solutions of tomorrow.

Laser and soil scientists team up for a fast field test

Portable device breaks down soil's essential elements and texture in seconds, offering a faster way to help farmers grow successful crops.

Accurately testing soil quality is essential for growing successful crops, but until now farmers have had to send in samples to a lab and wait for results.

Thanks to the University of Alberta's expertise in laser science, there is now a fast, portable tool for testing soil samples in the field. Using a process called laser-induced breakdown spectroscopy (LIBS), a device the size of a large suitcase produces a detailed profile of the soil's essential elements and texture in seconds.

Directed at a small sample, the laser produces a "hot, dense state of matter called plasma," says Amina Hussein, professor in the U of A's Department of Electrical and Computing Engineering and Canada Research Chair in Laser-Plasma Interactions.

When this "soup of electrons and ions and neutrals" cools down, it emits light, and those wavelengths reveal the soil's composition, including indicators of soil health such as nitrogen and carbon as well as the proportion of sand, silt or clay.

That data can help farmers increase crop productivity, by, for example, applying the right amount of fertilizer. The device may also eventually determine how much organic carbon could be sequestered in soil at a given site, says Hussein, which could help reduce CO_2 emissions.

The first portable LIBS instrument dedicated to real-time, in situ soul analysis was developed with partners at the University of Regina, Croptimistic Technologies, Enersoft and Boreal Laser.

"This can contribute to sustainable agriculture, climate change mitigation and land reclamation — allowing farmers, agronomists and our governments to have new tools to rapidly assess soils on site," says Hussein.

U of A engineering researchers lead design and manufacturing of advanced materials for small modular nuclear reactors

A fraction of the size of a conventional nuclear power reactor, small modular reactors (SMRs) generate enough nuclear power to run an industrial plant or cover the energy needs of a small rural community. Their modules can be manufactured in a factory and later transported to the site for final assembly and installation, leading to increased efficiency and improved return on investment.

At the forefront of SMR design in Canada is Mostafa Yakout, a mechanical engineering professor at the University of Alberta, who was awarded $2.5 million over the next three years from Natural Resources Canada's Enabling Small Modular Reactors Program and related programs and industry partnerships to develop and test advanced materials for use in Canadian-made, high-performance SMRs that operate at high temperatures.

Yakout's team will include colleagues James Hogan (mechanical engineering), Jing Liu (chemical and materials engineering) and Arthur Mar (chemistry), working in collaboration with NRCan's CanmetMATERIALS, Terrestrial Energy, Canadian Nuclear Laboratories, ATS Industrial Automation and InnoTech Alberta. About a dozen doctoral students and postdoctoral scholars will also work on the project.

The team will explore ways to make the containment material inside the fission reactors — which must hold up under temperatures as high as 850C — less corrosive and more durable, while making manufacturing cheaper with less waste. They will begin by attempting to modify a superalloy used in conventional nuclear reactors, called Inconel 617, used to resist corrosion under extreme heat.

Yakout's team is aiming for a high-performance standard in its materials design that will stand up to regulatory approval once the reactors are ready for deployment. To make the product commercially viable, the team is also exploring applications in other sectors such as defence, space and aerospace.

"We want to be sure that when the reactors are ready to go, we have all the regulations and licensing in place, and that the public is satisfied they are safe and clean," he says.

"This is a critical part of Alberta's energy future. Nuclear is considered one of the cleanest types of energy, and Alberta is well positioned to lead the SMR effort in Canada, if not in North America."

Graduate research tackles Alberta's industrial challenges

Alberta's complex energy landscape demands innovative ideas for resource management and environmental sustainability. Addressing this need are two graduate students, both 3MT finalists, who are utilizing their specialized knowledge to devise unique industrial solutions.

Materials engineering student Tanay Kumar focused his research on wastewater management in Alberta's oilsands, specifically the Athabasca tailings ponds.

"The wastewater generated from mining operations is stored in large tailings ponds — more than 1.18 trillion litres in volume — posing significant environmental risks due to the presence of toxic chemicals," Kumar explains. The goal of his research was to develop optimized interfacial evaporation systems to significantly reduce the volume of these ponds while harnessing renewable energy sources such as solar and wind.

In his 3MT talk, *Spilling the Bucket on Tailings Wastewaters*, he used the analogy of spreading water from a bucket to concentrate heat and maximize evaporation. Kumar is optimistic that this land can one day be reclaimed.

Equally concerned with sustainability is electrical engineer Isaac Ziem, who is focused on converting waste heat — a byproduct of oil extraction and a contributor to global warming — into usable electricity. Inspired by his experiences on his uncle's farm in Ghana, Ziem says his project looks at how to harvest energy.

In his 3MT presentation, *From Waste to Watts: Power Oil Drilling*, Ziem addresses a key challenge: temperature fluctuations in harsh industrial settings cause most rectifiers and matching networks to fail. Ziem designed a temperature-resilient matching network to compensate for these changes, allowing electrical energy generated by waste heat to be harvested efficiently over a wide temperature range.

Ziem's long-term goal is to turn academic ideas into deployable sensing and communication solutions that help industry monitor critical infrastructure safely and sustainably.

Tanay Kumar

Isaac Ziem

TEACHING AND LEARNING IMPACT

The Faculty of Engineering is dedicated to fostering student success and positively impacting society.

Our goal is simple:

To graduate engineers who are ready to change the world. By championing diversity and emotional intelligence, we ensure our researchers and students tackle complexity with perspective and purpose. A shining example of this is the David and Joan Lynch School of Engineering Safety and Risk Management. As a Canadian leader, it stands as a beacon of excellence, setting the standard for how we protect our environment and assets while driving the industries that move our world forward.

Education by the Numbers:

4,992
Undergraduate students

1,581
Graduate students

235+
Faculty members

5
Departments

TRAINING ENGINEERS

Co-op Works for Students and Employers

Since 1981, the Faculty of Engineering's Co-op Program has been a national leader in cultivating young talent and preparing students for an ever-changing global economy.

Our students learn from industry leaders and make meaningful contributions to their communities. Co-op students have access to employment professionals, and employers seamlessly integrate future engineers into their teams.

531
students participated in winter term 2025

622
students participated in fall term 2025

1,094
students participated in summer term 2025

87%
placement rate of engineering co-op students

2,287
Highest number of student placements in the history of our co-op program.

“Joining the co-op program was the best decision of my degree (besides picking chemical engineering, duh). My co-op placements, all in different areas of the energy industry, have given me a strong starting toolkit for the rest of my career. I have it far from all figured out, but through the experiences gained and industry connections made, I have a sense of professional confidence that I can take with me as an engineer in training.”

— Serena, fifth-year chemical engineering co-op student

Image Credit: Imperial Oil

AWARD RECIPIENTS

Congratulations!

Our students and researchers benefit from the scholarship of their peers. As a result, we can boast a mighty braintrust. Here are some of the awards our faculty have won recently.

Aminah Robinson Fayek
2024 Outstanding Woman In Innovation – Research, ASTech Awards

Derek Martin
2024 K. Y. Lo Medal, Engineering Institute of Canada

Simaan AbouRizk
King Charles III Coronation Medal, Government of Alberta

Ryan Li
2025 Research Excellence Award, Association of Professional Engineers and Geoscientists of Alberta

Amit Kumar
Fellow of the Engineering Institute of Canada, Engineering Institute of Canada

Aminah Robinson Fayek
Fellow of the Canadian Academy of Engineering, Canadian Academy of Engineering

Abdulhakem Elezzabi
Fellow of the Canadian Academy of Engineering, Canadian Academy of Engineering

Xuehua Zhang
Fellow of the Canadian Academy of Engineering, Canadian Academy of Engineering

Richard Chalaturnyk
Fellow of the Canadian Academy of Engineering, Canadian Academy of Engineering

Tian Tang
Fellow of the Canadian Academy of Engineering, Canadian Academy of Engineering

Biao Huang
Fellow of the Royal Society of Canada, Royal Society of Canada

COMMUNITY IMPACT

The Final Frontier
Priya (left) with
Alberta Sat members

Shaping the Future of Engineering

Our work is a reflection of the world we want to see: one shaped by diversity, openness and intentional design. We see our craft as an act of service, a way to leave our communities better than we found them. From the soil beneath our feet to the distant shores where we practice, we carry a sacred responsibility to the land and the life that defines every place we call home.

Where We Live

Edmonton: 18,498

Calgary: 6,978

Rest of Alberta: 2,619

Canada: 5,590

USA: 2,004

Asia: 1,213

International: 589

Total alumni: 37,992

*Some records provide no geographical information.

The Final Frontier

With the transition to adulthood, mechanical engineering student Priya Manavalan's childhood dream of becoming an astronaut evolved into a focused goal: working in the aerospace industry.

This ambition crystallized in her second year after joining AlbertaSat, a U of A student group dedicated to designing, building and operating high-impact small-satellite missions. Partially funded by the Faculty of Engineering's ENG Fund, AlbertaSat served as both her passion and her direct route into the aerospace industry.

"AlbertaSat has provided me with incredibly valuable experience from a practical standpoint, and it's definitely complemented and contextualized everything that I've learned in class," says Manavalan, who, after holding several progressively responsible roles, now serves as the project manager for their current mission, the Ex-Alta 3.

Manavalan notes that AlbertaSat is structured like a mini-company, offering undergraduates crucial insights into real-world complex projects. The multidisciplinary team's Ex-Alta 3 CubeSat is scheduled for a 2026 launch on a SpaceX rocket (via the Canadian Space Agency) to monitor the impact of climate change on Canadian ice and snow.

As project manager, Manavalan is also involved in fundraising, emphasizing the importance of the ENG Fund in supporting these experiential opportunities. "I'm happy that the Faculty of Engineering is investing more in student groups, because groups like AlbertaSat are training the next generation of Canadian engineers."

Manavalan secured a position at the University of Victoria's aerospace research lab upon graduating at the end of 2025, a role she credits to her AlbertaSat connections. Ultimately, she hopes to return home.

"I'm invested in building the space industry right here in my home province," she says, citing the company Wyvern, launched by former AlbertaSat members, as proof of the sector's potential. "I would love to see more opportunities in aerospace in Alberta."

A strong foundation: Honouring Jim Montgomery and empowering future engineers

Thanks to the generosity of a group of industry leaders known as the "Friends of Dr. Jim," the Jim Montgomery Endowment in Structural Engineering is helping fund graduate students like Gabriel Capettini as they conduct experimental testing that lays a foundation for the future of the field.

Named for the U of A grad, former professor and renowned structural engineer, the endowment celebrates Montgomery — whose contributions are embedded in the infrastructure of Edmonton, from Rogers Place to the Walterdale Bridge and beyond — and gives the university community a new landmark: the Jim Montgomery Strongwall. Towering 30 feet high and six feet thick, this massive piece of equipment allows researchers in the I.F. Morrison Structural Engineering Laboratory to test how building components perform under extreme forces, such as earthquakes or wind.

"This lab makes the U of A one of the top schools for structural engineering in Canada," says Capettini. "Knowing we have the backing of leaders in the industry gives us the confidence and the means to push boundaries."

Spearheaded by Jeff DiBattista, a fellow engineer, mentee and friend of Montgomery, together with colleagues and industry peers, Friends of Dr. Jim have raised more than $140,000 and counting.

THANK YOU DONORS

Hal Kvisle

Building Alberta's capacity for major projects

U of A grad Hal Kvisle is ensuring future engineers have the skills to turn ambitious plans into successful projects.

Hal Kvisle has spent a lifetime turning complex ideas into finished projects as an engineer and executive. Now, with a $3 million gift to establish the Hal Kvisle Professorship in Project Management, he's investing in the next generation of builders in the Faculty of Engineering — so students graduate ready to deliver large-scale capital projects on time and on budget.

Kvisle, who earned his BSc in civil engineering in 1975, received the U of A's Distinguished Alumni Award in 2005 and the Canadian Business Leader Award in 2009, calls this gift a thank-you to the faculty that launched his career. "The real driver is me wanting to acknowledge and thank the engineering school for the great start they gave me — and to help young people," he says.

The professorship's mandate is pragmatic and ambitious. Working with industry partners, the holder will develop and share best practices, produce practical guides and integrate them into the curriculum, ensuring that classroom learning translates to real-world results.

"Major project management is a fascinating intersection of technical engineering, a good understanding of the social circumstances you're operating in and the detailed discipline you've got to be on top of," says Kvisle.

"If we can get that knowledge to students sooner, we can raise the whole game."

With this professorship, donors and educators are giving students the tools to turn complex plans into completed projects that benefit communities across Alberta and beyond.

$16.6M

total gifts received this fiscal year

$2M investment from Cenovus Energy boosts business, engineering programs

Cenovus Energy has made a significant investment in fostering student success to the Faculty of Engineering and the Alberta School of Business, with $2 million in funding.

In Engineering, the funding will support the Cenovus Energy Engineering Student Success Centre (formerly the Engineering Student Success Centre), which offers one-on-one tutoring and mock exams to nearly 1,400 first-year engineering students in physics, math and chemistry, as well as engineering. Taught by engineering graduate students, the tutoring gives them a leg up in final exams.

“It’s such a great investment in future engineers, especially because first year is tough on students,” says the centre’s director, Peggy Jankovic. “When we offer the academic support they need, we see more students get placed in second-year programs and become great engineers.”

In addition to providing funding for graduate tutors, Cenovus’s investment will also help the centre build a library of digital video resources, says Jankovic.

“This remarkable contribution to the Faculty of Engineering is a true game-changer, empowering our students with the resources they need to innovate, excel and ultimately become the next generation of engineering leaders,” says Simaan AbouRizk, dean of the Faculty of Engineering.

The comprehensive and multifaceted partnership between the U of A and Cenovus is part of the university’s Shape The Future campaign, which is ensuring that students have the support they need to be successful throughout their U of A experience and beyond.

YOUR GENEROSITY MAKES ALL THE DIFFERENCE

The world’s most complex challenges require more than just technical skill — they require a culture of collaboration and courage. Your generosity builds that culture. By bolstering scholarships and expanding research horizons, you ensure our faculty remains a place where innovation knows no bounds. With your partnership, we aren't just teaching engineering; we are empowering the people who will engineer a better world.

Contact **give2engineering@ualberta.ca** to learn more.

STUDENT SUCCESS

> **"EcoCar helped me rediscover my love for my degree; it reminds me why I started and has given me a second family"**
>
> — Jasmine Yip, EcoCar Project Manager

Student Clubs and Project Groups

Over 50 engineering student clubs and project groups provide hands-on opportunities to develop real-world skills. For example, AlbertaSat is building Alberta's second-ever satellite, which will monitor wildfires. EcoCar designs and manufactures hydrogen fuel cell vehicles, competing annually in the Shell Eco-marathon.

In clubs, students apply classroom concepts, make mistakes and learn, preparing them for industry careers. Students routinely credit their club experiences for helping them become work-ready. Students also have the opportunity to get involved with student governance and leadership by joining a club or organization such as the Engineering Students' Society.

Project Teams

Aerial Robotics Group (UAARG)
Designs and develops autonomous aircraft for competition

Aero Design
Designs and builds a fixed-wing, unmanned aerial vehicle (UAV) capable of delivering a payload

Albertaloop
Aims to help realize a hyperloop through research, community outreach and competitions

AlbertaSat
Designs, builds, tests, launches and operates cube satellites

Autonomous Robotic Vehicle Project (ARVP)
Designs, builds and competes aquatic robots

Biomedical Technologies Development Group
Devoted to tech solutions in medicine, engineering and science

EcoCar
Designs and builds hydrogen fuel cell vehicles for international efficiency competition

Engineers In Action
Works with under-served communities creating access to resources and economic opportunities

Formula Racing (Society of Automotive Engineers)
Designs and builds a race car to for competition

Great Northern Concrete Toboggan Race (GNCTR)
Designs, builds and competes concrete vehicles since 1974

RoboMaster Robotic Competition Team
Designs and builds robots for two yearly international competitions

U of A Bladesmithing
Dedicated to metallurgical/material science research and learning through the medium of blade making.

U of A Mine Rescue
“Their goal is to equip members with the knowledge, skills, and confidence to save lives in real-life situations through firefighting, rope rescue, first aid, vehicle extraction, and mine navigation skills”.

Space Exploration Alberta Robotics (SPEAR)
Promotes space exploration technology and robotics through educational outreach

Student Team for Alberta Rocketry Research (STARR)
Develops, tests and launches high altitude sounding rockets

Student Projects Spotlight

5
top 5 place finishes at competitions

45
project groups

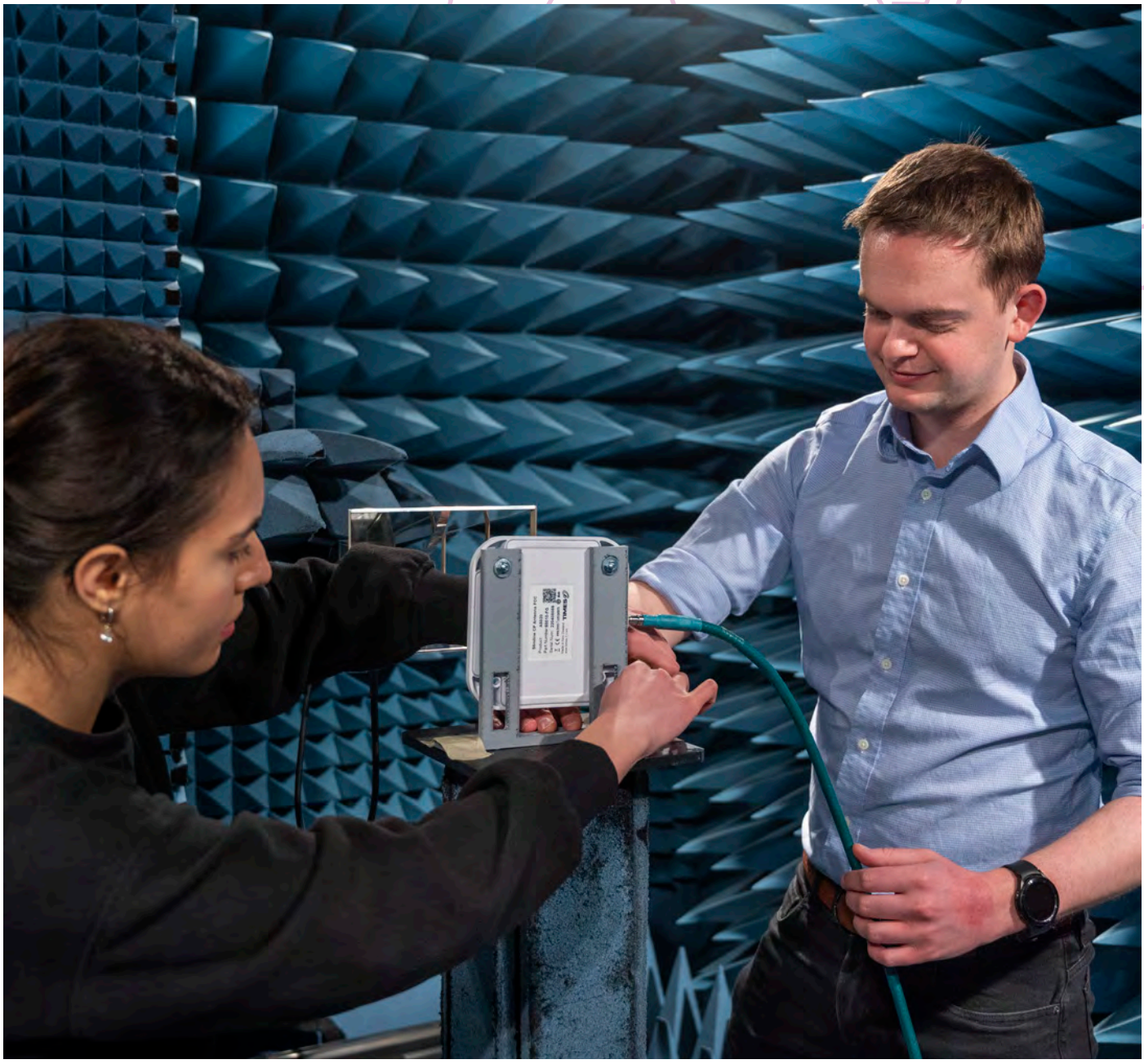
750
students in projects

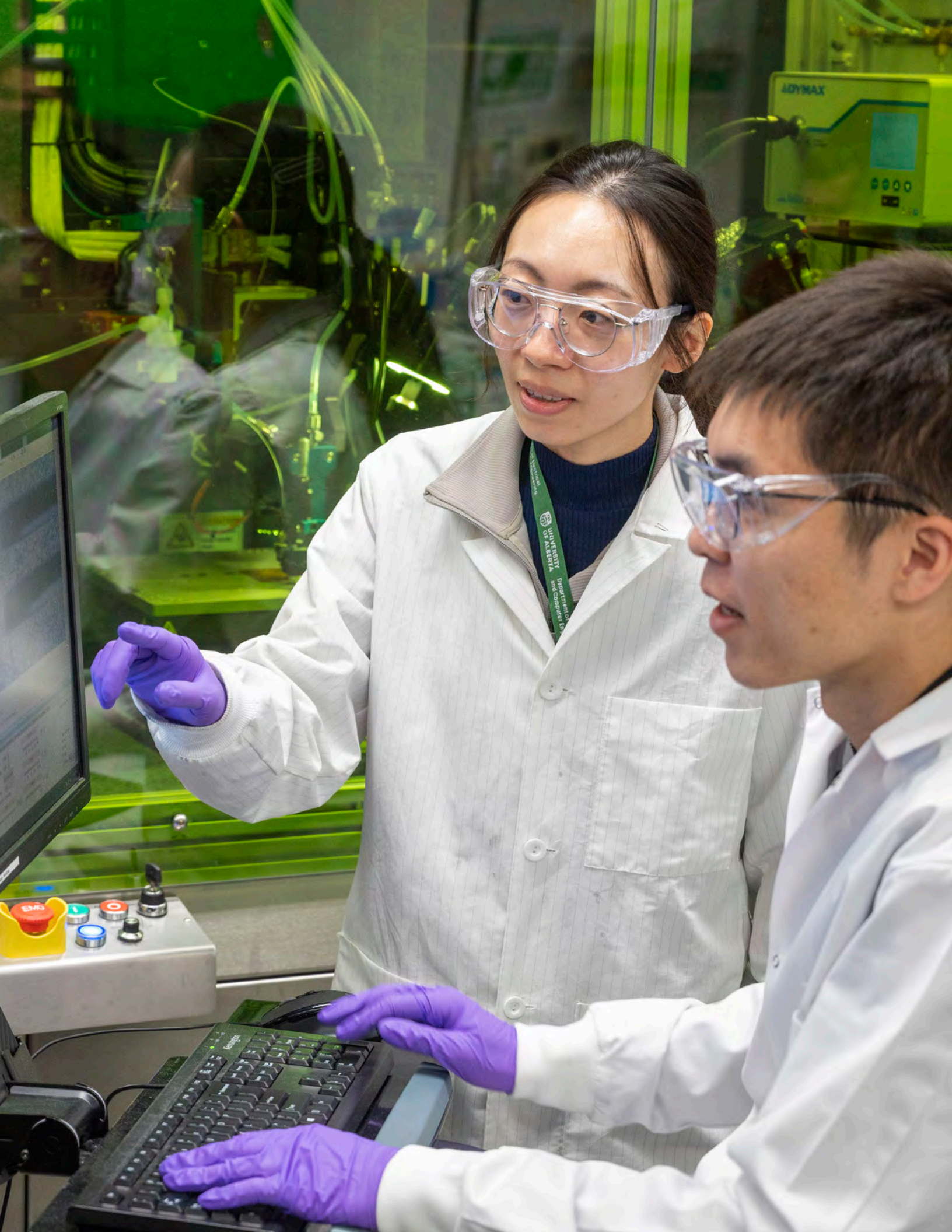
~$325K
of sponsorship funding from industry for the projects (Including monetary and in-kind sponsorships)

CENTRES AND INSTITUTES

Our centres and institutes serve as the foundational hubs for global breakthrough. By narrowing our focus, we deepen our impact — transforming complex challenges into tangible solutions. These are the spaces where boundaries dissolve; where engineers join forces with scientists and scholars across the University of Alberta to redefine what is possible. Here, we bridge the gap between theory and the real world, partnering with industry to turn academic excellence into societal transformation. We are proud to introduce the visionaries leading this charge.

NAME	DIRECTOR	FUNCTION
Canadian Underground Infrastructure Innovation Centre	Alireza Bayat	Dedicated to advancing sustainable, cost-effective underground infrastructure solutions through research, training, and industry collaboration.
Canadian Centre for Welding and Joining	Patricio Mendez	Advances interdisciplinary research and shares comprehensive expertise in welding, joining, metallurgy, and joining process development.
Centre for Applied Research in Defence and Dual-use Technologies (CARDD-Tech)	James Hogan Ashwin Iyer	Advances industry readiness by developing dual-use technologies, strengthening national security and training students.
Centre for Energy and Mineral Processing	Hongbo Zheng	A hub for activities and a funding program supporting energy and mineral processing research in collaboration with industrial partners.
Centre for Hydrogen Innovation, Workforce Development and Outreach (CHIWDO)	Amit Kumar	Accelerate hydrogen technologies, connect policy and train people for a net-zero world through partnerships with industry, government and communities.
CISC Centre for Steel Structures Education and Research	Ali Imanpour	Committed to developing education and research programs to support innovative and industry-leading research advancements to address the specific needs of industry.
Construction Innovation Centre (CIC)	Yasser Mohammad	Integrating a constellation of research and education into a single point of construction expertise to provide the best opportunities for construction innovation.
Imperial Oil Institute for Oil Sands Innovation	Xiaoli Tan	Promotes and builds capacities and funds research with commercialization potential that leads to environmentally, economically and socially responsible development of Canada's mineable oil sands resources.
Water Research Centre	Mohammed Gamel El-Din	Tackles a wide range of global water challenges across various disciplines, including sociology, rural economy, and Indigenous communities.
Alberta Power Industry Innovation Center	Petr Musilek	Unites the province's major utilities to navigate the transition toward a cleaner, more reliable, and affordable electricity grid.



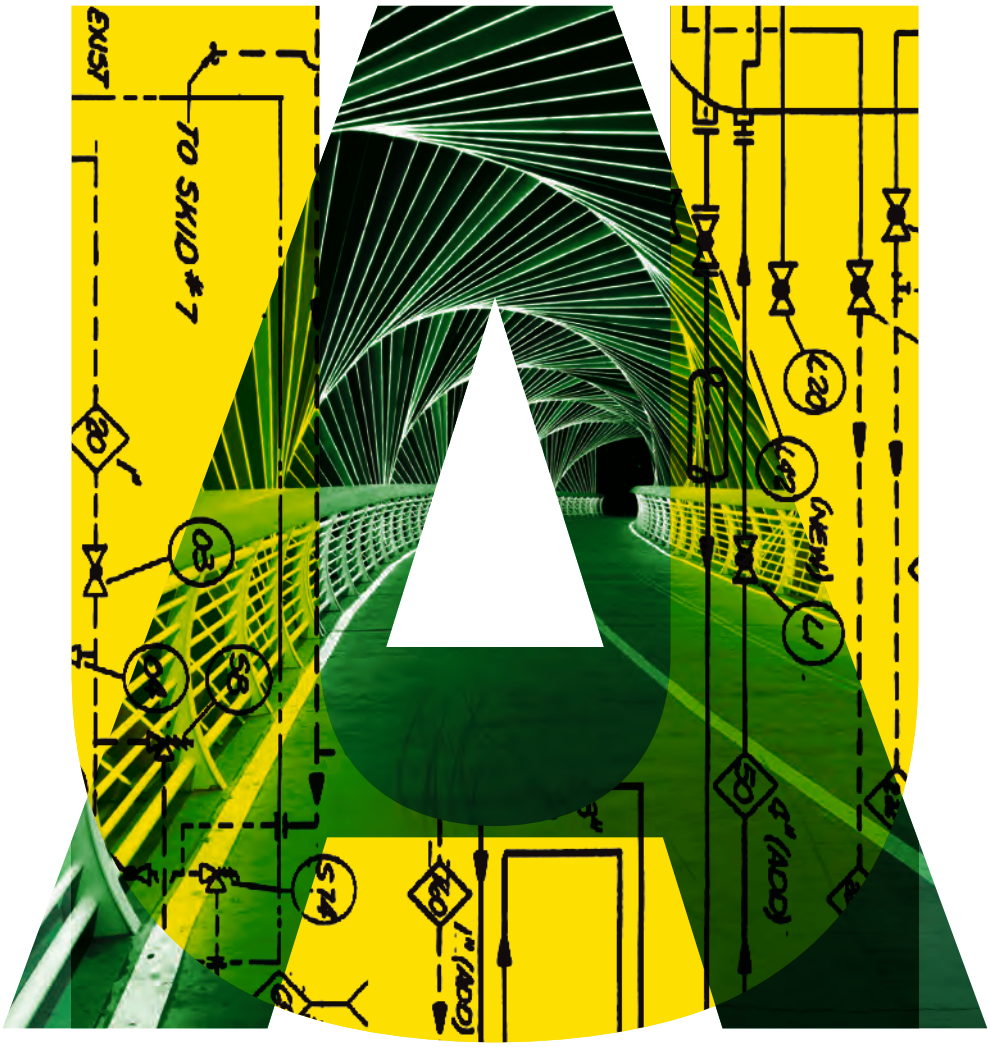

UNIVERSITY OF ALBERTA

RECONNECT WITH US!

Whether you are celebrating a BIG anniversary or would like to volunteer or connect with fellow alumni, the Faculty of Engineering would be thrilled to hear from you!

Contact **facalum@ualberta.ca**

uaberta.ca/engineering



Leading with Purpose.

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Faculty of Engineering

College of Natural and Applied Sciences
Donadeo Innovation Centre for Engineering
9211 116 Street NW
Edmonton, Alberta, Canada
T6G 1H9

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