Waterloo Magazine

2025

GAME CHANGERS

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WATERLOO MAGAZINE 2025
What's inside

Game changers

In this issue, we meet alumni, researchers and students who are redefining their disciplines – the game changers who are creating a better future for humanity and our planet.

Reinventing tradition

Since 1970, the University of Waterloo has delivered alumni stories that engage, inspire and connect our community – first through the Alumni Courier, and since 1989, in the Waterloo Magazine.

We're proud to showcase Waterloo's extraordinary graduates, and we're grateful to the writers, editors, designers and artists who bring their stories to life. From government leaders to industry trailblazers to Olympic athletes, Waterloo alumni have inspired our community for generations – and will continue to inspire us for generations to come.

Looking ahead, we will be changing how we showcase these remarkable stories. We will continue to celebrate the impact of Waterloo graduates; however, the way we share our news will evolve, as it has since the first print run of the Courier in 1970.

To make room for exciting new opportunities, this will be our last planned issue of Waterloo Magazine.

Our team remains committed to recognizing the University's incredible network of 255,000 graduates as they improve life in their communities and beyond. I invite you to update your contact information, to ensure you receive communication from us, including our alumni e-newsletter, as we continue to share the impact Waterloo graduates make across Canada and around the world.

We look forward to sharing more content in the months ahead. Thank you for making our alumni community truly special.

Nenone Donaldson
Vice-President, Advancement
Interim Vice-President, University Relations

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Acknowledgement of Traditional Territory

The University of Waterloo acknowledges that much of our work takes place on the traditional territory of the Neutral, Anishinaabeg, and Haudenosaunee peoples. Our main campus is situated on the Haldimand Tract, the land granted to the Six Nations that includes six miles on each side of the Grand River.

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Posing with graduates as they cross the stage during convocation.

Meet Waterloo's 12th chancellor

In October 2024, the University of Waterloo installed triple alum Dr. Jagdeep Singh Bachher (BASc '93, MASc '94, PhD '00) as its 12th chancellor, marking a new chapter in the University's leadership.

As chancellor, Bachher acts as the ceremonial head of the institution and is responsible for conferring degrees, certificates and diplomas on graduating students. He has also committed to supporting the growth of the University's endowment with an ambitious goal to get to $1 billion over the next 10 years.

Top: Bachher is joined by family on stage during the official installation ceremony at Fall 2024 Convocation.

Bottom: Discussing the future of wealth management during the Tech Horizons Executive Forum hosted by WatSPEED.

Continuing to shape our game-changing legacy

Game changers are curious, creative and willing to take risks. It's the perfect description for the founders of the University of Waterloo, who sought to establish an institution unlike any other. They set out to be bold and unconventional, looking beyond tradition to meet the needs of the future. They brought people together to share ideas, develop solutions and uncover innovations.

Their approach continues to inspire us today, empowering our community to tackle – unconventionally – the challenges that the world continues to face.

Within the pages of our final Waterloo Magazine, you'll discover how our community helps to launch extraordinary game changers. From social entrepreneurship in Africa to developing training robots for major league baseball, innovators across all our faculties, departments and schools are making a difference.

That includes innovators like Canada's first female Indigenous psychiatrist, Dr. Nel Wieman, who graduated from Waterloo and now leads the First Nations Health Authority as chief medical officer.

Our original game changer – Waterloo's co-operative education and work-integrated learning program – continues to set the benchmark for preparing the workforce of the future. For more than 65 years, it has built a network of more than 8,000 employers in over 70 countries and gives students up to two years of paid work experience that gets them on the field of employment faster.

Waterloo's game changers are transforming the way we see and interact with the world. Seeing the world in different ways and encouraging others to do the same is something we have always done.

Waterloo continues to be bold and unconventional. We have great ambitions for the impact we want to make on the world. In our vision for Waterloo at 100, we describe five global futures that will help us focus and co-ordinate our work across disciplines and organizational boundaries. It is where these interconnected futures of societal, health, sustainable, technological and economic overlap and intersect that our tenacity to identify new opportunities, solutions and leading change really shines.

The University of Waterloo was built to change the game, and today our institution inspires the game changers of tomorrow. Although this is the last issue of the Waterloo Magazine, we will continue to celebrate the success of our incredible community.

I encourage you to stay connected to receive the latest news and learn how Waterloo alumni, researchers and students are shaping a better future for humanity and the planet.

Vivek Goel, CM, OOnt
President and Vice-Chancellor

New regional hospital coming to the University of Waterloo

In July 2024, the University of Waterloo was selected as the site of a new hospital for the Waterloo-Wellington region.

Grand River Hospital and St. Mary's General Hospital have partnered to build the new joint facility where health-care innovation will be prioritized to better serve the region's needs.

For Waterloo's researchers specializing in health and medical technologies, the new hospital will strengthen their established relationships with health practitioners and facilities across Ontario.

"It's yet another example of empowering students, faculty and community to contribute to a healthier region through community-focused, cutting-edge research and experiential learning opportunities," said Vivek Goel, president and vice-chancellor of the University of Waterloo.

This collaboration promises to bring innovative health-care solutions and reimagine the future of human health through Waterloo's tremendous strengths in research, technology, innovation and deep community connectedness.

The new hospital will occupy approximately 60 acres in the David Johnston Research + Technology Park on the University's North Campus – a strategic site location that aligns with the region's forecasted urban and rural growth areas. Redevelopment projects for existing hospital infrastructure are under way, as are planning and design for the new site. By bringing together the region's reputation for entrepreneurial thinking, technology, innovation and experiential education, the new hospital aims to become a world-class hub for health care.

New Indigenous collection at W Store

Anishinaabe Onyota'a:ka artist Tehatsistahawi (Tsista) Kennedy is the designer behind a new Indigenous collection of apparel, drinkware and gift items available at W Store. A portion of the proceeds from this collection will support the Indigenous Student Development Fund.

SHOP THE INDIGENOUS COLLECTION

Creating new space for innovation and community

University of Waterloo's Innovation Arena opens its doors

The new collaboration space in the heart of Kitchener's innovation district empowers businesses, founders and community partners to engage researchers and entrepreneurs in solving local, national and global health challenges. The Innovation Arena is also the new home of Velocity, the University's flagship startup incubator.

Indigenous outdoor gathering space completed

On September 30, 2024, the National Day for Truth and Reconciliation, the University officially opened a new outdoor gathering space that serves as a physical representation of the continuous presence of First Nations, Inuit and Métis Peoples on this territory. The new space was given a Kanyenké'ha (Mohawk) name, Skén:nen Tsi Nón:we Tewaya'taróroks, which means "where we all gather together peacefully." The space is being used to teach, celebrate, gather and bring awareness about Indigenous Peoples and cultures.

Faculty of Mathematics breaks ground on Mathematics 4 building

The five-storey, 120,000 square-foot building will serve as the heart of the mathematics district on campus. It will feature more classroom space, labs and a cutting-edge eco-friendly server room called the Green Room. Construction is expected to take two to three years.

Warriors strike gold

The Waterloo Warriors field hockey team secured its first OUA title in more than two decades with a win over Guelph, and went on to win the bronze medal at the national championship.

Unlocking the mysteries of the universe

Using a global network of telescopes, Waterloo researchers are bringing black holes into view for the very first time

By Katie McQuaid

When a group of 14 scientists came together in 2014 to discuss a collaboration, Dr. Avery Broderick knew it was the start of something exciting. What he didn't know was that in just a few years, releasing the first-ever photos of a black hole would place them at the centre of a global phenomenon.

"I don't think any of us knew exactly what would come from establishing the Event Horizon Telescope (EHT) collaboration but looking around the room, I think we all knew we could achieve amazing things together that we couldn't do alone," said Broderick, a professor of physics and astronomy. "It was also an exciting day for Waterloo because we played a big role in getting everyone together to make it all happen."

When the EHT released images of the black hole at the centre of the M87 galaxy in 2019, they appeared on the front page of every major newspaper, and the world was captivated. In March 2024, new images showing the polarization of light in another black hole named Sagittarius A star (also known as Sgr A*) were shared and the world was drawn back in.

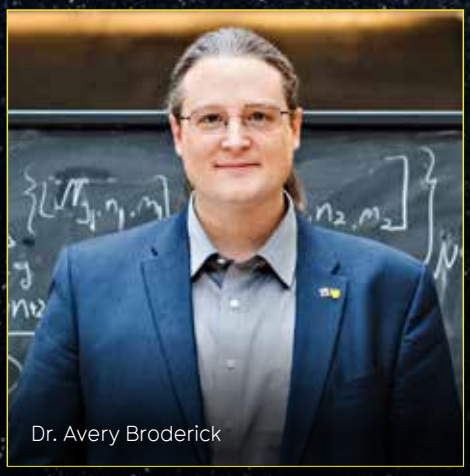
But what is it about black holes that captivates us? Simply put, they are one of the great mysteries of the universe – and everyone loves a great mystery.

When Steven Hawking discovered that black holes could radiate, it highlighted a problem between the theories of general relativity and quantum mechanics.

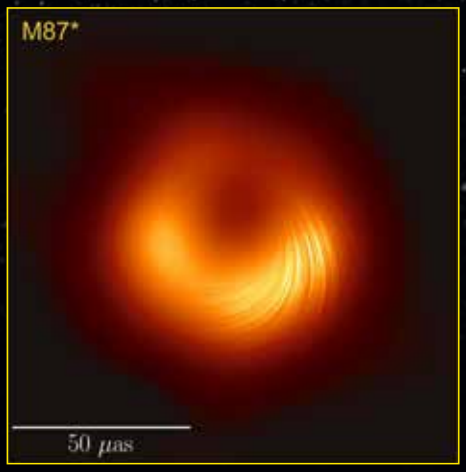
Theories at odds

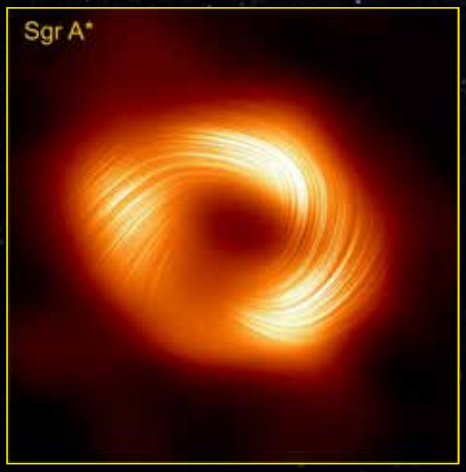
General relativity explains how gravity works on a large scale, like in black holes and the structure of the universe.

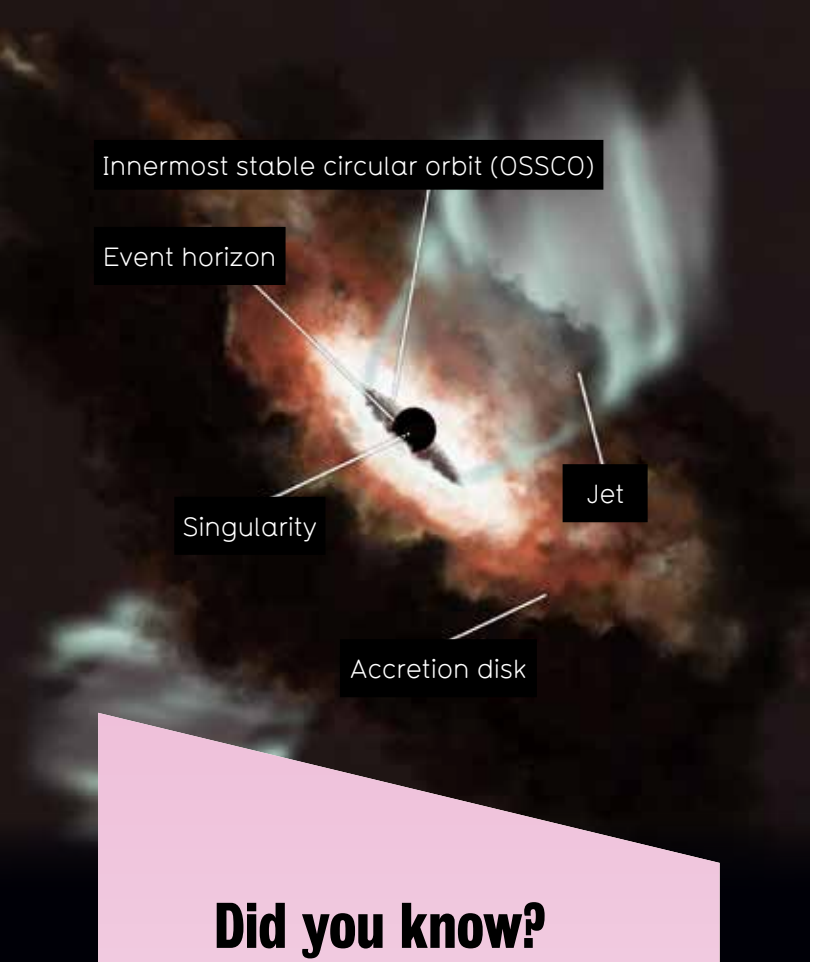
Quantum mechanics explains how particles behave on a very small scale and helps make predictions and calculations in physics.



Dr. Avery Broderick







Did you know?

The event horizon is the boundary that marks the point of no return of a black hole, where the velocity required to escape exceeds the speed of light.

Black holes are not perfectly dark but are constantly radiating feebly due to the quantum nature of electromagnetism.

Plasma around a black hole can reach up to 100 billion kelvin – about 100 billion degrees Celsius.

Our entire solar system would fit into the M87 black hole.

Black holes slowly bleed away their mass into radiation through a process called Hawking evaporation. It would take 9 billion years for M87 to evaporate.

Although general relativity works well for big things and quantum mechanics works well for small things, combining them has stumped scientists for decades. Understanding the fundamental disagreement between these two theories is critical to explaining what's happening at the singularity at the heart of a black hole.

The quest to solve this mystery has led to many modern theoretical physics developments in the past 100 years and is one of the reasons the EHT was created.

"Our job is to find those observational clues that will tell us where to look for the loose threads that will reveal a grand tapestry of what comes next," Broderick said. "We're looking for the theory that unifies our expectations from general relativity and quantum mechanics. That's what excites me about what I do."

Over the past 10 years, Broderick and the Waterloo team have been a part of many exciting discoveries through their integral role in the EHT, largely as the theoretical physicists examining and analyzing data from all over the world. As Broderick says, Waterloo is punching above its weight when it comes to its role in the collaboration.

"Waterloo is the only Canadian partner institution with a formal role in the collaboration and we have a large footprint across the project," Broderick said. "Many graduate and postdoctoral scholars from our team have gone on to have leadership roles within the larger EHT group. It shows the breadth of talent that has come out of Waterloo and how important we are to the continued success of the collaboration."

As the EHT continues to grow, more affiliated organizations are joining to expand their reach. There are currently 11 telescopes involved with EHT, but they hope to grow it to 20 in the next decade.

"Once we get to 20 telescopes, we will be able to produce exquisite images of M87 that will trace out the bottom 1,000M of the jet, basically tracing out a region that's 100 times bigger than the field of view we've seen," Broderick said. "We'll be able to see a much larger view and span the distance between the event horizon [the boundary that marks the point of no return of a black hole] and the stars. This will enable us to test gravity from the event horizon of a black hole out to the stars."

As the group grows, so will the impact. "In this golden age of black hole research, we hope to nail down the general relativity side and identify where we cannot explore theoretically because we can already refute it," Broderick explained. "Or maybe we'll find something unexpected that points us in the direction that's going to resolve this problem. The possibilities are immense, but it is a problem we know the world needs answers to."

Share your picture-perfect memory with us

Email us your photo or call to tell us about your favourite student memory. We love hearing from you! Photos and memories could be shared in print, online or at events.

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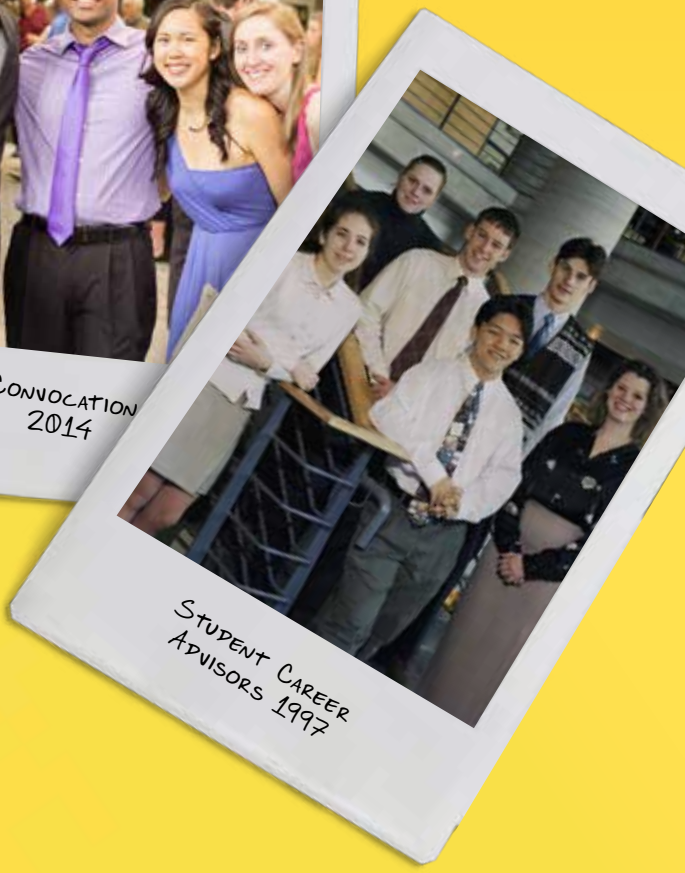

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WATERLOO ALUMNI

Changing the way people explore Africa

Eyitemi Popo discusses her role as a founder and shares her vision for transformation and collective growth in a women-driven economy

By Olivia Vanderwal

Eyitemi Popo (MDEI ’16) wants to change how people explore Africa. That’s why she founded Girls Trip Tours, a travel experience designed to empower and connect future leaders. She started the venture shortly after graduating with a Master of Digital Experience Innovation (MDEI) from Waterloo’s Stratford School of Interaction Design and Business. She is now a Forbes-listed social entrepreneur who is invested in products, services and ecosystems that help women thrive.

Why did you choose the MDEI program?

When I discovered the program, I was thrilled to find something predesigned at the master's level that seamlessly integrated the creative and the technical. It felt like a natural next step, and it was exciting to join a community of like-minded individuals who valued both innovation and entrepreneurship. The program provided an opportunity to deepen my understanding of using design as a tool to develop scalable business models and lead innovative projects with real-world impact.

Why was creating a travel experience for women important to you?

The idea for Girls Trip Tours came to me after a year of continuous travel. As someone who had lived in several countries and traveled extensively growing up, I noticed a gap in the tourism industry – few experiences focused on creating safe, intentional spaces for women, especially Black women, to explore and thrive. I wanted travel to be more than ticking places off a bucket list. I wanted it to be about making memories the soul would remember long after the mind forgets.

Six years after founding the company, what still surprises or inspires you?

What continues to inspire me is seeing the connections formed during these trips. Women leave with lifelong friendships, newfound confidence and sometimes even business collaborations. It's a reminder that we're not just running trips but creating a platform for transformation and collective growth.

What surprises me is how much this mission resonates globally. Women from all walks of life are seeking spaces where they can feel celebrated, supported and at ease. That universal desire has shaped the way I think about expanding the company.

"We're not just running trips but creating a platform for transformation and collective growth."

– Eyitemi Popo (MDEI '16)

Looking ahead, what do you envision for Girls Trip Tours?

From the bustling city of Nairobi to the tranquil vineyards outside Cape Town, Girls Trip Tours is transforming how people experience Africa by creating an alternative tourism economy called Iranti. Powered by women, Iranti shifts tourism from surface-level sightseeing to deep cultural immersion and social impact.

By partnering with locally owned, women-led businesses, we ensure that tourism dollars directly empower African women and girls. Each curated experience – from walking through South Africa's only fully Black-owned wine farm to safaris led by Africa's first all-women guide team – fosters meaningful connections, uplifts communities and inspires travellers long after their journey ends.

Looking ahead, we aim to expand our impact through B2B partnerships so that other organizations can leverage our ecosystem to curate conscious-by-default travel. Each trip booked with us will continue to sponsor a girl's education for one school year, creating positive changes that uplift entire communities.

Can you explain the impact mentorship has had on you and why it's a priority in your work?

Mentorship has been a cornerstone of my journey, both as a mentee and mentor. Throughout my career, having access to mentors helped me navigate the workplace, particularly as a young Black woman in industries where representation remains scarce like luxury beauty, wealth management, deep tech, artificial intelligence and venture capital.

At Girls Trip Tours, embedding mentorship through my foundation, Girls MAP Inc., is my way of paying it forward. I was lucky enough to be raised by a mother and grandmother who both pursued advanced degrees, but many of the girls in our programs are first-generation students, so my aim is to give them more examples of what's possible if they stay the course and continue their education.

Revolutionizing baseball training with AI-simulated pitchers

Meet the alumni shaking up major league baseball with a pitching robot that replicates pro players

By Charlotte Danby

Two University of Waterloo alumni are changing Major League Baseball (MLB) with a data-driven pitching simulator that replicates the real experience of batting against a professional pitcher.

Joshua Pope (BASc '19) and Rowan Ferrabee (BASc '19) founded their company Trajekt Sports in fourth year, supported by Dr. John McPhee, a professor in the Department of Systems Design Engineering. But the idea behind the tech dates to Pope's time as president of the Athletic Council in high school.

"We were brainstorming fun sports activities when someone jokingly suggested taking swings against Marcus Stroman from the Blue Jays. This was around 2013, and we were big fans," Pope said.

"I started wondering if there was a way for people to simulate hitting against their favourite pitchers. What tools were professional athletes using to train? Could I build a machine to replicate the pitching skills of real players?"

His curiosity led Pope to study biomedical engineering and gain the knowledge and network to realize his pitching simulator machine. The idea was too complex for his Capstone Design Project, but with support from Velocity, Waterloo's startup incubator, Trajekt Sports was born. And then the world was thrown into chaos with the COVID-19 pandemic.

"It wasn't exactly the best time to start a business," Pope said. "But Rowan and I were determined and fortunate to have people who believed in us. We worked out of my parents' garage with access to Velocity's resources, had a grant from the Accelerator Centre and raised more money in a 'friends and family' funding round to help get things off the ground."

Traditional pitching machines are limited to basic speed and spin. Pope and Ferrabee focused on iterating their system to master variables such as velocity, spin axis and ball orientation to recreate any trajectory and pitch type. They also wanted to factor in optical stimulus, or what a batter sees when facing a live pitcher.

"Our approach is rooted in physics and first-principles thinking," Pope said. "Asking the basic questions like 'What defines a flying ball?' If we can control all the elements that determine its flight, we can accurately replicate a pitch. For us, it was a fundamental physics problem that needed a fresh take, so we built the solution from the ground up. Some might say we over-engineered it, but that last inch of precision is exactly what makes the replication so valuable for professional use."

Their novel robot, the Trajekt Arc, is the only system that uses artificial intelligence (AI) to integrate ultra-realistic visuals of pitchers – complete with the exact arm angles, release mechanics and motion blur – to mimic the real experience of standing at home plate. This realistic training helps hitters prepare physically and cognitively for the game.

In December 2021, Pope and Ferrabee secured their first MLB client – the Chicago Cubs. With the Cubs on board, others soon joined and by the end of the following year, seven more MLB teams had signed on.

Today, 30 professional baseball teams train with Trajekt Arc machines – 24 MLB teams, four from Japan's Nippon Professional Baseball league, one from the Korea Baseball Organization and one from the Chinese Professional Baseball League. With 21 full-time employees and a co-op hiring pipeline that continues to tap into Waterloo's talent, the company is exploring more ways to deliver a superior training experience. Ideas include applications beyond professional baseball like college training programs and recreational sports centres, and integrating advanced analytics, video tracking and personalized training plans for batters.

"At its core, the Trajekt Arc is about levelling the playing field, giving all athletes, from rookies to seasoned professionals, a way to improve their game," Pope said. "I love sport, and I love that we're changing how people play and train – for the better."

“I love sport, and I love that we’re changing how people play and train – for the better.”

– Joshua Pope (BASc ’19)

Trajekt Arc by the numbers:

5 design iterations since the first prototype

30 pro teams

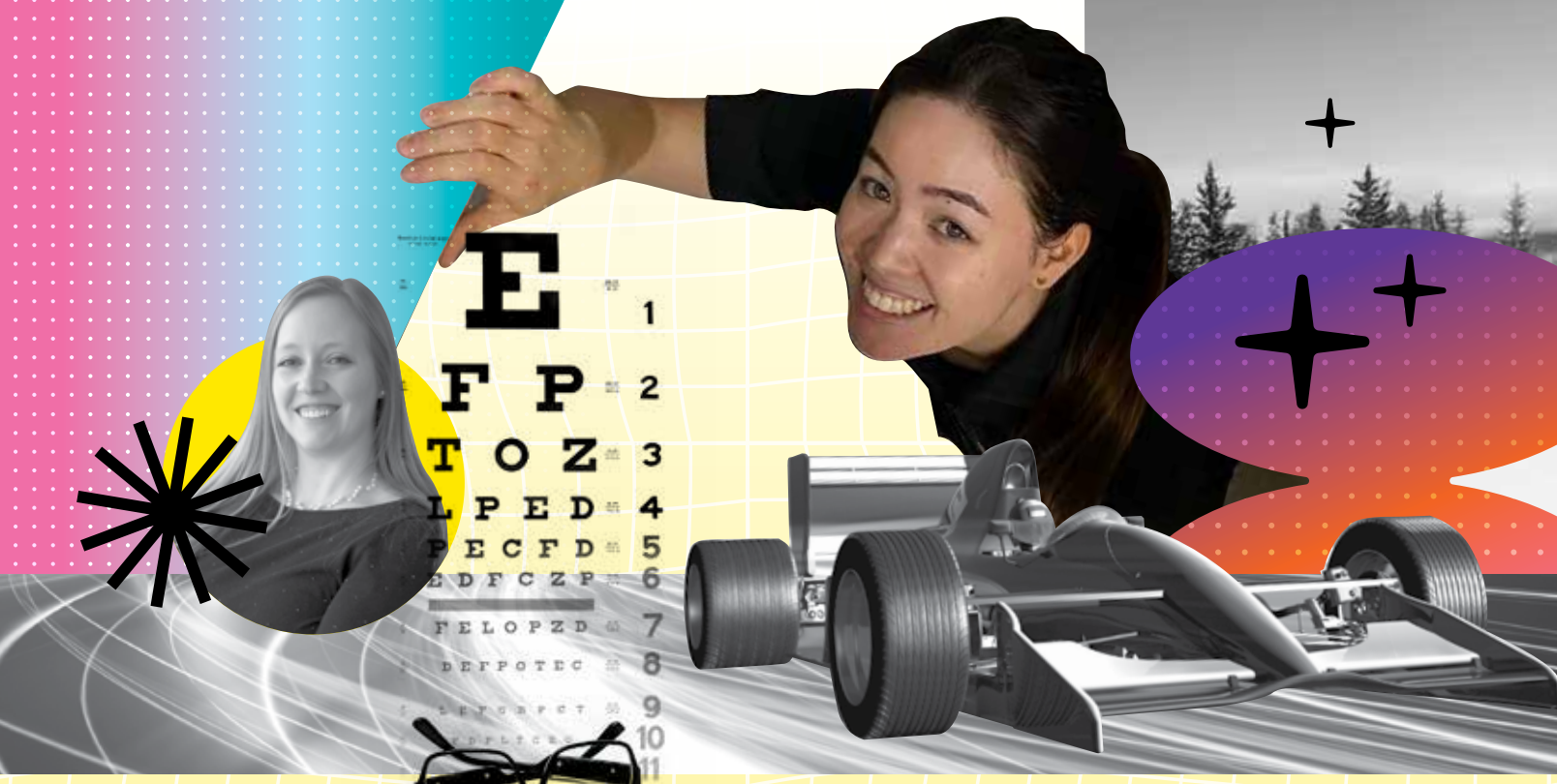
1,500 pro batters

1.8 million pitches thrown

58+ units deployed globally

1,000 pitches per practice session, per machine

Scan the code to listen to alumni featured in Waterloo Magazine on the UWaterloo Alumni Podcast.



Champions of change

Meet six world-class researchers, alumni and students who are applying boundary-breaking approaches to redefine sports, recreation and tourism

By Darren McAlmont (MA '22)

Dr. Michelle Rutty

As Canadians contend with climate-induced environmental changes like wildfires, flooding and melting glaciers, Dr. Michelle Rutty (MES ’10, PhD ’14) has been exploring the relationship between environmental changes and the global tourism sector.

Her research is among the first to use the power of virtual reality (VR) technologies to provide immersive, realistic experiences that enable communities to better understand their current and future climatic risks.

As director of the deTOUR Lab, Rutty supports the use of VR environments where users experience a destination before or after climate-related disasters impact it. “We’ve developed VR environments for ski resorts and golf courses that are experiencing record warm conditions and drought and are currently working on a VR simulation of glacial retreat in Jasper National Park,” Rutty said.

Recognizing that visual content is more persuasive than textual narratives for shifting emotional values, Rutty leverages VR as a public engagement tool to promote dialogue around climate-induced environmental change. “Visual media can both simplify the complexity of climate science while eliciting emotional responses,” she explained.

Rutty is committed to methodological innovation that accelerates environmental action in the tourism sector. Her scholarship has been recognized for research excellence with awards from around the world.

“Our ambition is to grow to be a significant influence in the country”

– Greg Mittler (BA ’14)

Greg Mittler

When a group of Waterloo’s Master of Business, Entrepreneurship and Technology (MBET) students pitched the idea of introducing video games and esports at Waterloo back in 2018, few imagined it would grow to be the largest network of its kind in Canada.

Under the leadership of Greg Mittler (BA ’14), the first full-time esports coordinator at a Canadian university, the program has grown to approximately 60 esports athletes who compete in several collegiate-level titles across North America.

Intent on making space for inclusivity in the sports world, Mittler shared that the initiative is also one of the first to have a marginalized genders team.

“We’re expanding into the community at large, focusing on more comprehensive goals with the Waterloo Region Esports Commission and the University’s Interdisciplinary Network for Esports. Our ambition is to grow to be a significant influence in the country,” he said.

Last year, in collaboration with Conestoga College, Mittler and his team hosted WaterLAN – an esports tournament – where 16 schools came to the region to compete. The two-day event generated more than $75,000 in economic impact.

In 2024, Mittler’s team more than doubled those numbers, with help from approximately 50 student staff and volunteers that organize programming for thousands of students.

Christina Sullivan

During the COVID-19 lockdown in 2020, Christina Sullivan (BASc ’23) was introduced to the world of Formula 1 (F1) by her sister Veronica through the Netflix series Drive to Survive, and was instantly captivated by the sport. When her co-op term was cancelled due to the pandemic, Sullivan channelled her new passion into an academic project on F1 cars.

Shortly after, when her social media algorithm pushed an ad for an industrial placement at Williams Racing in the U.K., she applied and was thrilled to secure a one-year contract.

Today, as a full-time wind tunnel systems engineer with the company, Sullivan’s work ranges from designing and fabricating printed circuit boards and electrical harnesses to developing data acquisition systems and ensuring wind tunnel data accuracy.

“My main responsibility is the development and maintenance of our F1 wind tunnel model. All the aerodynamic developments that are seen on the car during races are first seen on this model in the wind tunnel,” she added.

Sullivan’s proudest achievement is leading the electrical design of the new wind tunnel model that Williams will test for the 2026 F1 season. She says that working with many multidisciplinary teams on bespoke systems and innovative control networks was an extremely rewarding experience.

Dr. Daniel Scott

The future of tourism and sports events like the Olympics are highly influenced by global change. That's why Dr. Daniel Scott's (MA '93) research focuses on the transition of the tourism sector to a low-carbon economy and its adaptation to the complex impacts of a changing climate.

In a recent study commissioned by the International Olympic Committee to increase understanding of potential host cities in a warmer world, Scott's research revealed that only 52 of 93 potential Olympic Winter Games host locations will remain climate-reliable by the 2050s and just 46 by the 2080s.

The outlook is more troubling for the Paralympic Winter Games, with only 22 climate-reliable sites by the 2050s and 16 by the 2080s. "Climate change is altering the geography of winter sports and is a growing threat to the cultural legacy of the Olympic Winter Games," Scott said.

Still, believing that tourism can be a global force for good, he is committed to advancing global tourism that is compatible with planetary boundaries. As a leading scholar in the field, Scott's research has been cited in more than 550 policy documents in more than 30 countries and by multiple international government organizations.

Haley Baxter

With her mom as her soccer coach and her dad a strong advocate for women's sports, Haley Baxter's (PhD in progress) research on women in volunteer sport coaching was greatly influenced by her parents.

Recognizing that there is little research in this field, her work aims to fill the gap. "My research looks at how to create and support pathways for young girls to become volunteer coaches," Baxter explained.

Through meaningful engagement with club leaders, coaches and youth, her research highlights the lack of specific targets, strategies and gender-based initiatives for recruiting women and girls to coach.

Noting that club leaders recognize the need for intentional recruitment, she found they also feel unsupported by sports governing bodies, most of which prioritize high-performance coaching instead.

Baxter's findings underscore the need for targeted recruitment strategies and better support systems to engage women and girls in volunteer coaching roles. She hopes her research helps the sport system recognize the importance of supporting gender-based initiatives at the community level of sport.

Dr. Kristine Dalton

Dr. Kristine Dalton (OD '07, MSc '10) is a distinguished leader in sports vision and concussion rehabilitation, with a remarkable track record in Paralympic winter sports.

In 2014, she founded the Sports Vision Clinic at the University of Waterloo to help athletes improve their performance. After seeing many athletes with vision problems after a concussion, Dalton teamed up with Dr. Tammy Labreche to launch a specialized service focused on treating patients with various brain injuries.

"Our team works collaboratively with physicians, optometrists, physiotherapists, athletic therapists and other health-care providers in the community to support the multidisciplinary care patients with brain injury need in their recoveries," she said.

In 2015, Dalton pioneered a research project that focused on understanding how athletes use their vision to ski. Her research revolutionized classification rules for Para Alpine and Para Nordic skiing, ensuring fair competition for athletes with vision impairments.

In collaboration with the International Paralympic Committee, World Para Snow Sports and the International Ski and Snowboard Federation, the groundbreaking work has expanded global eligibility for these sports.

Reshaping bone repair with 3D printing

Waterloo researchers design 3D-printed bone grafts that promise safer, more effective treatments for patients

By Jack Weatherston

What if surgeons could replace damaged bone with a solution tailor-made to each patient?

That's the question researchers at the University of Waterloo are seeking to answer as they develop a material that mimics the behaviour of human bone and is capable of being 3D printed with a high degree of accuracy.

Identifying a solution

Lead researcher Dr. Thomas Willett, from the Department of Systems Design Engineering, was influenced by his experiences working with orthopaedic surgeons at Mount Sinai Hospital in Toronto. "I learned that the methods being used, though successful, were extremely complicated and required a lot of skill," Willett said. "I thought we could do something with engineering, using 3D printing to produce a bone graft."

Many surgical procedures require bones to be repaired and replaced. This is typically done using metal implants and donated tissue that acts as a framework for new bone growth. Doctors try to match available donated bones with the patient, but it can be hard to find an exact fit.

A material that is suitable for grafting but also 3D printable would enable surgeons to precisely match the geometry of the bone being replaced. This would make the process much easier and safer, with less likelihood of rejection or infection. "3D printing would also allow us to add engineered features that can hold the graft in place," Willett said. "This would remove the need for the metal screws and plates that surgeons would normally use."

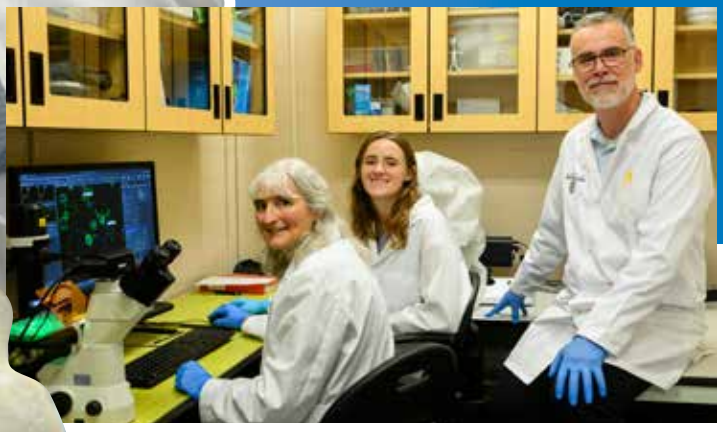
Crafting a new material

Backed by funding from the Canadian Institutes of Health Research, Willett and his collaborator Dr. Maud Gorbet, director of the Biomedical Engineering program, set out to make this material a reality. The research group also benefited from the contributions of young researchers including Dr. Dibakar Mondal, Dr. Sanaz Saadatmand Hashemi and Elizabeth Diederichs (PhD in progress), who continues to work with Willett.

At the core of their work is a new nanocomposite material. It combines a triglyceride that is similar to fat with a nanoscale particle called hydroxyapatite.

"The hydroxyapatite particles play a few roles," Willett explained. "They provide mechanical reinforcement, making the material stiffer and stronger. They also create a favourable surface for the material to combine with bone cells."

As the body repairs itself, the unique properties of this material allow new bone tissue to interact with and gradually replace the graft. A 2024 study published in the Journal of Biomedical Materials Research confirmed that materials containing nanoscale hydroxyapatite particles are a viable potential alternative for grafting.



Dr. Maud Gorbet, Elizabeth Diederichs and Dr. Thomas Willett

"We could have a material that you can fully customize to a patient, and that will have a big impact on the success of bone grafts and surgical outcomes."

– Elizabeth Diederichs (PhD in progress)

Optimizing for the future

The researchers are now focused on refining their material to function both in the human body and through the 3D-printing process. "The challenge now is optimization," Diederichs explained. "It's a balancing act between all the different qualities we need."

Diederichs's work focuses on getting the material to be durable enough to withstand the pressures of the human body, while also being capable of slowly degrading to allow for new bone growth. The team wants the material to be compatible with the highest accuracy 3D printers available, ensuring that grafts are precisely fitted to each patient.

"We can take CT scans and use computer-aided design to develop a model for the piece of bone that needs to be printed," Willett said. "We could use this process for any bone that has lost a large piece or has complex geometry." Printed bone grafts could also have applications for pets, reducing the need for amputations that impact quality of life.

This painstaking work has the potential to transform skeletal repair and reconstructive surgery by dramatically improving patient outcomes.

"I think it's very exciting," Diederichs said. "We could have a material that you can fully customize to a patient, and that will have a big impact on the success of bone grafts and surgical outcomes."

Flourishing through adversity

"I understand the importance of exercising my privilege and power to advance systemic change – and so my mission for helping people continues."

– Dr. Nel Wieman (BSc '88, MSc '91)

Dr. Nel Wieman discovers her passion for helping people and becomes Canada's first female Indigenous psychiatrist

I spent most of my formative years seeking out an identity. As a survivor of the Sixties Scoop, I was taken away from my biological family and shuffled around to five or six different foster homes before being adopted by a Dutch immigrant family at the age of four.

Growing up in Thunder Bay, Ontario, I experienced and witnessed racism a lot. I was kicked and called racial slurs. Yet perhaps the most dehumanizing experience at the time was being grouped with other First Nations kids daily to be inspected by my Grade 4 teacher who felt it important to ensure we were clean behind our ears and under our nails.

This made me feel deeply ashamed of who I was. However, as I watched busloads of First Nations kids being brought in from the nearby reserves to my school every day, while I sat on a bus with white kids, I always felt like I was on the wrong bus.

I knew that to thrive after high school, I would have to move away, and that desire to find a home somewhere else led me to the University of Waterloo. Being a track and field athlete, the most natural fit felt like kinesiology, so I told my parents that my life's dream was to be a kinesiologist, and off I went. That decision changed the trajectory of my life.

Being a first-year student at Waterloo was the first time I realized that I was smart, capable and could do whatever I wanted to do.

After completing my undergraduate degree, I continued with a master's in biomechanics at Waterloo and thought I would likely stay and do a PhD and continue working in a lab. But as I was doing my research, which involved analyzing the gait of elderly participants, I realized that they trusted me, and I really enjoyed hearing their stories. It was then that I knew I was meant to work directly with people and switched to medicine.

Shortly after starting medical school at McMaster University, I was serendipitously invited to a meeting by the Native Physicians Association of Canada. I still don't know how they found out about me, but flying out to Edmonton, Alberta and walking into a room with 20 other people who looked like me was the first time I felt like I had a family.

They taught me where the greatest needs were in First Nations communities. I recognized then that it wasn't quite the time for an Indigenous neurologist – the specialization path I was headed on in medical school.

There was, and continues to be, too much trauma in First Nations communities. This affects their mental health, and for some, results in substance use – a fact I couldn't ignore – so I knew it was an area where I could flourish and make a difference.

I became the first female Indigenous psychiatrist in the country and spent the first eight years working at a newly developed community-based mental health clinic on the Six Nations of the Grand River Territory.

Today, as chief medical officer of the First Nations Health Authority in British Columbia, I advocate for cultural safety in medical schools and the health system. Whether meeting with our provincial partners or leveraging social media to amplify injustices, there's a never-ending list of things for me to tackle.

However, having experienced and witnessed firsthand how First Nations peoples are treated differently in accessing and experiencing the health-care system, I understand the importance of exercising my privilege and power to advance systemic change – and so my mission for helping people continues.

Your ALUMNI CLUB

HOW WELL DO YOU KNOW WATERLOO?

The answer to each clue is hidden in the word search.

C O O P E R A T I V E E D U C A T I O N U
R I D G I D T O O L O I Q F B J Z A P I J
P F P O R C E L L I N O L U L C O B A L T
R I A X U O J B D X J Q T H A K M Z S W A
W H N L C Q S A R V N D R H C H Q V G C O
D Y V K O K O S Y W Q O D S K L K U R B F
A L P M T R R I Y L I Y G R A D H O U S E
N X G P G I E Q N R T O Z P N W A N W Z F
A L V N F I E H R I T W N W D J L H J F D
P H I X S R P A C T H E B I G B A N A N A
O R F S P C W O V H H M K F O W X A T T Z
R I H S W G L B O M B S H E L T E R P U B
T A R U N E Q R M I K O Z Z D N J J H Y L
E G T I V R C H H J A T M C H T R G P V X
R S K G C T F C G Y I K G N D D Y M T F W

1. The University of Waterloo's mascot.
2. Waterloo's two primary colours – go _____ and ____!
3. The largest program of its kind in North America that blends work and study opportunities.
4. An incubator for pre-seed technology startups.
5. The road that circles Waterloo's campus.
6. A favourite student gathering spot for 40 years in the Student Life Centre.
7. A hub for graduate students that occupies the previous Schweitzer Farmhouse.
8. Built in 1965, it was formerly known as the arts library.
9. The Faculty of Arts mascot, a brass wild boar situated outside the Modern Languages building.
10. The name of a 60-inch chrome pipe wrench that is the Faculty of Engineering's mascot.
11. The Faculty of Environment's mascot, which started as a fruity tradition during an Orientation Week scavenger hunt.
12. A kangaroo that shares its name with the nickname of the student body for the Faculty of Health.
13. A symbol for the Faculty of Mathematics, and a tribute to professor Ralph Stanton and his stylish accessories.
14. A dinosaur that is the Faculty of Science mascot and shares a name with a chemical element used in batteries.

FIND THE ANSWERS AT
uwaterloo.ca/alumni/wordsearch

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Co-op's coming of age

Since 1958, Waterloo's co-operative education program has been launching successful careers

By Angelica Marie Sanchez (BA '21)

Many students dream of landing a job that aligns with their passions, inspires real-world impact or even motivates them to launch their own business. For thousands of Waterloo students, that dream has become a reality thanks to co-operative education (co-op), which combines paid work experience with earning a degree.

It might, therefore, seem surprising that the idea of co-op was met with skepticism when it was first proposed by the University's first president, Dr. Joseph Gerald Hagey, who believed in its potential.

As James Scott, former assistant to Hagey, wrote in the book *Of Mud and Dreams: University of Waterloo 1957 to 1967*, the idea came to Hagey "somewhat to his surprise." Still, he recognized that it could offer valuable opportunities for students and positively shape the future of education at Waterloo.

In 1957, the University expanded faculty, classrooms and infrastructure to support the co-op program, securing partnerships with manufacturing companies for work placements. The program's alternating academic and work terms would allow students to gain real-world experience in industry and commerce through university-arranged placements.

The first cohort of 74 engineering students was admitted in 1958, making Waterloo the first Canadian university to offer co-op.

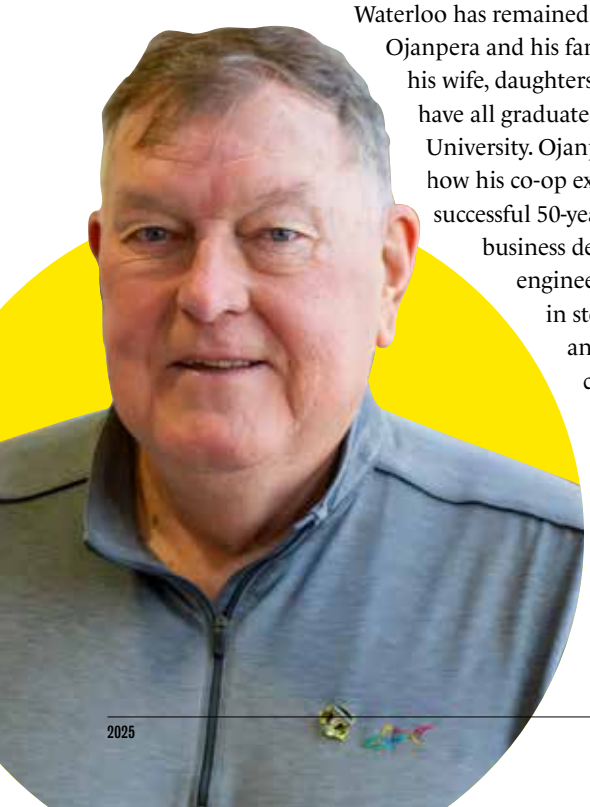
To promote the new program, approximately 10,000 brochures were distributed to prospective students. One of those brochures reached Ron Ojanpera (BASc '69), a high school student from Sudbury, Ontario.

From co-op to a successful career

Ojanpera was introduced to Waterloo's engineering co-op program by a high school teacher who believed he would be interested. "I looked into the program and when it came time to apply, I submitted one application to Waterloo, and that was it."

In 1964, Ojanpera was among the first to benefit from the program, which has since become globally recognized with more than 8,000 employers worldwide. Co-op allowed him to balance school with paid work while discovering career roles that best align with his goals and skill set. During his third year, Ojanpera made a pivotal career shift, moving from mining to engineering services, which would later form the foundation of his career. He gained valuable hands-on experience in plant operations, where he developed a deep appreciation for complex industries and customer relations.

"The world is more complex now but the principle is the same," he said. "Co-op prepares students to deal with those complexities, by teaching them how to work with people and apply technology to solve problems."



Waterloo has remained central to Ojanpera and his family, including his wife, daughters and niece who have all graduated from the University. Ojanpera takes pride in how his co-op experience led to a successful 50-year career in sales, business development and engineering, specifically in steam generation and air emissions control systems related to utility and heavy industrial applications.

A new generation of co-op students finds their passion

Over the years, the co-op program has expanded to include all six faculties, making it accessible to students in every discipline. Elsa Patterson, a current Geomatics co-op student, reflects on how she overcame the pressure of choosing the "right" co-op positions. Instead, she embraced the opportunity to explore various fields, build her resume and discover her passion for using data-driven approaches to foster sustainable and resilient communities.

Through her co-op work terms in research labs, the Ontario Ministry of Agriculture, Food and Rural Affairs and Indigenous Services Canada, Patterson gained hands-on experience as a geographic information systems (GIS) specialist.

"I've learned through co-op in a different way – realizing how much I care about my work and how invested I am in my role has truly been a game-changer," she said.

Co-op also helped her develop a strong work ethic, professionalism, confidence and the ability to troubleshoot – skills she feels are valuable as she advances in her career. Patterson's final eight-month work term will focus on improving water quality in the Great Lakes and implementing preventative measures to protect the environment.

A world leader in experiential education

Every co-op experience at Waterloo is unique, shaped by the individual's program, values, desired impact and goals – just as it was for alumni like Ojanpera and current students like Patterson. What remains constant is the profound impact of Waterloo's co-op program over the past 65 years.

Today, Waterloo remains a global leader in co-operative education and work-integrated learning, offering innovative programs that meet the needs of both students and industry. With a unique opportunity to apply classroom knowledge in real-world contexts, co-op students are not just prepared for the future – they are tackling the world's greatest challenges with innovation, passion and purpose.

2003

The William M. Tatham Centre, named after a former Waterloo co-op student, opened as the largest building dedicated to co-operative education at a Canadian university.

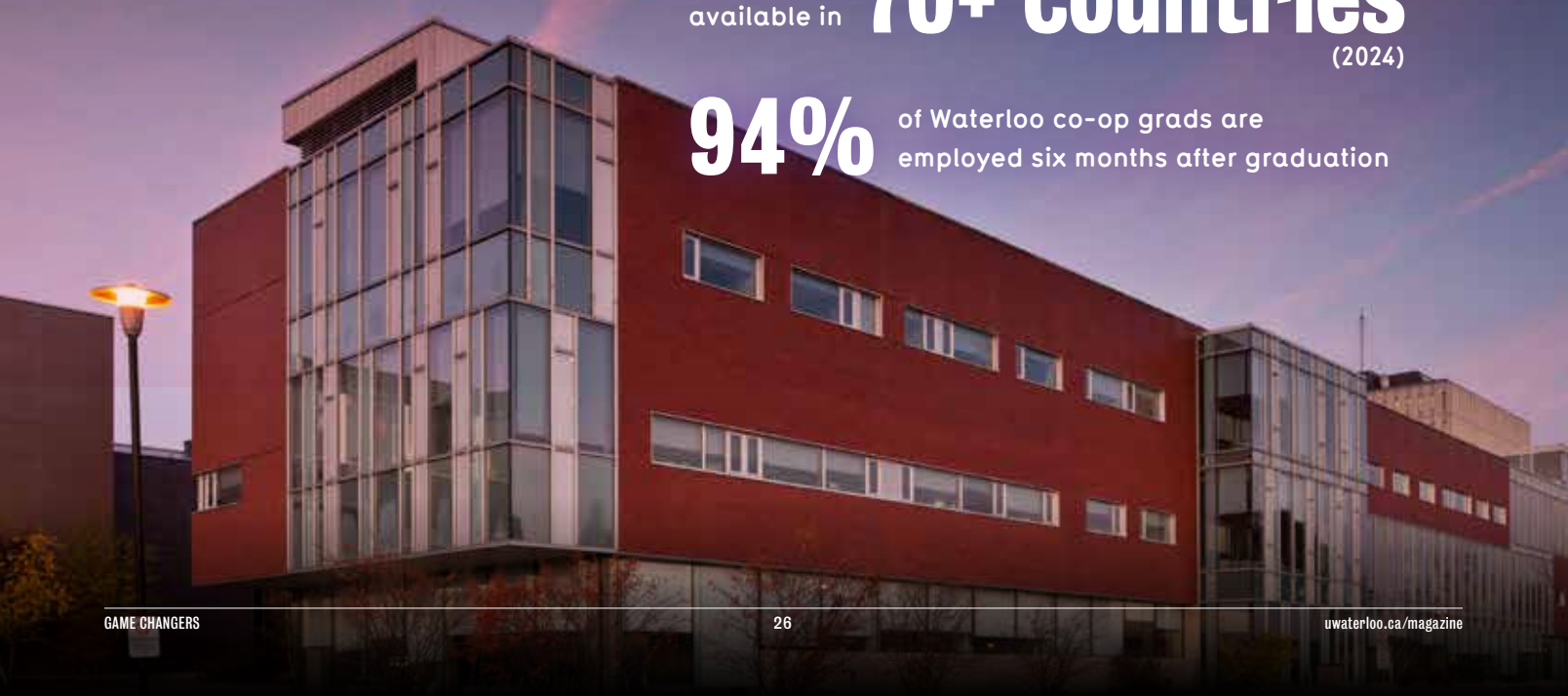
8,000+ employers hire Waterloo co-op students (2024)

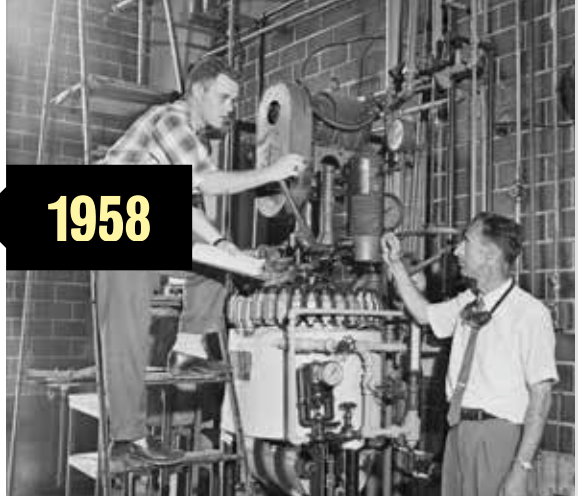
$280 M+ total co-op student earnings (2023/24)

120 programs offer co-op (2024)

Co-op roles available in **70+ countries** (2024)

94% of Waterloo co-op grads are employed six months after graduation





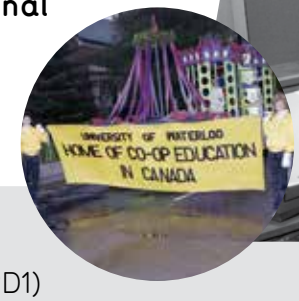
1958

74 Engineering students begin the co-op program

Career Services established to provide support to undergraduate students

1973

Co-op goes international with the first work term in London, England



2006

First course (PD1) offered with **282 students to develop professional skills**

2017

All undergraduate non-co-op students offered a work-integrated learning experience

2020

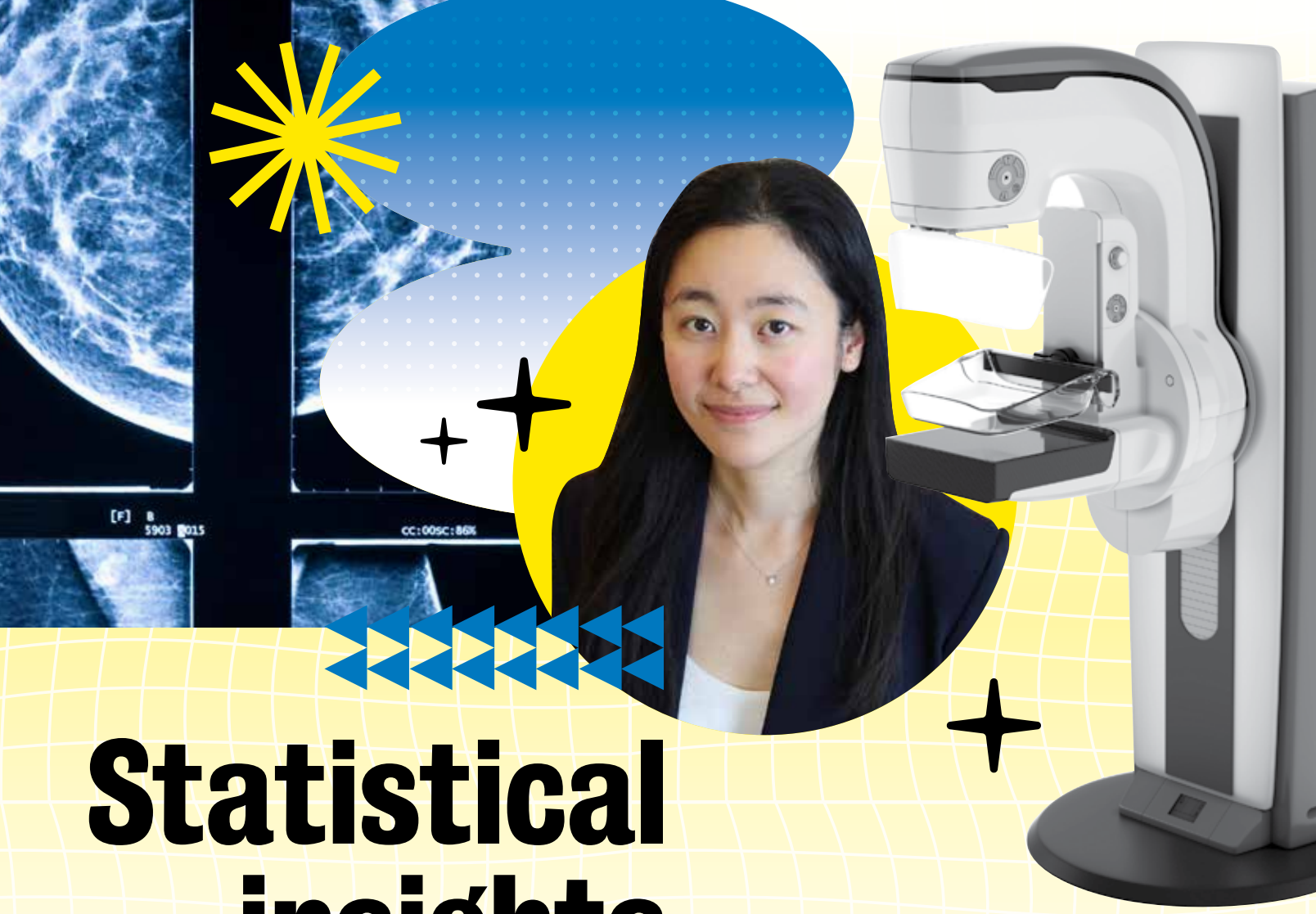
PD offered to **20,000+** students per year

2024

26,000+ co-op students enrolled

2025

Pilot of AI-powered job aggregator and digital assistant tool for students



Statistical insights that can save lives

Shu (Joy) Jiang is designing a modelling tool to help patients better understand their breast cancer risk

By Melodie Roschman

Dr. Shu (Joy) Jiang (PhD '18) first developed her unique approach to medical research as a PhD student at the University of Waterloo.

"The real lightbulb moment was when statistics stopped being theory, and I realized that I could actually apply these models in the real world to help people," Jiang said.

Today, Jiang is an associate professor in the Division of Public Health at Washington University School of Medicine in St. Louis, Missouri, where she's developing tools to help women screen for breast cancer before it's life-threatening. The work earned her recognition as one of Forbes's 30 under 30 in health care in 2023 – and it all connects to the biostatistics research she did as a Waterloo student.

With her mentor, Dr. Richard Cook, research chair in the Department of Statistics and Actuarial Science, Jiang collaborated with scientists from the University of Toronto's Psoriatic Arthritis Clinic and used statistical methods to analyze patient data to understand the progression of the disease better. "When it comes to statistics, you can build the best

model there is, but if you're not building a bridge between theory and real-world applications, then it's not very meaningful," she said.

That interdisciplinary experience also impressed upon Jiang the vital importance of improving patient access to information and tools. "We're in an era right now where there are a lot of systemic disparities in the medical system, especially in the United States: between people of different races and ethnicities, between people who do or don't have health insurance, and between people who live in rural versus urban areas."

Those disparities are only exacerbated by the erosion of people's trust in the medical establishment.

That's why Jiang is collaborating with her colleague, Dr. Graham Colditz, on a startup that will directly put the tools to understand breast cancer risk into patients' hands. "We're trying to inform women about their five-year breast cancer risk so that actions can be taken based on recommendations from the national guidelines for patients and their providers – such as getting MRIs or ultrasounds – based on a mammogram."

"Waterloo has this great culture of combining research with industry," Jiang said. "My time there helped me realize that, for this tool to get into clinics – for women to be using this – it has to be out there, in the market."

Their research is based in part on work concerning breast density and cancer risk co-authored by Jiang, which landed her in The New York Times last year. The research analyzes breast density data gathered from 10,000 women over a 10-year period and suggests that women who would go on to develop breast cancer had a much slower decline in breast density than women who remained cancer-free.

Since the publication of that research, Jiang and her team have worked on validating their model, applying it to different populations around the United States and in British Columbia to see whether it reflects larger trends. That validation process – which has included large populations of Black, Asian, Indigenous and white women – seems to demonstrate that their estimated five-year breast cancer risk is robust regardless of race and ethnicity.

Still, Jiang says, convincing women to prioritize their breast health remains a challenge. Even in British Columbia, where the provincial government covers routine breast cancer screening, only about 60 per cent of women go in for their scheduled mammograms.

"The real lightbulb moment was when statistics stopped being theory, and I realized that I could actually apply these models in the real world to help people."

– Shu (Joy) Jiang (PhD '18)

Jiang has a personal stake in improving those numbers: a close friend and colleague at Waterloo died of breast cancer at a young age.

"One out of eight women worldwide will be diagnosed with breast cancer in their lifetime," Jiang said. "This is a disease that touches everyone."

How WATCOM transformed computing

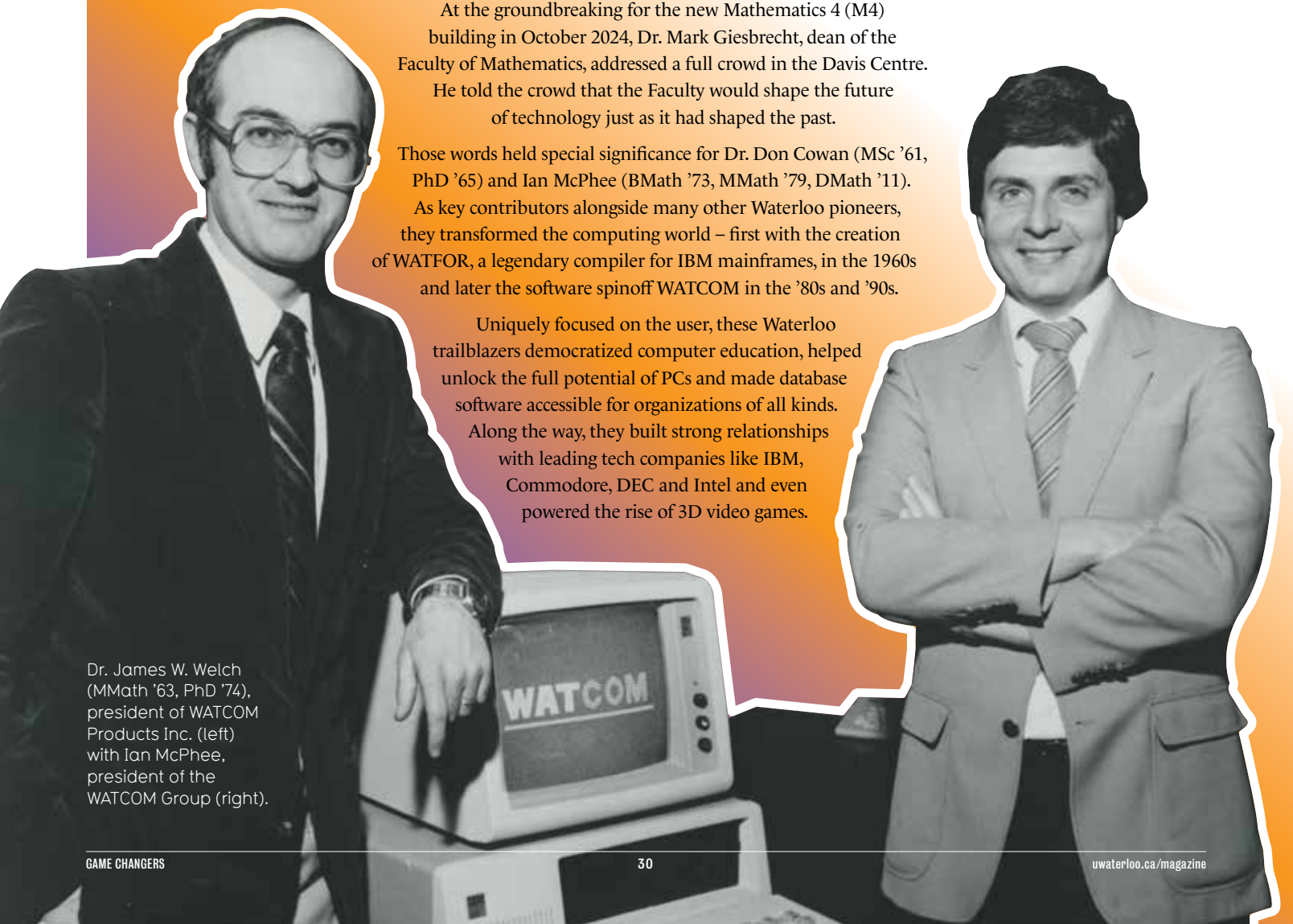
Waterloo's first software spinoff introduced faster, more efficient software that changed the business and gaming world

By Robin Morden

At the groundbreaking for the new Mathematics 4 (M4) building in October 2024, Dr. Mark Giesbrecht, dean of the Faculty of Mathematics, addressed a full crowd in the Davis Centre. He told the crowd that the Faculty would shape the future of technology just as it had shaped the past.

Those words held special significance for Dr. Don Cowan (MSc '61, PhD '65) and Ian McPhee (BMath '73, MMath '79, DMath '11). As key contributors alongside many other Waterloo pioneers, they transformed the computing world – first with the creation of WATFOR, a legendary compiler for IBM mainframes, in the 1960s and later the software spinoff WATCOM in the '80s and '90s.

Uniquely focused on the user, these Waterloo trailblazers democratized computer education, helped unlock the full potential of PCs and made database software accessible for organizations of all kinds. Along the way, they built strong relationships with leading tech companies like IBM, Commodore, DEC and Intel and even powered the rise of 3D video games.



Dr. James W. Welch (MMath '63, PhD '74), president of WATCOM Products Inc. (left) with Ian McPhee, president of the WATCOM Group (right).

Computer education for all

It began with the bold goal of bringing computers to the masses. Cowan, a distinguished professor emeritus at Waterloo, explained that Wes Graham, who was known as the "father of computing" at Waterloo, wanted to make using computers "as natural to people as pen and paper."

While other universities reserved their computers for faculty and graduate students, Waterloo wanted their new IBM 7040, acquired in the early 1960s, to be accessible to thousands of undergraduate students. But there were challenges.

"The software supplied with the computer took 30 seconds to compile a program," Cowan said. "That sounds quick, but if you want to do thousands of jobs a day, it's a very long time."

Moreover, when errors were made, the compiler gave little help identifying the issue.

To overcome these shortcomings, Graham and a Waterloo team created their compiler, named WATFOR, which sped up compiling by a factor of 100 and provided students with valuable diagnostics.

"Suddenly, we were running 25,000 student programs a day," Cowan said. "That was incredible."

Other universities, businesses and governments thought so, too. WATFOR and its successor for the IBM 360 were distributed to educational institutions and other organizations worldwide. This proved so popular that the WATFOR team implemented an annual fee to cover the costs of fixing bugs, issuing updates and providing instructions.

In 1973, the Computer Systems Group (CSG) was formed to oversee the software's creation and distribution. The group was prolific, creating more than 20 major products across more than 10 systems. Former CSG member Trevor Grove (BMath '79) recalled: "It truly was a 'just do it' era."

WATCOM and the age of personal computing

As microcomputers gained traction in the late '70s, Graham's team began developing portable PC software outside the University.

"We have this incredible infrastructure that attracts talented people, and you can't take that for granted."

– Dr. Don Cowan
(MSc '61, PhD '65)

Ian McPhee
(BMath '73, MMath '79, DMath '11)

Graham recognized the educational potential of PCs and, together with McPhee, established WATCOM, Waterloo's first software spinoff, in 1981.

WATCOM excelled in the new market. Early PCs had limited memory, but WATCOM's compilers implemented clever optimization techniques to create faster, smaller programs. This included the WATCOM C/C++ compiler, which enabled developers to use the Intel 386 processor's full 32-bit capability on 16-bit Windows.

This feat helped make it the compiler of choice for the gaming industry. Genre-defining games, like Doom and Descent, used it. At an industry keynote in 1992, Bill Gates held up the WATCOM C/C++ box, announcing that users could now run 32-bit programs on Windows.

"We had a hot C compiler," said McPhee, who served as chief executive officer for WATCOM. "We were getting reviewed in all the tech journals and smoking the benchmarks. That's when the WATCOM brand got established beyond education markets."

Yet, WATCOM's greatest success came with the foray into database server software in the 1990s.

"Salesmen were taking early laptops on business trips," McPhee explained. "But existing SQL systems were so large and complex that you'd need an administrator along to add information."

WATCOM SQL was self-configuring and efficient, enabling the simple operation of database applications on small portable devices. This led to its use as an embedded database in many best-selling products.

It was on the strength of its thriving database business that WATCOM was acquired by Powersoft in 1994, which then merged with Sybase. In 2010, the German tech giant SAP acquired Sybase. WATCOM SQL is still produced today as SQL Anywhere, and SAP maintains an office on Waterloo's north campus.

Cowan hopes that today's Mathies learn from this remarkable history of innovation: "I hope the Faculty continues to blossom, but without forgetting its origins. We have this incredible infrastructure that attracts talented people, and you can't take that for granted."

When support comes full circle

Disney Lam honours her father's legacy by encouraging the next generation of female software engineers

By Beth Bohnert

Disney Lam's (BMath '14) father supported her love of technology from a young age, giving her tasks like setting up computer networks in the family's home. He inspired her to build a successful career in software engineering, creating technical systems to drive business outcomes at tech giants like Google and NVIDIA.

But in 2022, Lam found herself working desperately to establish a remote connection to a hospital room 3,000 miles away so she could see her father one last time before he died.

"I thought, 'This is the last time I'll do tech support for my dad and it's to send him on his way. It feels so strange. It's like life has come full circle."

Two years later, that circle looped around again. Lam established the Tung Lam Women in Computer Science Scholarship to honour her father, whose support, business acumen and kindness shaped her life and career. This endowed award provides $5,000 each to two female-identifying students in Waterloo computer science programs where women are underrepresented.

Although she's made a name for herself in computer science, Lam began her studies at Waterloo in the Math and Business Double Degree program.

"I was always interested in computer science courses, but back then I didn't really think of computer science as something I could major in," she said.

That changed when Lam entered the co-op program, where she explored a variety of roles and industries.

"I realized that even though I was a business student, I was really good in tech. I started writing code to automate manual processes during my co-op terms. Then, I wanted to learn how to build systems that would automate the writing of that code."

Lam took a computer networking course during one of her co-op work terms. She did so well that she switched her major to computer science in her third year.

For a while, Lam thought she might pursue a research career. However, after a year as a PhD candidate at Princeton University, she returned to industry, drawn by the opportunity to directly impact how companies are run.

Starting as a junior software engineer, her career path included stints at Google, Facebook (now Meta) and Cruise, taking on roles of increasing scope and responsibility. Lam currently works at NVIDIA, a company that makes graphics processors and is helping drive the AI revolution.

At Facebook, Lam met software engineer and Waterloo alum Rico Mariani (BMath '88). He became an ally and mentor, helping her navigate and thrive in a male-dominated industry.

Mariani told her, "It doesn't matter what software you write. It's all about the people." That statement, echoing her father's consideration for others, resonated with Lam.

"I'm hoping to meet the scholarship recipients, these up-and-coming women, and be part of their journey too."

– Disney Lam (BMath '14)

"I believe that technology is what changes the world," she said. "I like being able to influence business decisions and drive outcomes through the systems that I build. But the part of my job that I enjoy the most is coaching my team and working with them daily."

It's that personal connection Lam hopes she'll be able to foster through the scholarships she's created. She's not satisfied with merely providing financial support. She hopes to mentor other women – just as Mariani and her father did.

"I think in tech you sometimes lose the human element," she said. "I want to understand what people want to do in their careers and where they want to grow. I'm hoping to meet the scholarship recipients, these up-and-coming women, and be part of their journey too."

Strategies for success: Building a strong, supportive network

Jennifer Lee, vice-chair at Deloitte Canada, shares six practical tips to build impactful connections

By Jordan Flemming

Jennifer Lee (BA ’00), vice-chair and senior partner at Deloitte Canada, believes that strong networks and relationships are key to advancing gender equality and empowering women in the workplace.

One of Lee’s standout initiatives is Asian Tiger Moms (ATMs), a nationwide platform for Asian C-suite leaders in the business community. Co-founded by Lee, ATMs evolved from a women’s networking group into a game-changing network supporting individuals in balancing career, family and personal growth. The group redefines its name as a symbol of resilience and success, embracing a mindset of abundance and growth. “Asians are often told to keep their heads down and work hard, but that only leads to middle management – not the C-suite,” Lee explained.

Building on the success of ATMs, Lee helped launch the Asian Impact Maker C-suite community across Canada and the U.S., fostering critical business connections among Asian leaders. “Doing business together is key to building trust and connection,” she said.

Lee’s journey from Waterloo co-op student to senior leader underscores the value of these meaningful relationships. She shares six practical tips to help build connections and leverage networks for lasting impact.

1 Adopt an abundance mindset

Lee stresses the importance of approaching networking with an abundance mindset. “When someone operates with a scarcity mindset, they tend to act in ways that can undermine relationships,” she said. This mindset fosters generosity and collaboration, enabling people to help others without expecting immediate returns. It’s an approach that builds trust and creates a supportive community that thrives on shared success.

2 Nurture existing relationships

Networking isn’t just about meeting new people – it’s about nurturing relationships. “Your classmates, colleagues and friends are part of your network,” Lee said. She emphasizes staying connected and adding value to these relationships. By maintaining trust and mutual respect, your network becomes a lasting asset. Lee prioritizes regular check-ins with her global and local connections, trying to keep relationships strong in both virtual and in-person settings.

3 Define your personal brand

“You are who you spend time with,” Lee said, emphasizing that a network reflects your values, and a strong personal brand is key to building connections. “Why does someone want to talk to you? Why do you want to talk to them?” she asked. You can open doors to new opportunities by aligning your actions, communication and presence with your identity. Lee suggests thinking about how you introduce yourself and the five key phrases that define your brand.

Jennifer Lee is the vice-chair and a senior partner at Deloitte. Her clients include F100 and mid-market consumer clients, and she advises on mergers and acquisitions and value creation strategy. She has worked and lived in Asia, Europe and the U.S. in both industry and consulting roles. She also volunteers in Azerbaijan and Kazakhstan, restructuring microfinance institutions to increase access to microcredit and reduce poverty. She lives in Toronto with her husband and two sons.

4 Be thoughtful about your time

"Time is finite, so plan it purposefully," Lee advised. "If you don't plan your time, someone else will." She recommends scheduling activities that reflect priorities, whether family, work or personal growth. Despite a packed schedule that includes a demanding career, board roles and her children's sports commitments, Lee emphasizes that thoughtful time management helps you focus on what matters.

5 Seek out and build trust

Trust is essential in any meaningful relationship, personal or professional. "Business gets done with people you trust," Lee said. Build trust by being reliable, transparent and empathetic. Listen carefully, value others' perspectives and meet their needs. Strong, trust-based connections foster lasting partnerships. "At a recent Deloitte leadership off-site, we focused on empathetic leadership in an AI-driven world – human interaction and judgement are essential leadership attributes."

6 Think about your legacy

Lee believes every decision should be guided by purpose. "Ask yourself, 'What legacy will I leave?' and let that vision shape your actions," she said. Whether mentoring, volunteering or championing causes, your legacy is built on the doors you open for others. For Lee, this means creating value for clients, developing future leaders, supporting underrepresented communities, and with her husband, raising two global citizens committed to making the world better.

Alumni awards

Congratulations to our 2024 Alumni Award recipients

Working tirelessly to advance important causes, this year's award recipients are researchers, volunteers and business leaders – each one making their own unique impact.

Kirsten Mosey (BA '22)
Faculty of Arts
Rising Star Alumni Award

Nadia Hohn (BA '01)
Faculty of Arts
Alumni Achievement Award

Belinda Elysee-Collen (BASc '92)
Faculty of Engineering
Alumni Achievement Medal – Community Service

Dr. Clovis Raimundo Maliska (PhD '81)
Faculty of Engineering
Alumni Achievement Medal – Academic Excellence

Dr. Gamal Refai-Ahmed (MASc '91, PhD '95)
Faculty of Engineering
Alumni Achievement Medal – Professional Achievement

Frank Cairo (BES '05)
Faculty of Environment
Distinguished Alumni Achievement

Jack and Honey Rosen
Faculty of Environment
Friend of the Faculty

Ashley Salvador (MA '21)
Faculty of Environment
Recent Alumni Inspiration

Eldon C. Theodore (BES '02)
Faculty of Environment
Friend of the Faculty

Dr. Sabine Weber (MES '15, PhD '22)
Faculty of Environment
Recent Alumni Inspiration

Dr. Mike Wulder (MES '96, PhD '99)
Faculty of Environment
Distinguished Alumni Achievement

Analyssa Cardenas (BSc '18)
Faculty of Health
Alumni Achievement Award

Jillian Fleming (BA '02)
Faculty of Health
Alumni Achievement Award

Dr. Steven Rebellato (PhD '13)
Faculty of Health
Alumni Volunteer Award

Aleem Bhanji (BSc '05)
Faculty of Mathematics
Alumni Achievement Medal

David Choi (BCS '16, MMath '21)
Faculty of Mathematics
Grad of the Last Decade (GOLD) Alumni Achievement Medal

Alumni awards

Emma Heo (BMath ’13)
Faculty of Mathematics
Grad of the Last Decade (GOLD) Alumni Achievement Medal

Judi Hess (BMath ’82)
Faculty of Mathematics
Alumni Achievement Medal

Mira Lane (BMath ’03)
Faculty of Mathematics
Alumni Achievement Medal

Beryl Tomay (BMath ’05)
Faculty of Mathematics
J.W. Graham Medal in Computing & Innovation

Brice Steven Nkengsa (BSE ’12)
Faculty of Mathematics
J.W. Graham Medal in Computing & Innovation

Dr. Michael A. Kerr (BSc ’85)
Faculty of Science
Contribution to Science Award

Jake Reder (BSc ’97)
Faculty of Science
Distinguished Alumni Award

Dr. Cicely Shillingford (BSc ’15)
Faculty of Science
Early Alumni Excellence Award

Olga Shmaidenko (BSc ’05)
Faculty of Science
Contribution to Humanity Award

Erin Spicer (BSc ’06, MSc ’08)
Faculty of Science
Distinguished Alumni Award

Ashley Stegelmeier (BSc ’15, MSc ’17)
Faculty of Science
Early Alumni Excellence Award

Dr. Harvey Bass (OD ’83)
School of Optometry and Vision Science
Distinguished Alumni Award

Dr. Sophia Leung (OD ’14)
School of Optometry and Vision Science
Early Career Alumni Award

Dr. John Mastronardi (BSc ’96, OD ’96)
School of Optometry and Vision Science
Alumni of Honour Award

Region of Waterloo
School of Optometry and Vision Science
Vision Champion Award

Dr. Cindy Hoi Ting Yeung (PhD ’23)
School of Pharmacy
Pharmacy Alumni Achievement Award

Larry Cornies (BA ’75)
Conrad Grebel University College
Distinguished Alumni Service Award

Rebecca Mancini (BA ’08)
St. Jerome’s University
The Sister Leon White, SSND Early Alumni Excellence Award

Dr. Rosemarie Burton Spohn (BA ’90)
St. Jerome’s University
Father Norm Choate, C.R., Distinguished Alumni Achievement Award

Paul Lorilla (BA ’01)
United College
Distinguished Alumni Award

Trishala Pillai (BA ’16)
United College
Emerging Alumni Award

Class notes

Enjoy some of the latest news and updates from your classmates. Scan the code to read the full list and submit your class notes online.

Dr. Don Cowan explains the workings of the University's $1 million computer to a group high school students in 1965.

1960s

Dr. Michael Gross (BASc '64, MASc '65, PhD '69) celebrated 58 years of marriage to Pat and 30 years of retirement.

Henry Hogg (BASc '67) was re-elected reeve of Addington Highlands Township for a sixth term, and elected warden of Lennox and Addington County for a fifth term.

Christine Dominico (BA '69) published *Pushback: Claim Your Voice*, a novel that addresses the struggles girls face as they confront the expectations and definitions of what it means to be female.

Betty Anne Keller (BA '69) was inducted into the Waterloo Region Hall of Fame.

1970s

Sharon Livingston (BA '73) received a 2023 Ontario Senior Achievement Award.

Dr. Steven Mintz (OD '73) retired after almost 51 years of practice, including 45 years as partner in RMC Optometric Group in Winnipeg, Manitoba.

Bernie Sander (BMath '75, MASc '76) wrote a 900-page tome on his family history dating back to the 1700s.

Stephen Carpenter (BASc '78, MASc '80) was inducted into the Waterloo Region Hall of Fame.

Thomas Dean (BASc '79) retired from the University of Waterloo as director of technical operations in Chemical Engineering.

1980s

Dr. Steve Hummel (BASc '80) retired as an award-winning professor and restructuring leader.

Mark Zuehlke (BA '80) was appointed to the Order of Canada.

Michael Barnstijn (BMath '82, MMath '85) was appointed to the Order of Canada.

After more than four decades at Brock University, **Karen McAllister-Kenny (BSc '83)** retired as director of recreation.

Diane Patricia Helen Sims (BA '83) was appointed to the Order of Canada.

Glenn Howard (BES '85) retired from competitive curling, ending a career that included four world titles and four Canadian championships.

Louise MacCallum (BMath '85) was appointed to the Order of Canada.

Blair McArthur (BASc '85) and wife Brenda opened The Scotsman Hotel in Niagara-on-the-Lake.

Lola Reid Allin (BA '86) published a memoir, *Highway to the Sky: An Aviator's Journey.*

Paul McKone (BASc '86) retired as senior design instructor for Waterloo's Department of Knowledge Integration. In his final year, he received the University of Waterloo Distinguished Teaching Award and the inaugural Faculty of Environment Teaching Award.

William Pawlowsky (BA '86) published his first book, *The Fermented Feast: Health Benefits and Recipes for Vibrant Living.*

Merrill Albert (BMath '87) published her second book, *Stop the Data Madness! Lessons from a Lifetime in Data Management.*

Barbara Rousseau (BMath '87) published her first book, *Finding Home at the Harbour.*

Nancy Black (BASc '89) is vice-dean of the Faculty of Engineering at Université de Moncton and chair of the Science Technology and Practice standing committee of the International Ergonomics Association.

John Gossling (BMath '89) was appointed co-chief executive of Corus Entertainment Inc.

Rob Nolan (BES '89, MAES '92) is Elizabethtown-Kitley's new chief administrative officer/clerk.

1990s

Dr. Renee Bondy (BA '90, PhD '07) published her debut novel, *[non]disclosure*, which addresses child sexual abuse and its cover-up in the Roman Catholic Church, and the discrimination experienced by gay men in the early years of the HIV/AIDS epidemic in North America.

Mike Perkins (BASc '90) received an Academy Award in the Scientific and Engineering category for his work on the design and development of the Christie E3LH Dolby Vision Cinema Projector.

Dr. Gabriele Weichert (BSc '91) was appointed the president of the Canadian Dermatology Association.

Dr. Wendy Rodger (PhD '92) will be the seventh president and vice-chancellor of the University of Prince Edward Island.

Dr. Craig Kaplan (BMath '96) made Time's Best Inventions of 2023 list for helping discover an "einstein", a long-standing mathematical problem deemed impossible for more than 60 years.

Joyce Marshall (BA '96) received an Ontario Senior Achievement Award.

Norm O'Reilly (BSc '97) is the inaugural dean for the University of New England's College of Business.

After 25 years in various leadership positions with the Huron-Perth Catholic District School Board, **Karen Tigani (BA '97)** was named director of education.

Dr. Susan Tighe (MASc '97, PhD '00) will serve as McMaster University's ninth president.

Jane Dietrich (BSc '98) was appointed a judge of the Superior Court of Justice of Ontario in Toronto.

Benjie Thomas (BA '98, PDAcc '98) was promoted to chief executive officer at KPMG.

Melissa Gordon (MFA '99) opened her art exhibit *Dream Journals* at the Art Gallery of Bancroft.

2000s

Tabatha Bull (BASc '00) is president and chief executive officer of the Canadian Council for Aboriginal Business, a national non-profit geared toward supporting Indigenous businesses and entrepreneurs.

Bowen Island Municipality hired **Kim Dhillon (BASc '00)** as chief administrative officer.

Lisa Wannamker (BA '00) was appointed a judge of the Superior Court of Justice of Ontario in Lindsay.

Tom Emrich (BA '01) published his first book, *The Next Dimension*, which is a guide to using augmented reality to drive business growth.

More than 100 students join in an impromptu water fight in July 1966.

Tracey MacArthur (BA '01, BA '03) became chief executive officer and president of Hamilton Health Sciences.

The Ontario government appointed **Sanjee Aroda (BA '03)** to justice of the peace, assigned to Toronto.

Timothy Braude (BMath '05) became a partner at Goldman Sachs.

Dr. Jianwei Niu (PhD '05) was named dean of University College at the University of Texas at San Antonio.

Cesar Forero-Garcia (MFA '06) was elected president of the Ontario Society of Artists.

Vince Woo (BCS '07) and the team at NASA-JPL launched the Europa Clipper satellite on a five-and-a-half-year journey to Jupiter.

Dr. Vivek Ramakrishnan (BA '08, MA '11, PhD '17) is a French teacher for grades 5-8 at Walden International School – an IB school in Oakville, Ontario.

2010s

Koble, founded by **Swati Matta (BCS '10)**, was acquired by Dialogue Health Technologies. Matta became head of women's health at Dialogue.

Dr. Elaine Ho-Tassone (BES '11, MES '14, PhD '22) won the International Association for Great Lakes Research Elsevier Early Career Scientist Award.

Samantha King (BA '11) was made chair of the board of directors for the Canadian Clay and Glass Gallery.

The first satellite location of Green Care Farms, founded by **Rebekah Churchyard (BA '13, BSW '14),** was established: Meaford Green Care Farms. Churchyard also won a Kitchener-Waterloo Oktoberfest Rogers Women of the Year Award.

Jennifer Gaudet (BES '13) was inducted into the Waterloo Region Hall of Fame and the Cambridge Sports Hall of Fame.

The Hollywood Reporter named **Sasha Henry (BA '13)** one of the Most Powerful Women in Canadian Entertainment.

Nicole Sbrocca (MMSc '13) became chief executive officer of the Canadian Mental Health Association Windsor-Essex County Branch.

Russell Kovshoff (BA '14) joined the San Francisco 49ers as senior manager, game presentation and live events.

Stefanie Bruinsma (BASc '15, MBET '21) launched AutoCate, a platform for women aimed at reducing fraud and discrimination in the auto repair industry.

Business Insider named **Matthew Eid-Holm (BMath '15)** one of Wall Street's rising stars of 2024.

Bobsleigh Canada Skeleton named **Brandon Loewen (BA '19)** to the national team.

Joecy Zhang (BA '19) became chief executive officer of Marketing International Distribution Solutions Inc.

2020s

Mohammed Askari (MBET '20) founded AnchorsBook, a marketplace for watercraft owners and users looking for rentals or charters.

Dr. Nyasha Gondora (PhD '20) was honoured as one of Canada's 2024 Top 100 Black Women to Watch.

Dr. Bradley Grightmire (BSc '21, PharmD '21) won the New Practitioner of the Year Award in 2023 from the Ontario Pharmacists Association.

David Menary (MA '21) was inducted into the Cambridge Sports Hall of Fame.

Santosh Chandra Seker (BA '22) was featured in an art exhibition, *Foreign Dreams*, at Hamilton's Worker Arts and Heritage Centre.

Bella Goudie (BA '22, MA '23) became the new co-owner of Well Fed, an eatery in Gravenhurst, Ontario.

Jacob Mcfaull (BES '22) published his first children's book, *Where Pumpkins Go After Halloween.*

Eric Peters (BSc '22) represented Canada at the 2024 Olympics in Paris, where he competed in archery.

Emma Heaney (BSc '24) received a 2024 ALS Canada Kevin Daly Bursary for demonstrating exceptional dedication to advancing the care and treatment of people living with ALS.

Beyond campus

Hong Kong gala

The local alumni chapter hosted alumni, students and special guests to celebrate and thank former chancellor Dominic Barton.

Ottawa alumni chapter launch

Alumni and friends gathered in May 2024 for the launch, featuring a panel discussion on happiness.

Dubai, UAE reception

Hosted by Global Ambassadors, alumni and students connected with UWaterloo guests.

Alumni Family Day on Toronto Island

Alumni, friends and family enjoyed a summer picnic featuring games, live music and crafts.

Music bingo

Alumni put their 2000s music knowledge to the test at Blue Moon Brewery in Toronto.

We're connected locally and globally.

→ Find alumni near you

uwaterloo.ca/alumni/your-alumni-network

In memoriam

Peter Adamo (BASc ’64)
James Aiken (BA ’65)
Elizabeth (Beth) Aime (BA ’84)
Helen Ainslie (BA ’90)
Helen Alexander (BA ’15)
George Alfred (BA ’68)
Todd Allen (BSc ’94)
Krikor (Greg) Andonian (MASc ’73, PhD ’78)
Hazel Andrews (BA ’90)
Mervin Andrews (MASc ’72)
Gioseph (Joseph) Anello (BASc ’82)
Mark Ankenman (BES ’75, BArch ’77)
Vincent Antonetti (PhD ’83)
John Ash (BA ’67, MA ’68)
Mary Atherton (BA ’71)
Marion (Joyce) Axford (BA ’89)
Philip Baker (BASc ’80)
Anna Bakos (MMath ’73)
Robert (Bob) Balanyk (BASc ’70)
Gerald Balm (BA ’77)
Michael Banks (BA ’71)
Daniel Barclay (BA ’70)
Susan Barnes (BA ’80)
Catherine Barrett (BA ’92)
Glenda Bartlett (BA ’75)
John Battye (BA ’71, MA ’71)
Mary Beemer (BA ’00)
Diane Bekiroski (BSc ’82)
Alfred Bell (BA ’90)
Sandra (Sandy) Bergin (BA ’75)
Ginette Bernard Beck (MA ’81)
Steven (Steve) Besley (BA ’86)
Arnold Betz (MASc ’69)
Kuldip Bhandari (PhD ’71)
Phillip Blackmore (BASc ’72, MASc ’74)
Ross Blair (MASc ’75)
Gunnar Boehnert (MPhil ’71)
Patrick (Pat) Bolger (BA ’80)
Philip Boll (BASc ’93)
Robert (Eugene) Bourgeois (BIS ’71, MA ’76)
David Bowman (PhD ’68)
Howard Boyd (BMath ’76)
Eric (Ric) Boyd (BSc ’75, MSc ’95)
Dielwen Bracken (BA ’80)
Paul Branday (BSc ’63)
Carl Brawley (BES ’81)
Derek Brennan (BA ’91)
Eric Breugst (BA ’89, MA ’93)
Frederic Britton (BA ’66)
Leo Brown (OD ’45)
Harold Bruns (BA ’61)
Lee Bryant (BA ’85)
Doris Bryce (BA ’85)
John Bryson (BASc ’76)
Gordon Buchanan (BASc ’78)
Mary Buhr (BA ’67)
Barry Bullis (BA ’61)
John Bullivant (BA ’94)
Elaine Butchart (BA ’86)
Kent Butcher (BA ’69)
Douglas Butzer (BASc ’70)
John Callander (MA ’82)
Dino (Dean) Campagna (MSc ’68)
Graham Campbell (BSc ’70)
Richard (Dick) Carpani (MASc ’79)
Shawn Carrigan (BASc ’97)
Norbert Casey (BA ’66)
Lois Chambers (BA ’84)
Betty Chapman (BA ’74)
Owen Cherry (BSc ’04, MSc ’07)
Alexander (Alex) Choi (BASc ’99)
Thomas (Rea) Clark (BPE ’67)
Henry Clarke (BPE ’67)
Nancy Cliffe (BA ’86)
Robert Clubine (MA ’76)
Peter Coates (BA ’79)
Doreen Comerford (BA ’82)
Neil Corbett (BA ’04)
Amelia Coull (BSc ’24)
David Coupe (BA ’03)
Sherri Coutts (BA ’02)
Mert Cramer (MMath ’84, PhD ’94)
Barbara (Joan) Crawley (BA ’98)
Miriam Cressman (BA ’88)
Corrado Crugnale (BA ’80)
Gladys Cziraki (BA ’76)
Margarida Da Silva (BA ’91, MCT ’15)
Anne Dagg (PhD ’67)
Peter (Otis) Dallas (BSc ’72)
Joseph Darkes (BA ’72)
Robert Dean (BA ’67)
Spencer Dew (BASc ’76)
Brendon Lindsey Doherty (BMath ’70)
Steven Dorey (BA ’71)
Graham Dunsmore (BASc ’74)
Margaret Durkin (BA ’76)
Donna Eacott (BA ’69)
Elizabeth Eades (BA ’78)
Johan (Joop) Eenkhoorn (PhD ’71)
William Egan (MA ’73)
Clarene Ellis (BA ’74)
Patricia Ellwood (BA ’03)
Brian Ennis (BASc ’70)
Margaret (Marg) Epoch (BA ’79)
Douglas (Doug) Evans (BSc ’62, MMath ’68)
Maulton Fabien (BES ’72)
William Faulkner (BES ’73)
Stacey Felkar (BMath ’93)
Melville Feraday (MASc ’70)
Charles Ferguson (MA ’76)
Ian Ferguson (BA ’85)
Roderic (Rod) Ferguson (BA ’66, BA ’21)
Joan Ferraccioli (BA ’98)
Americo Ferreira (BA ’75, BA ’76)
Kate Flanagan (BSc ’23)
Susan Forrest (BA ’80)
Jeanne Forth (BA ’82)
Jenny Francis (BES ’98, MArch ’02)
John Frankel (MA ’73)
Joyce Franklin (BA ’85)
Ronald Freeman (BA ’67, MA ’69)
Barbara Fulford (BA ’86)
Rishi Gautam (BASc ’98)
Diane Gibb (MMath ’70)
Judith (Judy) Gibson (Maclellan) (BA ’72)
Robert (John) Gibson (PhD ’73)
Anthony (John) Gilbert (BA ’66, MA ’70)
Donald Giles (MMath ’74)
Wakai Glasgow (BA ’03)
Patricia Good (BA ’80)
Harriet Goodhue (BA ’02, BA ’12)
Scott Goodwin (BMath ’84, MMath ’87)
William (Bill) Gordon (BA ’75)

Roderick (Rod) Gordon (BASc ’63)
Michael Goss (BASc ’64, MASc ’65, PhD ’69)
Peter Goudy (BA ’74)
Julianne Gracey (BA ’01)
Carol Graf (BA ’75)
Marga Graham (BA ’84)
Michael (Mike) Grant (BA ’75)
Mariette Gratton (BA ’83)
Marie Green (Skanes) (BA ’86)
Lorraine Greenberg (BA ’87)
Maureen Grenier (BA ’89)
John Gundy (BA ’13)
Paul Haines (MMath ’75)
Wayne Hajas (BSc ’86)
Mary Haley (BA ’67)
Richard Hamilton (BASc ’63)
Laurence (Larry) Hamlin (BASc ’94, MASc ’96)
Murray Hampton (MA ’72)
David Hanneson (BASc ’70)
Edgar Harder (BMath ’77)
Inez Harris (BA ’00)
Thomas (Tom) Hawkins (BASc ’80)
Andrew (Andy) Haycock (BMath ’74, MMath ’76)
Jelloe Haynes (Wickham) (BIS ’83)
Orville Heideman (BASc ’65)
Bert Henderson (BA ’75, MA ’78)
Julienne Hendrickson (BA ’68)
Donna Hetherington (BA ’84)
Roger Hicks (BASc ’70)
Barry Hilchey (BSc ’02)
Gregory (Greg) Hillis (BA ’01)
Edward Hinchley (MASc ’63)
Margaret Hitchcock (BA ’92, MA ’94)
Marrius Hoefman (BASc ’71)
Shirley Holdsworthy (BA ’91)
Donald Holland (MASc ’69)
Frederick (Bill) Holmes (MASc ’69)
Ronald (Ron) Hornby (BA ’65)
Jean Horne (BA ’77, MA ’79)
John Houweling (MMath ’74)
Henry (Doug) Hunter (OD ’72)
Laurence Husbands (PhD ’72)
Mauno Immonen (BASc ’65)
George Ingham (BA ’86)
Margaret Ionson (BMath ’78)
Robert Ireland (BASc ’63)
James (Jim) Ironside (BASc ’69)
Aquila Islam (MSc ’71)
Susan Jackson (BA ’97)
Marion James (BA ’85)
Jean Jenkins (BA ’80)
Jan Jofriet (MASc ’69, PhD ’72)
James Johanson (MPhil ’82)
Emil Jursa (BA ’66)
Joseph Kallu (BA ’76)
Beverley Kent (MA ’68, PhD ’75)
Colm Kerr (BA ’79)
Margaret (Marg) Kerr-Lawson (Cowie) (BA ’70)
Enn (Alan) Kerstenbeck (BSc ’83)
Jacob Kierdorf (BA ’80)
Marilyn Koehler (BA ’00)
Peter Kolenc (BA ’81)
Kazimierz (Chuck) Konkel (BA ’72, MA ’73)
Martin Kravitz (BIS ’92)
Helen Kruger (Zacharias) (MA ’80)
William (Bill) Kummer (BA ’67)
Nikolaos Kuphos (BA ’85, BA ’85)
John Lally (BASc ’62)
Edwin Lam (OD ’60)
Lawrence (Larry) Lamb (BIS ’89)
Ronald Langel (BA ’74)
Patrick Lee (MASc ’69)
Chang Lee (MASc ’81)
James (Jim) Leis (BA ’90)
Michael Leslie (BASc ’82)
Dolores (Dee) Levac (BA ’95)
Eric Lister (BASc ’69)
Alexander Livermore (BASc ’63)
Sheryl Loeffler (MA ’79)
Frances Lyons (MA ’82)
Daniel (Dan) MacDonald (BASc ’65)
Ilene MacDonald (BA ’85)
William (Bill) MacDonald (BA ’85, BA ’87, BA ’01)
Douglas MacFarlane (MA ’76)
John MacIssac (BA ’64)
Dorothy MacKenzie (BA ’94)
Mark Mackey (BASc ’22)
Gary Maiers (BA ’64)
Jane Malda (BA ’89)
Henry Malon (MA ’75)
Jeanne Mandzuk (BA ’91)
Audrey Manning (BA ’89, BA ’91, BA ’96)
Robert (Bruce) Marr (BA ’89, BA ’90)
Doris Marran (MA ’88)
John Martin (MA ’71)
Ian Martin (BA ’98, MAcc ’98)
Dona Massel (BA ’91)
Audrey McCarville (BA ’71)
William McCowan (BASc ’64)
Christopher (Chris) McCrae (BASc ’96)
Celeste McCreight (BA ’86)
Ross McCuaig (MASc ’74)
Brian McHugh (BA ’77)
Brian McKenzie (BA ’78)
Trevor McLaughlin (BA ’11, BSW ’12)
Vincent McLeod (BASc ’64)
Ivan McQuillin (BSc ’67)
John Medley (BASc ’74, MASc ’79)
Margaret (Patricia) Megaffin (BA ’97)
James (Douglas) Mercer (BA ’77)
Johanna Metcalf (MA ’69)
Robert (Bob) Metcalfe (BSc ’71)
Bradley (Brad) Miehls (BA ’94)
Samiha Mikhael (MA ’74)
Maurice Milburn (MA ’76)
Dennis Millan (BASc ’73)
Lewis Miller (BA ’96)
Robert Miller (BPE ’67)
Roger Miller (BASc ’64)
Timothy (Tim) Missell (BASc ’87)
David Mitchell (BSc ’74, MSc ’76)
Audrey Mittelholtz (BA ’72)
Joan Molnar (BA ’86)
Lillian Morch (BA ’91)
Dawn Morgan (BA ’82)
Robert (Rob) Murakami (BASc ’76)
Lynn Murray (BASc ’72, MASc ’79)
Mary-Margaret Murtha (BA ’91)
Eleanor Nagai (BASc ’84)
William Nediger (PhD ’79)
Clarence Newson (MA ’75)
Jim Nicholls (MA ’70)
Victor (Roger) Nordrum (BASc ’70)
Harold (Hal) North (BASc ’74, MASc ’76)
Wayne Northcott (BES ’76)
Robert Noyes (BA ’05)
Ekwele Nwalipenja (BA ’66)
John O’Reilly (MASc ’74)
George Obminski (BSc ’72)
Edward Ochiena (BPE ’65)
Barack Odhiambo (BA ’88)
John Pahapill (MASc ’79)
William Palmer (MA ’70)

Florence (Lorna) Parker (BA ’83)
Douglas (Doug) Parsonage (MASc ’75)
Roger Parsons (BA ’78)
Vijai Pasricha (MASc ’70)
James (Doug) Paton (MA ’71)
Brian Paul (BASc ’76)
Fraser Peers (BES ’86)
Edythe Penny (BA ’04)
Harry Pentesco (BASc ’72)
Mary Perry (BA ’89)
Ray Peters (PhD ’69)
James Petrosky (BASc ’12)
Leena Phillips (Poldes) (BMath ’83)
James Pitcher (BASc ’69)
Kevin Plautz (BES ’92)
Julie Pope (BA ’86)
Kathleen Power (Toczylowski) (BA ’85)
Lila Prince (BA ’85)
Terry Prowse (BES ’76)
Robert (Bob) Pula (BASc ’72)
Maria (Ria) Pulles (BA ’86)
Michael Quirke (BA ’82)
Robin Rabideau (BSc ’76)
Iyanuoluwa (Elijah) Raji (BES ’15), MEDI ’19)
Norma Rathwell (BA ’80)
Doreen Raymond (BA ’82)
Raymond (Ray) Reed (MA ’77)
Robert Reed (MSc ’61)
Gerald Reicheneder (BASc ’64)
David Reid (BASc ’67)
Anne Rektor (BA ’72)
Patricia Richter (Jamieson) (BA ’67)
James Riegert (BMath ’87)
Gezina Rietveld (BA ’90)
Robert (Bob) Robbins (BASc ’70)
Agnes Roberts (BMath ’91)
John Robertson (BASc ’65)
Joseph Rogers (BASc ’79)
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Maurice Worsfold (BA ’87)
Lee (Tina) Wu (BASc ’19)
Shawn Young (BSc ’87)
Walter Zaleschuk (OD ’69)
Mitchell Zamojc (BASc ’74)
Alfred Zimmerman (MA ’67)
Norris Zucchet (BASc ’75)

A new wave in water filtration

Dr. Kiyoumars Zarshenas (PhD ’23) is on a mission to revolutionize how we filter water.

As part of his postdoctoral research, he created a unique structured membrane made up of tiny intricate layers. The polymeric support layer has many small holes, while the top is a finely calibrated, thin, solid layer made of nanomaterials. Together, they use less energy to separate water molecules from other molecules, making the filtration process more efficient.

The image seen here captures this unique membrane using a scanning electron microscope. It was named a winner of the 2024 Science Exposed Jury Prize sponsored by the Natural Sciences and Engineering Research Council of Canada.


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