



FALL 2022

WATERLOO MAGAZINE

THE BUILDERS

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Kathleen is a Canadian illustrator with a background in fine art, architecture and urban design. She is a graduate of the University of Waterloo School of Architecture, and her current work is heavily inspired by her time studying architecture, city life, and storytelling. You can find her illustrations throughout this issue.

kathleenfu.com

THE BUILDERS

In this issue, we look at how builders take many forms like entrepreneurs, technologists, educators and learners. Our alumni and campus make up a community of builders — a community of bold thinkers who strive to make a positive impact.



A ROLE MODEL FOR MATH AND LIFE

Anita Layton is building math models to get lifesaving treatments to people faster.



GLOBAL CONNECTIONS, FORGED IN HONEY

Waterloo alum Nohemie Mawaka shares how her business venture Lubembo brings Congolese forest honey to the North American markets.



HOW TO BUILD AN ANTI-BULLYING ROBOT

PhD student, Elaheh Sanoubari, leverages theatre and role play with social robots to help children learn bullying intervention skills.

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WATERLOO CELEBRATES THE LIFE AND LEGACY OF DOUGLAS WRIGHT

On September 23, 2022, the Waterloo community came together to celebrate the life and legacy of President Emeritus Douglas Tyndall Wright with a special event. Wright, who served as the first dean of the Faculty of Engineering from 1958 to 1966 and as Waterloo's third president and vice-chancellor from 1981 to 1993, passed away on May 21, 2020.



→ WATCH tribute to the life and legacy of Douglas Wright.

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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COMMITMENT CEREMONY SIGNALS NEW BEGINNINGS

On September 22, 2022, the Indigenous peoples of the University of Waterloo asked Vivek Goel, President and Vice-Chancellor, for a full commitment to reconciliation, Indigenization and decolonization.

In the Commitment Ceremony, the University publicly acknowledged the harm that colonization has caused to Indigenous peoples and committed to meaningful and respectful work towards being an ally to the process of reclaiming Indigenous identity and culture, and decolonization.

“Reclaiming Indigenous ways of knowing and doing is required to achieve meaningful reconciliation,” said Former Chief, Elder and Indigenous Knowledge Keeper, Myeengun Henry, who works with the Faculty of Health. “Colonization has done extensive damage to the spirits of Indigenous peoples and the University has committed to Truth and Reconciliation in its strategic plan, but now the University has the opportunity to ceremonially honour this commitment, as we chart the way forward.”

The ceremony began at sunrise on the fall equinox, signifying the changing seasons, the harvest and the abundance of Mother Earth’s gifts to us. Sunrise Ceremonies also hold spiritual significance, marking a new beginning and an occasion to thank Father Sun for all creation. A Cedar Circle, Pipe Ceremony and traditional feast followed the ceremony.



PHOTOGRAPHER:

BRUCE LADOUCEUR | LIGHT IMAGING

As a member of the Metis Nation and with my long history with the University of Waterloo, I am happy that the University is taking the Truth and Reconciliation Act to heart. There is a lot of healing to be done. Conversation and education are the way forward. I am excited about the future!

In 1957, a group of local community leaders imagined a new university built to tackle the pressing challenges of our community and country in a period of intense global change. Integrating academic excellence with work-integrated learning, our institution's founders laid the foundation for an unconventional university that continued to evolve into the research-intensive and world-class university we are today.

The theme of this issue of the Waterloo Magazine – The Builders – is especially inspiring at a time when our institution is embarking on a visioning exercise to steer our evolution. Waterloo at 100 is an exercise to move us beyond five-year planning cycles toward a longer-term vision that will answer: What do we as an institution aspire to become by our 100th anniversary in 2057?

Much like the original builders of the University of Waterloo, we face a rapidly changing world marked by complex global challenges, including exponential technological change, a global pandemic, the climate crisis, changing geopolitical dynamics and other global forces. We can honour the legacy of the generations before us by being unconventional again through imagining a bold future that addresses humanity's most pressing challenges.

Our people are the designers, connectors and builders of our future. Every day across our campuses, I see individuals and teams taking on challenges with enthusiasm and focus that inspires others along the way. Within the pages of this magazine, you'll discover how Waterloo faculty, researchers, students, staff and alumni are changing lives and communities through creativity, unconventional thinking and collaboration. From saving lives through mathematical models to championing equity to help build a more just society, innovators within our University of Waterloo community exemplify the spirit and values needed to define the future we wish for humanity and help to propel us there.

Drawing on the unconventional spirit that has been at our core since the University of Waterloo's founding, I invite you to contribute your bold ideas to help evolve our institution as we build a better future. ♥

Dr. Vivek Goel, CM

President and Vice-Chancellor

A COMMUNITY OF BUILDERS

→ READ MORE about Waterloo at 100 at

uwaterloo.ca/president/waterloo-100





THE BIGGEST CELEBRATION IN WATERLOO HISTORY

7,200 NEW ALUMNI CROSSED THE STAGE AT SPRING CONVOCATION

By Megan Vander Woude (BKI '12, MA '13)



Each year, thousands of new graduates and their loved ones descend on campus to celebrate convocation. Waterloo's June 2022 events were unlike any ceremonies in our history.

A record number of 7,200 new alumni crossed the stage at spring convocation this year. It was a special moment for the entire campus community as graduates from 2020, 2021 and 2022 gathered in the Physical Activities Complex (PAC) after two years of virtual celebrations.

"We dealt with failure, disappointment, imposter syndrome and burnout," said Ellen McGee (BASC '22), the Engineering valedictorian. "And if you thought our degrees were hard enough with all that, we were thrown into a two-year global pandemic. I don't think I need to tell anyone here how hard it was."

For another group of young alumni, the pandemic disrupted more than student life – it also affected their convocation experience. Convocation during

the pandemic looked very different for the classes of 2020 and 2021, with no in-person celebrations, no crossing the stage, no flowers or photos outside the PAC. To honour their achievements properly, the University invited these classes back to campus for special convocation celebrations in June. More than 4,000 alumni attended, where they received a one-of-a-kind, limited-run and numbered collage created especially for them.

"Graduation is an incredible milestone in life," said Sue Grant, interim senior director, Alumni Relations. "We couldn't let the achievements of our alumni who graduated during the pandemic go without celebrating in person. The excitement, joy and pride were palpable. Thank you to all the alumni and family and friends who shared the moment with us."

2022 saw another milestone in Waterloo convocations. The fall convocation marked the 125th celebration in the history of the University, with the promise of many more milestones to come. ♥

A ROLE MODEL for math and life

Dr. Anita Layton is building math models to get lifesaving treatments to people faster

If you ask Anita Layton what it's like to be a scientist leading the world in a discipline that promises to revolutionize medicine, she can, like a true mathematician, bring her extraordinary career down to a fundamental principle:

"I want to solve challenging and important problems. What is most important in life? Our health," said Layton, the associate dean of research and international in the Faculty of Mathematics and the Canada 150 Research Chair in Mathematical Biology and Medicine.

Layton, a leader in a field attracting the brightest mathematicians and clinicians in the world, is using math models – much like scientists have used microscopes for hundreds of years – to reveal otherwise invisible processes in the body.

The research, which involves solving some of the most complex computational problems in mathematics, helps bring lifesaving drugs to people more quickly.

Layton's impact is seen in the vast range of researchers who cite her work, which includes biologists, biomedical engineers, mechanical engineers, civil engineers and other mathematicians. It has real-world impact by giving solutions to physicians trying to find better treatments for their patients.

Layton has made discoveries about diabetes drugs that are being leveraged by Pfizer and Brigham and Women's Hospital (Harvard Medical School) to treat heart failure.

She also builds math models to find sex differences in kidney function and developed the first computational models for blood pressure regulation that consider differences between men and women. Layton's landmark contribution has cast doubt on the "one size fits all" approach to hypertension treatment



What is most important in life? Our health.

and highlights the gender bias in medical research that historically studies men or male animals.

Layton's discovery has the potential to affect millions of people with hypertension because, even though women are more likely to be treated and take their medication, only 45 per cent of treated women achieve blood-pressure control, compared to 51 per cent of treated men.

Siv Sivaloganathan, the chair of the Department of Applied Mathematics at Waterloo, helped recruit Layton from Duke University in 2018. He said her accomplishments have shone a spotlight on the University and the potential of using math to save lives.

"Anita is a powerhouse ... She has really added much more value than we could have ever expected," Sivaloganathan said.



We can imagine a world in which health care is better and more equitable.

DR. ANITA LAYTON

One of Canada's most powerful women

In a single year, Layton was named one of Canada's Most Powerful Women of 2021 and awarded the prestigious Krieger-Nelson Prize by the Canadian Mathematics Society for her exceptional contributions to mathematical research. She is a Fellow of the Association for Women in Mathematics and the Canadian Mathematical Society.

Layton explains that testing new drugs is expensive – a single trial for a drug can cost upwards of \$3 billion. And at five to 10 years from start to approval, developing lifesaving treatments happen far too slowly for many people who are living with illnesses like cancer, diabetes or Alzheimer's disease.

But now, math models are helping medical researchers simulate the effectiveness of potential new treatments before they are tested on patients in the final phase of clinical trials. The computer simulations can also determine optimal doses and predict whether patients will experience side effects.

She explained that if there are 20 drug candidates for Alzheimer's disease, for example, it is much cheaper and safer to run computer simulations for all 20 drugs, identify the top performers, and only do clinical trials on the drugs that have the best chance of helping patients.

These advances also save more patients from the crushing blow of finding out the new drug trial they are part of has been cancelled because it's not working or is causing harmful side effects.

When a drug trial gets cancelled

Layton knows too well the devastation of finding out that a drug trial has been cancelled for a loved one facing a terminal illness. Her husband, Harold Layton, participated in a drug trial after being diagnosed with early-onset Alzheimer's disease.

She remembers the week Harold's neurologist emailed her to report that the clinical drug trial he had been part of was cancelled because the treatment was actually making people worse.

Layton had known the odds going in – during the past 20 years, there have been more than 160 failed attempts to develop a drug to treat Alzheimer's disease – but the news about Harold's drug trial still felt like a punch in the stomach.

"Some people cling to hope," she said. "I find hope cruel. In most cases, it does not pan out and then you have to deal with collapse."

An ally for equity-seeking groups in math

While Layton's research directly addresses gender biases in medical research, she is also a leader at Waterloo and beyond who fights to remove systemic barriers in academia and industry. Layton chairs the University's Research Equity, Diversity and Inclusion Council, a group that supports and promotes the careers of members of equity-seeking groups. Her own research group is gender balanced, with most members being from racialized groups, which is almost unique in mathematics.

When Rico Mariani (BMath '88), a veteran of the tech industry, wanted to create a new scholarship for Black and Indigenous students in Waterloo's Cheriton School of Computer Science, things moved slowly until Layton caught wind of the initiative and began to push things forward within days.

"When you are building something new, even one missing brick can make the whole thing fall apart. On the other hand, anyone with even one brick can make things happen," Mariani said. "When I was trying to create a scholarship for Black and Indigenous students, Anita brought truckloads of bricks."

Layton's vision is nothing less than a community that includes the talents and voices of all, with experts across disciplines who conduct biomedical research that moves beyond the reactive, one-size-fits-all approach, to one that is more personalized, preventative and precise.

"We can imagine a world in which health care is better and more equitable," Layton said. "That world can only be reached if biomedical, clinical and quantitative scientists all work together." 🍷

→ FIND OUT MORE about Anita Layton's research at:

uwaterloo.ca/scholar/a2layton



GLOBAL CONNECTIONS, FORGED IN HONEY




Nohemie Mawaka's venture employs women in her father's community in the Democratic Republic of Congo

By Amy Suresh (BSc in progress)

Current student Amy Suresh (BSc in progress) chats with serial entrepreneur Nohemie Mawaka (BA '13) about her most recent business venture, Lubembo, which brings Congolese forest honey to North American markets.





Suresh: Lubembo sources forest honey directly from the Democratic Republic of Congo, making it distinctive not only in taste, but in origin. How has your commitment to your community helped support local agricultural farmers in Congo?

Mawaka: That's an easy one to answer! Most farmers working in agriculture in developing countries are women, and I definitely have a soft spot for that. We do have men working with us, but the majority of them are women.

The hives that the honey is harvested from are at the very top of the palm trees. So, you can imagine these women climbing up there and bringing that down. It's a bit dangerous, but that's why it's such a premium product.

When we went back to Kinshasa where my dad grew up, we saw them do that. We reached out to them and said, "Hey, if we pay you fair market value, would you be willing to give us this honey?" They could keep selling it locally, of course – we just wanted a certain quantity. And they said, 'yes.'

Essentially, we remove that fairtrade middle person, because we're taking on the transportation, and that direct trade, and bringing all of that to the North American market. We started doing that every two months. We were able to create a consistent revenue stream in a country where, truth be told, a lot of populations deal with severe poverty. We're even looking into a new model where we create the environment where the farmers can harvest their honey. So, we're giving them the space, the equipment, the tools – everything they need to keep producing, in exchange for providing our business with a certain quantity.

Through Lubembo, have you been able to revisit or strengthen your relationship with your Congolese roots?

Kinshasa is where we harvest and buy honey, and it's where my dad was raised. The village has basically no infrastructure. So, when we bought that 200-acre farm, it's the first one the people there have seen. We created incomes for 50 people in less than a year!

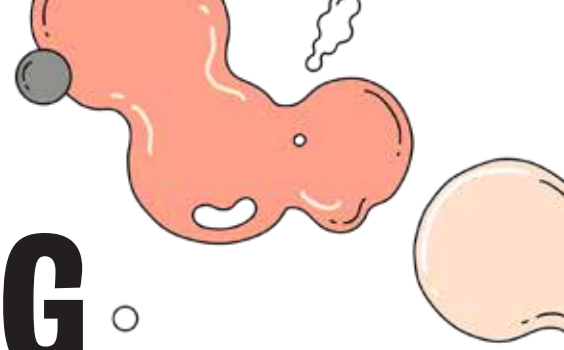
While I grew up in the capital city, my dad was from this really rural area. I got to go back and really understand the people living there. It's a bit emotional because I'm very Canadian. By going back, I've been able to unlearn a lot and just be a lot more empathetic. These are people who haven't seen employment since we were free from colonization in the 1960s.

When we visit, we know that the business isn't going to happen overnight. So, in the meantime, we spend time with them. We cook for them, we host little barbeques for the community, and so it helps me connect with my roots, especially when it comes to understanding my dad's side of the family.

Lubembo honey brings a unique customer experience from Congo to North America with its complex flavours and characteristics. What do you hope to achieve by building this bridge between the two communities?

Ultimately, I want to be a bridge between the two regions. Congo is one of the most resource-rich countries in the world. So, we were really known for natural resources and it's all untapped. When you look at North America, everything is so processed. Lubembo honey is kept raw, so there's a bit more probiotic. In terms of taste, forest honey has a very smoky flavour.

Overall, I want to offer organic goods that are overflowing in Congo. They have these products in abundance. And in the West, there's purchasing power. We've had success in California, for example, so it really shows the value for Congolese products in North America. I hope to expand and introduce even more products from Congo long term. ♥



HOW TO BUILD AN ANTI-BULLYING ROBOT

Theatre and role play with social robots will help children learn bullying intervention skills

By Stephanie Longway

Children who have been bullied or have witnessed a friend being bullied often suffer in silence, not knowing how to process their traumatic experiences or respond to bullying in the future.

Ellie Sanoubari (PhD in progress) wants to change that by using social robots and games to help children understand bullying and develop skills to intervene.

“You can’t put two children together and ask them to role-play bullying. It could end badly,” said Sanoubari, a PhD student in the Department of Systems Design Engineering. “But we can use social robots as a proxy for role-playing so children can control their behaviours and practice intervention strategies in a safe, private and playful setting.”

Sanoubari is currently building a new drama-based game called RE-Mind – Robots Empowering Minds. In this game, a child can watch a bullying-related scenario played out by robots and enact in the role play by controlling a bystander robot.

Building meaning through drama

This idea set the engineer on an unlikely path to the University of Waterloo’s theatre and performance program. “I have always loved theatre and drama. In many ways, robots remind me of that world, especially social robots because when you design them to act out social human interaction, what you are essentially doing is creating a performance with the robot,” she said.

Sanoubari’s supervisor is Kerstin Dautenhahn, director of the Social and Intelligent Robotics Research Laboratory and Canada 150 Research Chair in Intelligent Robotics. Dautenhahn suggested that Sanoubari bring in an applied theatre expert to support her work and introduced her to Professor Andrew (Andy) Houston from the Faculty of Arts.

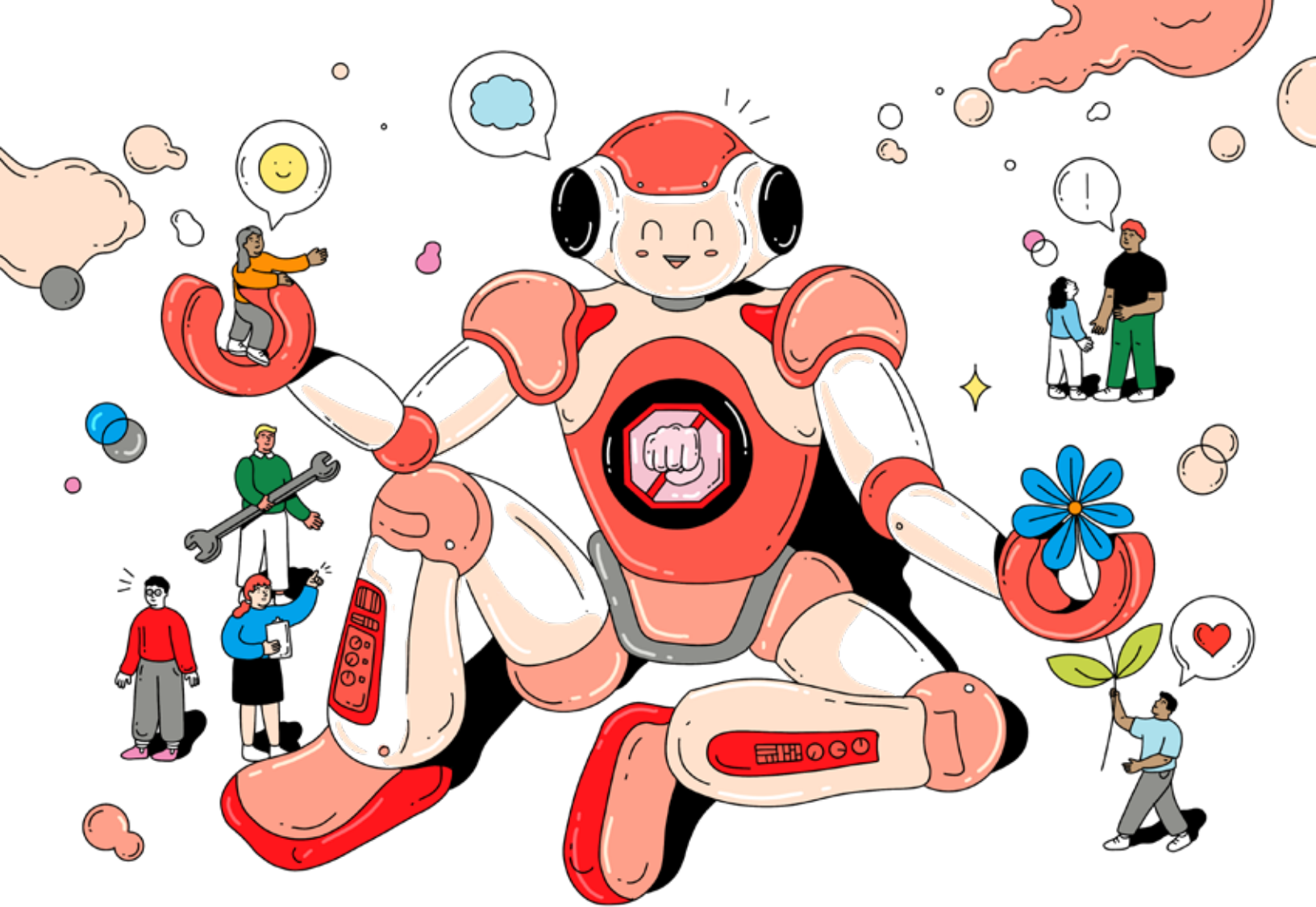


I have always loved theatre and drama. In many ways, robots remind me of that world.

ELAHEH (ELLIE) SANOUBARI (PHD IN PROGRESS)

Applied theatre is the practice of using drama techniques to evoke reflection and learning in order to bring about social change. “I had never heard of applied theatre before speaking with Andy, and this new concept was a wonderland for me. I was seeing how it all connected to my work and it shaped my approach,” Sanoubari said.

Houston explained that “when we see something enacted, and it affects us, it can change our thinking and what do we do with that experience?” This offers performers and the audience an opportunity to create meaning and understanding through a performance or by re-enacting a scenario.



Sanoubari, Houston and Dautenhahn devised an idea to have children learn bullying intervention techniques by role-playing with a robot who would be the bystander in a peer-bullying story. Houston added, “We wanted to create a safe distance for the kids ... it is hard to go back to a traumatic scenario. The robot creates that distance for the child.”

During the research they asked children, with the support of their parents, to create fictional robots themselves using materials around their home. Sanoubari said, “This was all done to help the children create a sense of psychological ownership with the characters that they were building.”

The team worked together to craft stories and scenarios that would prompt the children as they interacted with their robot character, but also let the children lead some of the storytelling and create fictional personalities for the characters.

Sanoubari wanted to ensure her anti-bullying game captured the creativity, reactions and stories of the children who would ultimately be the users of the game.

“It is important to involve the people using the technology from the get-go and build it with them. We wanted to go to children and see how they envision such a system.”

Building interdisciplinary solutions

As a theatre director and scholar, Houston and his work could be seen as very far removed from the world of robotics, but he said he is learning a lot from working with Sanoubari and the Social and Intelligent Robotics Research Lab.

“Ellie sees these re-enactments and storytelling from a very different perspective than I do. It’s like working with someone who speaks an entirely different language,” he said. “What I enjoy about collaborating with other people who come from very different understandings of theatre is that they give me tremendous insight and wisdom into my practice and what we are creating.”

Sanoubari agreed, and that is where robotics can learn from applied theatre and take a lead role in shaping positive human-robot interactions.

“My interests have always been very dynamic,” she said. “But what my work in the Social and Intelligent Robotics Research Lab has taught me is to re-think problems and that most problems in the world require building interdisciplinary solutions.” ♥

A WATERLOO SQUASH DYNASTY

The seven members of the Seth family are equal parts athletic and academic

By Jon Parsons



If there is one name to know in the sport of squash at Waterloo, it is Seth.

Five of the Seth siblings have been central to the Waterloo squash program. There has been a Seth involved with the varsity squash team since 2009.

They've won titles and helped to bring Waterloo to the pinnacle of the sport in Ontario University Athletics (OUA) and national competition. Two of the sisters even founded the Waterloo women's team.

But that's not where the story begins.

The story begins in the early '80s when Marina Blair (BMath '86) met Shaman Seth (BASC '88) while they were studying at Waterloo.

"We were both living in residence at the time," Marina said. "We were both involved in lots of activities with our housemates and that's how we met."

The pair married and were blessed over the years with five children, who they raised in Fergus, ON.

Following in their parents' footsteps, all five children completed degrees at Waterloo:

Micaala (BASC '13), Natasha (BMath '14), Cameron (BMath '16, MMath '21, PhD in progress), Marisa (BA '19) and Ravi (BASC '21).

This remarkable family is equal parts athletic and academic – hard working and hard playing – and a true Waterloo dynasty.



Seth family: Shaman, Marina, Cameron, Natasha, Marisa, Micaala, Ravi

Passion to compete

It would be difficult to list all the family's titles and accomplishments in squash. Between them, they have a long list of provincial titles, junior national titles, OUA titles and a Canada Games medal for good measure, as well as a room full of trophies from hundreds of club-level events.

Micaala and Cameron played as professionals in the sport's top international league, the Professional Squash Association (PSA). Micaala, Cameron and Ravi also represented the University of Waterloo and Canada at the World University Championships.

A major Waterloo-linked accolade was Micaala's winning Athlete of the Year in her graduating year.

“I’ve always thought of it as an award for our team,” Micaala said. “It was my sister and our teammates who made it a success, so even though it’s an individual award I think it needs to be shared around.”

Another Waterloo accolade was Cameron and Natasha winning the Fairfax Financial Honour Roll Award, which is presented annually to the top academic-performing undergraduate student-athletes.

The builders

The Seth family are not just great athletes, but great builders of the sport. They are all coaches, formally and informally, and have fostered an environment for squash excellence at Waterloo. The siblings have passed the torch, one to the next, since 2009.

“They’ve been working together as a team their whole lives,” Marina said. “So, when they started going to Waterloo it was natural for them to start working on this new project, which was the University squash program.”

When the eldest daughter Micaala started at Waterloo, there wasn’t a women’s squash team, and she wasn’t allowed to play on the men’s team, even though she was a stronger player than some of the men. At the time, OUA rules prohibited women playing on men’s teams.

Undeterred, Micaala and Natasha set out to create a women’s team when the younger sister started at Waterloo a year later.



“We went and spoke to the administration in athletics, and even though we only had three players, we convinced them to support a team and send us to OUAs,” Micaala said. “Typically, teams have six players, so we were always at a disadvantage, but we ended up winning all our matches.”

Each of the siblings took on leadership roles in the squash program, each in their own way. Marisa, the youngest sister, is currently the head coach for the Waterloo squash program, overseeing training and competitions for the men’s and women’s teams.

Education and innovation

Even though the Seth family sees the value of athletic excellence, academics never took second place. All seven family members graduated with honours.

Alongside the course work and specific programs, family members also point to the enormous value of co-op and the real-world working experience gained throughout their degrees.

The Waterloo experience for the family also involves entrepreneurship and innovation, and most recently they have married skills on the squash court with skills in technology through the Seth Squash app.

The app, which featured in the finals of Velocity’s \$5K Challenge, works as a squash analysis program, tracking player movement on the court using live or recorded video. It uses a machine learning algorithm to provide statistics for player position and shot selection.

Cameron, who is currently a PhD student in Waterloo’s Cheriton School of Computer Science, has been working closely with Ravi on the technical side of the app. Other siblings bring skills to the Seth Squash enterprise as well, with Natasha and Marisa providing know-how on marketing and communications.

It takes a village

Asked to reflect on the impact Waterloo has had on the family, Marina said it’s an integral part.

“It takes a village to raise a child,” Marina said. “There are so many organizations and so many individuals that helped our children and our family. Schools, community groups, coaches, teachers and friends – it’s made such a difference. And the University of Waterloo is a big part of that village. It has shaped our children’s lives and I am forever grateful.” ♥



AN INDIGENOUS SENSE OF PLACE

Dr. David Fortin and team to represent Canada at the prestigious Venice Biennale, where he hopes to share Indigenous design principles and raise awareness about Canada's housing crisis

By Heather Bean (BA '98)



This is not a style. It's a way of being in the world.

DR. DAVID FORTIN

Dr. David Fortin shared that Indigenous design is finally receiving the recognition it deserves.

Public and private institutions alike are looking for designers to include Indigenous “elements” in the design of buildings and landscapes. But Fortin, a citizen of the Métis Nation of Ontario, cautions that Indigeneity isn't an aesthetic.

Honouring an Indigenous relationship to land requires a lot more than eco-friendly building materials, Fortin said, a professor in Waterloo's School of Architecture.

“An Indigenous sense of place would be one where there is reciprocity with land; where we aren't just taking from land but adding back to it in a way that benefits all of the life forms around us,” Fortin said. “I don't want to just call it ‘sustainability.’ It's a reverence for all life. Design should reflect relations that go beyond humans, to include animals and plants and water. All that stuff is sacred. That's at the core of Indigenous design. There's a spirituality to it.”

Fortin and Adrian Blackwell (BES '89, BArch '91), a fellow Waterloo architecture professor, are members of Architects Against Housing Alienation: a collective of six Canadian architects, artists and academics who will represent Canada at the 2023 Venice Biennale, the international expo of the world's architectural innovations and achievements.

Raising awareness about Canada's housing crisis

Fortin and his curatorial team will be including Indigenous knowledge and perspectives in Canada's pavilion, which the

group hopes to transform into a campaign headquarters to raise awareness about, and offer solutions to, Canada's housing crisis.

“A housing crisis is not something the international community necessarily associates with Canada,” Fortin said. “The fact that we have the level of problems that we do is something the world should know about.”

According to the National Bank of Canada's housing report, an average-income household now pays more than half of its income towards a mortgage for a house in Canada's cities. At the same time, Canadian renters have been caught up in the financialization trend as large investors have begun to buy rental properties as investments – and raise rents, often dramatically.

It's more than just “looking” more Indigenous

“If our cities ‘look’ more Indigenous, but we still have economic disparity, more violence, more divisiveness and we're still destroying the planet, I'm concerned that we are disrespecting the teachings,” Fortin said. “This is not a style. It's a way of being in the world. We need a bigger societal shift in the way we inhabit the world.” About 235,000 Canadians experienced homelessness in 2021.

“Our focus is on those who have been totally punted out of the system. And that number is growing very quickly,” Fortin said. “Young graduates with university degrees who should have wonderful futures ahead of them are full of trepidation right now.”

This isn't Fortin's first Biennale. Along with Plains Cree Professor and Canada Research Chair, Gerald McMaster, he was co-curator of Canada's 2018 entry: *Unceded: Voices of the Land*, presented by internationally acclaimed Métis and Blackfoot architect Douglas Cardinal.

Growing up in Prince Albert, Saskatchewan, "a city kid," Fortin said he "really loved calculus and statistics, and then also really loved to blast music and just draw." He found his way to architecture when an undergraduate professor mentioned Italian architect Paolo Solari's concept of archeology – a portmanteau of "architecture" and "ecology." "I looked that up and saw these incredible drawings," Fortin recalled.

"I've always been a science fiction fanatic, and here were these visionary, futuristic worlds." Architecture school in Calgary opened his mind to even more possibilities: "You see things you never would have imagined. And there's a tremendous value to that."

At the same time, he noted, architectural education in the 1990s instilled a Eurocentric and individualistic definition of excellence.

"Architecture was being taught through a highly theoretical lens. There was a major emphasis on producing stuff that looked cool." The result was often awe-inspiring buildings that lacked a relationship to their environments or the people who would live and work in them. "Even if you're working in Saskatoon or Brooks, Alberta, you're studying these multimillion-dollar projects in major urban centres, and that's the architecture you're taught you should reproduce."

The relationship between land, colonization and housing

As an intern architect in some of Western Canada's top firms, Fortin worked on high-profile projects, including multi-million-dollar homes. "It was a long way from where I'd started off in my interest in archeology. I was still thirsty for something, and I knew I needed to be asking bigger questions." A PhD at the University of Edinburgh led to a professorship at Montana State University (MSU) and educational work with the Northern Cheyenne.

A pivotal project for Fortin was a design-build course he oversaw in Kenya while a professor at MSU. Kenyan subsistence farmers were finally growing surplus yields from improved breeds of potato. But the potatoes would rot before they could get to market. Fortin, his students, and their local collaborators designed a potato vault from surplus straw bales that sat on a gabion strip footing with a crushed sandstone floor to absorb moisture and regulate temperatures to preserve the harvest. "We built it in a way that could be replicated by the farmers themselves."

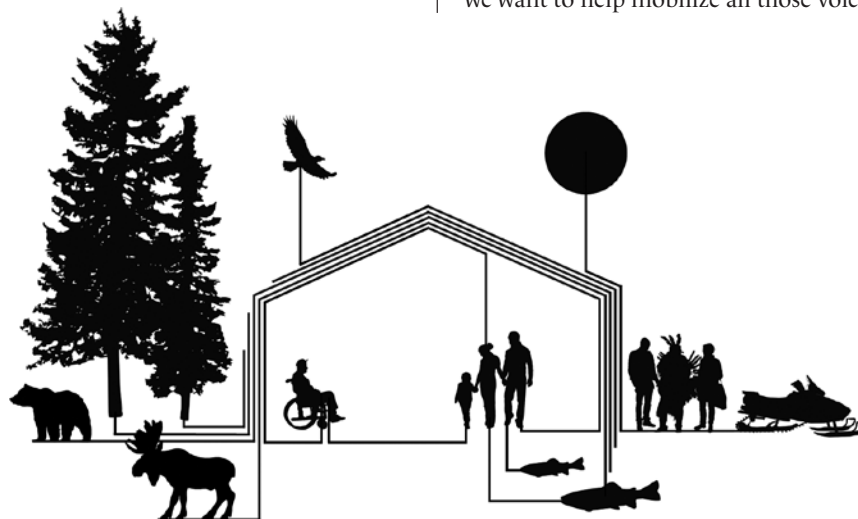
"Much of what I've been doing since the potato-store project is trying to employ systems thinking to ask questions about why the world is the way that it is. The world isn't just built. Builders typically build what was designed. And a lot of my Indigenous advocacy is to say, 'Why is it this way?' When I look at a reserve, or when I look at my Métis family history, understanding how people got there is crucial. Otherwise, you're designing in a vacuum of – and becoming an arm of – the power systems that be, rather than helping."

An important part of the needed societal shift that aligns with Indigenous relationships to land, Fortin said, is finding new ways to think about housing – beyond individual, private land ownership.

"On our last call, one of our collaborators pointed out that Canadians find it so easy to understand that we have schools and hospitals and sidewalks and curbs and stormwater systems as social infrastructure," Fortin said. "But housing isn't thought of like that here."

Architects Against Housing Alienation is consulting with more than 30 groups from across Canada, many of them having craved something to bring them together. "That's something that we didn't initially expect. We can use our platform to help bring those groups together and create a more unified voice. We left our call yesterday truly inspired as there was this sense of collective passion.

"And that's what this is about. It isn't about us individually – we want to help mobilize all those voices." ♥



“GO MOMMY”

Tracelyn Cornelius says equality for all is a fundamental component of sustainability

By Tracelyn Cornelius (MEB '21, PhD in progress)

Tracelyn Cornelius is the anti-racism communications manager in University Relations. She is also a PhD student in the Sustainability Management program in the School of Environment, Enterprise and Development (SEED).

As a full-time employee, mature part-time student and mother of three, I often question whether my decision to embark on PhD studies was a wise one. Reflecting on the numerous nights and weekends dedicated to reading, completing assignments, and participating in study groups, I wonder, “Is the commitment of time and energy really worth it?”

I got the answer to these questions at the special ceremony held for 2020 and 2021 graduates during Spring 2022 Convocation, when I graduated with a master’s degree.

As I crossed the stage, amidst the applause, I heard shouts of “Go Mommy” from my three children, who were in the audience. It was then that I knew, without a doubt, that my rigorous schedule and demanding workload were indeed worth it.

Whenever I get the PhD blues, a term used to describe the combination of imposter syndrome and study-related anxiety, I remember this moment.

As a member of Professor Amelia Clarke’s research team in SEED, I am part of a team building community by working with local municipalities to implement community sustainability and climate plans. Fortunately, my research focus, which involves embedding equity, diversity and inclusion into the tools and resources used for knowledge mobilization, complements the work I do for the University.

Challenging oppressive narratives

As the anti-racism communications manager in University Relations, I work with senior leaders like Jean Becker, associate vice-president of Indigenous Relations and Dr. Christopher S. Taylor, associate vice-president of Equity, Diversity, Inclusion and Anti-racism to develop and



implement strategic communications plans that effectively challenge oppressive narratives.

Long before EDI-R became buzz words, I have been applying these lenses to communications, community engagement, project management and strategic planning and implementation for more than 25 years. I was honoured to work with President’s Anti-racism Taskforce to assist in planning and coordinating activities.

When I worked with the President’s Anti-racism Taskforce (PART), I was at the cusp of completing a Master of Environment and Business degree. I wanted to support the successful implementation of PART recommendations, so I focused my research interests on exploring the intersection of EDI-R and sustainability management.

Equality is a fundamental component of sustainability; therefore, dismantling systemic biases, discrimination and inequities is essential for a sustainable future. I aligned this premise with the United Nations Sustainable Development Goals (SDGs), focusing on SDG 10: Reduced Inequalities (ensuring no one is left behind), and SDG 16: Peace, Justice, and Strong institutions (promoting peaceful and inclusive societies). I found that there was a significant research gap in this field, and I look forward to contributing meaningful and original research.

Building community

I will be forever grateful that I chose to connect my professional EDI work to my sustainability management research. No matter who you are, where or what you’re studying, completing a PhD while working full-time takes its toll. Managing extremely demanding professional and academic workloads and trying to achieve a healthy work-life balance are common struggles.

Sometimes I feel like it’s impossible to stay motivated. What has and continues to sustain me is a strong support system of family, colleagues, professional and academic supervisors and friends.

I will leave you with my favourite quote coined by the great author, poet and social activist, Maya Angelo: “My mission in life is not merely to survive, but to thrive; and to do so with some passion, some compassion, some humour and some style.”

CYBERSECURITY BUILDERS

A cluster of cybersecurity companies grows from talent emerging at the University of Waterloo

By Rose Simone



Penelope Schankula (BCS in progress) is a builder.

She may not have been aware of that when she took a co-op job at the cybersecurity company Arctic Wolf in Waterloo, but she is part of a new generation helping build the region's cybersecurity cluster today.

Besides Arctic Wolf, dozens of companies in the region are providing cybersecurity, embedded security, risk threat assessments, blockchain security, cryptography and quantum cryptography services for Canada and the world.

Waterloo continues to advance cybersecurity innovation, making it a hotbed for talent for fintech companies, insurance companies and banks – including RBC, which invested in a cybersecurity lab at the University of Waterloo in 2018.

Schankula saw this growing cluster and realized she is part of something bigger.

Cybersecurity cluster pushes the pace of innovation

“This has been growing for quite a while, so I am not on the ground floor, but I feel like I am contributing to that growth. A lot of computing technology companies come and go in Waterloo, but this is not just a fad. Cybersecurity is here to stay,” said Schankula, who has completed her second year in computer science. This was her second co-op term at Arctic Wolf.

Waterloo region is home to a world-class ecosystem of cybersecurity innovators, including:



Tony LaMantia (BA '87), president and CEO of Waterloo EDC, the economic development corporation that is a point of contact for companies looking to locate, relocate or expand in Waterloo, says the cybersecurity ecosystem in Waterloo Region is globally significant.

“There are three words that I would use to describe the ecosystem: diverse, dynamic and dense,” he said.

“By diverse, I mean our cluster is uniquely broad, covering everything from cybersecurity in general as well as risk and threat assessment, embedded security, vehicle to vehicle authentication and security infrastructure, blockchain security, fintech security, cryptography and quantum cryptography. So, it is diverse and dynamic,” he said.

It is also dense in terms of the number of companies relative to the size of this region. Some of these companies are within blocks of one another. “We just punch above our weight in terms of cybersecurity,” he said.

Waterloo talent draws companies to region

The University of Waterloo is the central reason for the growth of that cybersecurity cluster, LaMantia said.

The abundant talent in computer science, mathematics and quantum computing has resulted in numerous homegrown startups in this space and has also drawn international companies looking for talent.

He cited the example of the late Scott Vanstone (BMath '70, MMath '71, PhD '74), a mathematician and cryptographer in the University of Waterloo's Faculty of Mathematics, who along with Gordon B. Agnew (BASC '78, PhD '82), an engineering professor, and Professor Emeritus Ron Mullin (BA '60, PhD '64) in combinatorics and optimization, founded Certicom in 1985.

Certicom was acquired by BlackBerry in 2009. BlackBerry Certicom has industry-leading expertise in Elliptic Curve Cryptography (ECC) and has established the world's largest ECC-based patent portfolio.

Today's computing technology is rapidly evolving, which is why the cybersecurity industry is eager for talented young people interested in blockchain, quantum computing and machine learning or artificial intelligence – areas that the University has considerable expertise in.

Cybersecurity work is thrilling and fulfilling

Schankula, for example, has been working with the Arctic Wolf team that is developing the company's machine learning platform. “The applications that are being built will allow the company to leverage machine learning to achieve its goals in reducing cyber risk,” Schankula said.



*Tony LaMantia (BA '87)
President and CEO of Waterloo EDC*

As a teenager, Schankula always loved playing with computers, but she initially considered going into theoretical physics.

She changed her mind when she saw the range of opportunities offered by Waterloo's Cheriton School of Computer Science. “I discovered that I could do something cutting edge, in demand, that I could leverage economically,” she said. But more importantly, she saw the opportunity to do some good in the world.

Popular movies like War Games have thrilling scenes of young hackers breaking into top-secret computers, but Schankula said cybersecurity, which is the opposite side of that coin, can be just as exciting. “I would rather work for a company that is protecting people, and protecting their data, than a company whose primary source of profit is stealing their data.”

Women are getting into cybersecurity space

Schankula has also become part of a growing trend of women getting into the cybersecurity space. According to market research company Cybersecurity Ventures, women held 25 per cent of cybersecurity jobs globally in 2021, up from 20 per cent in 2019.

The team Schankula works with during her co-op terms at Arctic Wolf includes women who are full-time developers and other female co-op students like herself. “In our company, there is a very large focus on promoting diversity,” she said.

For her third year, Schankula will be at the University of Strathclyde in Glasgow, Scotland, as part of an academic exchange program. “It's an awesome opportunity to experience another culture in a different place and gain some new experiences,” she said.

Schankula is not certain exactly where her career will lead after she graduates from Waterloo but hopes it might integrate machine learning and cybersecurity. The fact that cybersecurity is constantly changing and evolving with new technologies makes it an exciting field, she added. “People are always finding new ways to attack systems and so we're always finding new ways to stop them.”

LaMantia said that means the University of Waterloo will play an increasingly important role in managing cybersecurity for the nation and the world. “Cybersecurity will be a key part of our future prosperity,” he said. ▀

Building a **PORTABLE BRAIN SCANNER**

Dr. Atefeh Zarabadi co-founded AiiMSense to help first responders and doctors diagnose strokes more quickly

By Jon Parsons



Seconds matter when it comes to strokes.

Fast identification and early treatment of a stroke can mean the difference between a speedy recovery and a lasting brain injury or even death.

Now, a new company co-founded by Atefeh Zarabadi (PhD '15), is set to give health-care professionals a revolutionary tool for detecting strokes and other brain injuries – a portable brain scanner that could even be used ahead of a patient reaching the hospital.

AiimSense was launched in 2019 and is currently in Velocity, the University's flagship entrepreneurship program.

"When the pandemic hit, we started pushing our product development even more because of the link between increased risks of strokes after COVID-19 infection," Zarabadi said. "It gave the research a whole new relevance."

Now a post-doctoral fellow researching neuroscience in the Faculty of Health's School of Public Health Sciences under the supervision Dr. John Mielke, Zarabadi says the name of the company is an abbreviation of Artificial Intelligence Imaging Sensors.

"Along with the rapid diagnosis of strokes, we see application for the portable scanner in other brain diseases like tumours and traumatic brain injuries," she said. "Our vision is to make it so brain scans can be accessible and practical as part of any brain health screening."

Zarabadi's co-founder in the company, Mohammad Chavoshi (MEng '16), is a trained senior electrical and computer engineer by training and has deep experience in the commercialization of telecommunications products. The AiimSense multidisciplinary team has completed the discovery phase and demonstrated the feasibility of the technology through several versions of prototypes of their brain scanner.

Preparing to take it to clinical settings

"We started out with a benchtop prototype and tested it on a phantom head, and now we are working on a compact version that can be used at the patient's bedside," Zarabadi said. The team has completed preclinical trials and is currently in the research ethics stage to eventually bring the technology into clinical settings.

“

Our vision is to make it so brain scans can be accessible and practical.

ATEFEH ZARABADI (PHD '15)

It is a journey with a few more years ahead, but Zarabadi sees a bright future for the new health technology, especially since there are no other similar commercialized products in the field.

As a health-tech company with ambitious goals, Zarabadi said AiimSense benefited immensely from the support of several organizations in the Waterloo startup ecosystem.

She said Velocity and the innovation hub at Communitech have consistently provided know-how and resources for the fledgling company, while the Grand River Hospital has been a strong community partner.

"Communitech's Fierce Founders program was invaluable" Zarabadi said. "It is a competitive program open to all female founders across Canada, and it was an amazing experience to meet and learn from other fellow founders. The whole innovation ecosystem connected to the community made it so I could bring this from an idea to reality."

The Velocity incubator provided a working space and a machine shop, as well as the 3D printers the team used to build their first prototype.

"It all prepared me for what to expect as a medical and health-technology founder."

As for next steps, Zarabadi is excited by the work AiimSense is doing and the progress they are making on the transition from preclinical to the clinical trial stage.

"There is more work ahead, but in the end, what motivates me the most is knowing that my work is going to help people to access medical imaging regardless of their socio-economic status." ♥

Photo credit: Sara Jalali for Communitech



Photo credit: Ange Caroline

DOING THE RIGHT THING

Guided by faith, entrepreneur Majid Mirza helps investors and private companies create sustainable impact together

By Beth Bohnert

During his 10-year career in impact investing, Majid Mirza (BA '08, MBET '09, PhD in progress) saw the difference that socially conscious investors can make – generating not only wealth but greener, healthier and more equitable communities.

Now, drawing on his spirituality and a commitment to social justice, he's helping private equity investors ensure the organizations to which they allocate capital also operate in ways that are sustainable, ethical and equitable.

Mirza is the founder of ESGTree, a data management platform that allows private equity and venture capital firms to track and report their environmental, social and governance (ESG) performance. And as ESG-compliant companies increasingly attract investment, doing the right thing becomes a way to do well – and creates a circle of positive impact.

“ESGTree was built on the simple principle of being the change we wished to see in the world,” Mirza said.

Today, ESGTree's portfolio of private equity clients holds more than \$200 billion in assets under management. Mirza has also served as a development finance consultant to the Canadian government.



ESGTree was built on the simple principle of being the change we wished to see in the world.

MAJID MIRZA (BA '08, MBET '09, PHD IN PROGRESS)

Sowing the seeds for a startup

As a high school student in Pakistan, Mirza turned down a scholarship from a prestigious business school in California. Instead, he chose Waterloo, attracted by the variety of directions he could take his Arts and Business degree. The programs he chose, including economics, rhetoric and digital communication, eventually led him to the MBET program – and sowed the seeds for ESGTree.

Initially, sustainability and social enterprise were not part of Mirza's worldview. But during his master's studies, he learned about Kiva, the world's first non-profit, online lending platform. Kiva provides crowdfunded micro-loans to entrepreneurs in underserved communities world-wide.

The concept resonated with Mirza, but equity investing was even more appealing to him as it traces its roots back to traditional forms of business and risk sharing.

"I was always drawn to the equity form of economic development or sustainable financing. Equity venture funds and private equity firms take on the risks of the business they lend to. They lose if the entrepreneur loses. They gain if the entrepreneur gains. It's a true partnership."

You build it, we'll subscribe to it

After attaining his master's degree, Mirza's growing interest in social finance attracted him to international development and impact investing – first with portfolio company Acumen, an early social venture capitalist, and then with Mennonite Economic Development Associates

(MEDA). Over time, however, he wondered if the huge development projects he managed were the only way to create positive change.

In 2019, Mirza returned to Waterloo to begin a PhD in sustainability management at the School of Environment, Enterprise & Development (SEED). He focused on ESG and how financial markets were dealing with increasing pressure from investors and regulators to disclose their performance. He noticed that although publicly traded companies had many options for managing, measuring and reporting ESG data, no such tools existed for the \$10 trillion private market.

"I sent a text message to a professional acquaintance who runs a private equity firm and said, 'I have this idea to build a technology platform that will allow private equity and venture capital firms to monitor their ESG performance.' He replied, 'You build it, we'll subscribe to it.'"

In 2020, with an initial grant from Velocity and further support and space provided by Grebel's Peace Incubator at the Kindred Centre for Peace Advancement (CPA), ESGTree launched.

"Because of our strong social justice roots, we are a great fit with the Centre. And the CPA's mentorship led to our customer relationship with Kindred Credit Union, who in turn connected us with other large credit unions," he said.

Continuing a legacy of social justice

Mirza's strong ties to the CPA are reflected in an endowed award that honours Malcolm X, whom he describes as "the pure embodiment of social justice."

"As a non-Black person, I think it's important to be part of an initiative that elevates the legacy of a Black activist who inspired hundreds of thousands of people around the world. And I thought it would be wonderful to continue his legacy through the platform of Conrad Grebel's Peace and Conflict Studies program."

With the endorsement of Malcolm X's family, Mirza and several other donors established the Malcolm X Peace and Conflict Studies Scholarship. This award recognizes students enrolled in the Master of Peace and Conflict Studies (MPACS) program who demonstrate a commitment to social justice, inter-racial harmony and inter-faith dialogue.

"ESGTree's connections with the Centre for Peace Advancement, inter-faith communities and other activist groups are part of our vision. It all goes back to doing something because it's the right thing to do." ♥

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RELIVE FOND MEMORIES

UNIVERSITY OF WATERLOO
ALUMNI
WEEKEND

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JUNE 2-3, 2023





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The Alumni Awards recognize Waterloo grads making impressive contributions to their industry and community.



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FIND LOCAL ALUMNI

Alumni groups are hosting events and programs all across the globe. Expand your network and explore your city with fellow alumni.

Find your chapter



ALUMNI STORIES, IN THEIR OWN WORDS

Brigitte Lau's story begins as the daughter of immigrants. Today, she's a mother, poker player and co-founder of venture capital firm Firework Ventures. Hear her story on our alumni podcast.



Uncharted
WARRIORS IN THE WORLD



Listen to UWaterloo Alumni podcasts in your favourite app



STARTING A NEW CHAPTER

Making new friends as an adult can be hard. Alumni groups around the world provide new and unexpected opportunities.

By Megan Vander Woude (BKI '12, MA '13)

Meighan Bell (BA '06, BSW '07) was keenly aware of how difficult establishing new connections is as an adult when she moved back to the Toronto area after eight years in London, England.

“Coming home in my mid-30s, everyone was just at a different stage.”

Then Bell saw a call for volunteers from her local University of Waterloo alumni chapter and she knew it could be a great opportunity to meet new people. “I think alumni have a natural bond because we share a university experience ... You can reminisce about campus, but it also gives you the opportunity to network.”

Located in 12 cities around the world, Waterloo alumni chapters offer experiences, events and opportunities for local alumni. Bell points to recent events like a Blue Jays game and a trip to the Toronto Zoo as examples of how alumni can socialize while supporting their home city.



*Meighan Bell
(BA '06, BSW '07)*



*Hugh Sandler
(BA '03)*

Waterloo alumni in NYC

Already well established in New York City, Hugh Sandler (BA '03) began attending chapter events to reconnect with Waterloo and learn from its experts: “I’ve always thought that Waterloo is on the cutting edge,” he said. “It’s really focused on innovation and future-oriented thinking, and that really appeals to me.”

Today, Sandler is on the chapter’s executive team, where he helps build engagement with fellow alumni through social and educational events. Recently, they teamed up with another alumni group in New England to host a virtual event with Nobel Laureate Donna Strickland. More than 600 alumni registered for the hour-long talk with the award-winning Waterloo physicist.

“New York cuts two ways,” he explained. “When you’re holding events, you’re competing in a very competitive entertainment space. But on the flipside, New York is an interesting and dynamic place that attracts great people.”

Alumni who join in chapter activities meet enthusiastic people, some new to the city, who want to get out in their local community.





Toronto's alumni mentorship program

That's exactly what Toronto chapter executives had in mind when they launched a mentorship program in June. The pilot program matched 30 pairs of seasoned professionals and young graduates. They set goals together and worked through a structured program meant to bring high value to both parties. For now, it's open to alumni who identify as female, but the chapter hopes to expand the offering in the future.

"I think it's really important to give back to the next generation," Bell said. "To give new grads help and get them set in their career really benefits the Toronto community as well."

While the mentorship program is unique to the Toronto area, all alumni chapters offer some form of professional development and mentorship. Sandler notes that co-op students are always welcome at chapter events in the city: "They very well may be future New York alumni. So obviously, it's important to make sure that they know we're here and ensure we're providing opportunities that are useful to them."

The chapter opened a new career opportunity for Sandler as well. In the spring 2022 term, he became an instructor in Waterloo's Department of Sociology and Legal Studies. It's a new, rewarding experience for him, and a great opportunity for students to learn from a practicing attorney.

"You never really know how things are going to play out," he said. "You can't always predict what the point of going to an event or making a new connection will be. Things have a weird way of working out." ♥



Waterloo alumni groups can be found everywhere, beyond the 12 chapter locations. In August, Waterloo alumni gathered for a networking lunch at The Chapter Café in Taipei, Taiwan. The event was hosted alongside a University of Toronto alumni group.



BUILDING A BRIDGE BETWEEN TWO CULTURES

Jennifer Guo and her husband reimagined the centuries-old game of mahjong as a tribute to their grandmothers

By Angelica Marie Sanchez (BA '21)





When Jennifer Guo (BA '10) and her husband Adam Szakacs were expecting their first daughter, they thought of ways their child could connect with her Chinese and Jewish heritage in a personal way.

“At the time, our family was living in Canada, and we were living in New York, so we were thinking about how difficult it would be for her to see her family regularly,” Guo said. “We wanted a way to keep the memory alive of family members and the experiences that we had growing up.”

Guo recalled how, despite a language barrier, her grandmother was able to connect with Szakacs’s grandmother through their shared love of mahjong, a traditional game she had played as a child with her grandmother.

Reimagining a multi-generational game

So, Guo and Szakacs created Not Your Ma’s Jong – a devolved card version of mahjong – to connect their children with their heritage and celebrate their grandmothers’ shared love of the game.

Mahjong is a traditional, 144-tile game with different versions played globally that can take days. People can be substituted into the game so the first players can rest before coming back to play.

Not Your Ma’s Jong is a fast-paced party game in which players race to collect card sets and take their opponents’ tokens. From the colour of the cards to the food and activities illustrated, Guo incorporated Chinese and Jewish emblems in a respectful way that either resonate with card players or introduce them to two different cultures.

Today, Not Your Ma’s Jong is an international card game translated into different languages that is played around the world. Guo decided to have Hasbro license the game because the company kept it almost exactly like their original concept. “Their ambition was to really spread this message of being proud of who you are and your heritage and to celebrate different cultures.”

Building relationships within a community

While the game itself is inspired by two grandmothers, Guo is constantly inspired by her mother’s outlook on building relationships. As an immigrant, Guo’s mother always encouraged her to be open and make connections with people by sharing her Chinese background.

Guo hopes to ingrain this lesson with her two daughters through Not Your Ma’s Jong and hopefully encourage them to share parts of their Chinese and Jewish culture with their friends as they grow up.

Guo hopes the game can help connect people around the world and educate those who may not know any Jewish or Chinese people to give players, “a little glimpse of someone else’s life, upbringing and cultural experience – that is really humbling to know that could be a possibility.”

Guo also dreams of finally visiting her family again in China so she can play Not Your Ma’s Jong with the people who inspired the game. ♥



REPRESENTING YOUR AUTHENTIC SELF IN DIGITAL SPACES

Waterloo alum who co-founded Bitmoji hopes personalizing your avatar will bring you closer to the people you communicate with online

By Jon Parsons

Among the great liberating qualities of the digital world is that it allows many people to express themselves, free from the constraints of the physical world.

For David Kennedy (BMath '02), vice-president and co-founder of the digital avatar company Bitmoji, the ways people represent themselves and identify online should be about empowerment and breaking free of constraints.

“The genesis of the idea for Bitmoji is that we wanted to fill a gap in digital communication,” Kennedy said. “That gap is you. The people that you send messages to are the most important people in your life. What Bitmoji does is it actually puts you into those messages. It makes you feel closer to the people you are communicating with.”

Now with more than one billion avatars created, Bitmoji is used across a variety of platforms and is part of the company Snap, the popular social media and camera company. Bitmoji allows users to personalize every aspect of their avatar, and of their online identity, including hair, outfits and skin tone. The avatar can be used in many digital spaces and a new feature even brings the avatars into 3D spaces and augmented reality.

Representation matters

“Our core values are grounded in inclusivity and diversity,” Kennedy said. “Representation matters. Being seen matters. That’s something we have to honour for our users. One of the amazing things about Bitmoji is how passionate our users are and how much feedback we get from them. We want people to be able to fully represent themselves, so when we launch these new avatar traits and accessibility devices, it’s clear to see the impact it has on people.”

These same values are embedded in Snap’s annual corporate social responsibility reports, which they aptly call their CitizenSnap Report.

“Another aspect of Bitmoji, and something that not a lot of people know, is that it was founded in Canada and remains



primarily located in Canada,” Kennedy continued. “We have our main Bitmoji offices in Toronto and maintain close connections with Waterloo.”

The company regularly takes on interns and co-op students from the University of Waterloo. Kennedy completed a degree in the Faculty of Mathematics, with a specialization in computer science. He also completed a minor in philosophy and was particularly interested in cognitive science.

“The thing that stands out for me about Waterloo and the impact it had on me was that it taught me resilience,” Kennedy said. “Many courses pushed me outside my comfort zone and helped me build new skills. It’s the same with a startup – you need to be willing to struggle and you need to be persistent.”

After 15 years in the business and with Bitmoji having recently crossed the milestone of having more than one billion Bitmoji avatars created, Kennedy is anything but complacent.

“The physical world has so many constraints on people. Our goal is to make sure we don’t recreate those constraints in the digital world, and that inspires our work every day.”



**Representation matters.
Being seen matters.
That’s something we
have to honour.**

DAVID KENNEDY (BMath '02)



Mark your calendar

JANUARY 2023

JANUARY 18

Battle of Waterloo at the Aud

Featuring Warriors Women's Hockey vs. Laurier at the Kitchener Memorial Auditorium. Learn more at athletics.uwaterloo.ca/calendar.

JANUARY 21

Hockey Day in Canada

Featuring Warriors Women's Hockey vs. Guelph in Owen Sound, Ontario. Visit gowarriorsgo.ca to learn more.

JANUARY 25

Noon Hour Concert: Jung Tsai

Jung Tsai, the accomplished second associate concertmaster of the KW Symphony, will perform 20th century violin works. Free admission. The concert begins at 12:30 p.m. in the Conrad Grebel Chapel. See uwaterloo.ca/music/events for details and more noon hour concerts.

JANUARY 28

Fantastic Alumni, Faculty, Staff and Retirees Day

Featuring Warriors Basketball vs. Algoma on Carl Totzke Court (PAC), along with the always-exciting airplane toss at halftime. Learn more and get tickets at gowarriorsgo.ca/tickets.

FEBRUARY 2023

FEBRUARY 15

CEE Employer Impact Conference

Experts from Co-operative and Experiential Education (CEE) will dive into the changing world of work. Join us to explore how you can prepare for the future and build a pipeline with next-generation talent. Free admission. Details available at uwaterloo.ca/hire/events/employer-impact-conference.

FEBRUARY 18

Warriors Volleyball Alumni Day

Cheer on your Warriors against Queen's in their final regular season home games at the PAC. Special game contest and prizes for UWaterloo alumni. Learn more and get tickets at gowarriorsgo.ca/tickets.



APRIL 2023

APRIL 1

UWaterloo Balinese Gamelan Music Concert

"Gamelan" (gah-mug-lan) is an Indonesian term for music ensemble. Experience the sounds and lightning-fast rhythms played on percussion instruments from the island of Bali. Free admission. The concert begins at 7:30 p.m. in the Humanities Theatre. See uwaterloo.ca/music/events for details and other concerts.

Warriors Football Ring of Honour Gala

Join Waterloo Warriors Football alumni and friends, including Head Coach Chris Bertoia, the coaching staff and student athletes for a great night of stories, tributes and celebrations. Date to come. Learn more and stay up to date at gowarriorsgo.ca/football.

MORE EVENTS COMING IN 2023



Warriors Varsity Playoffs

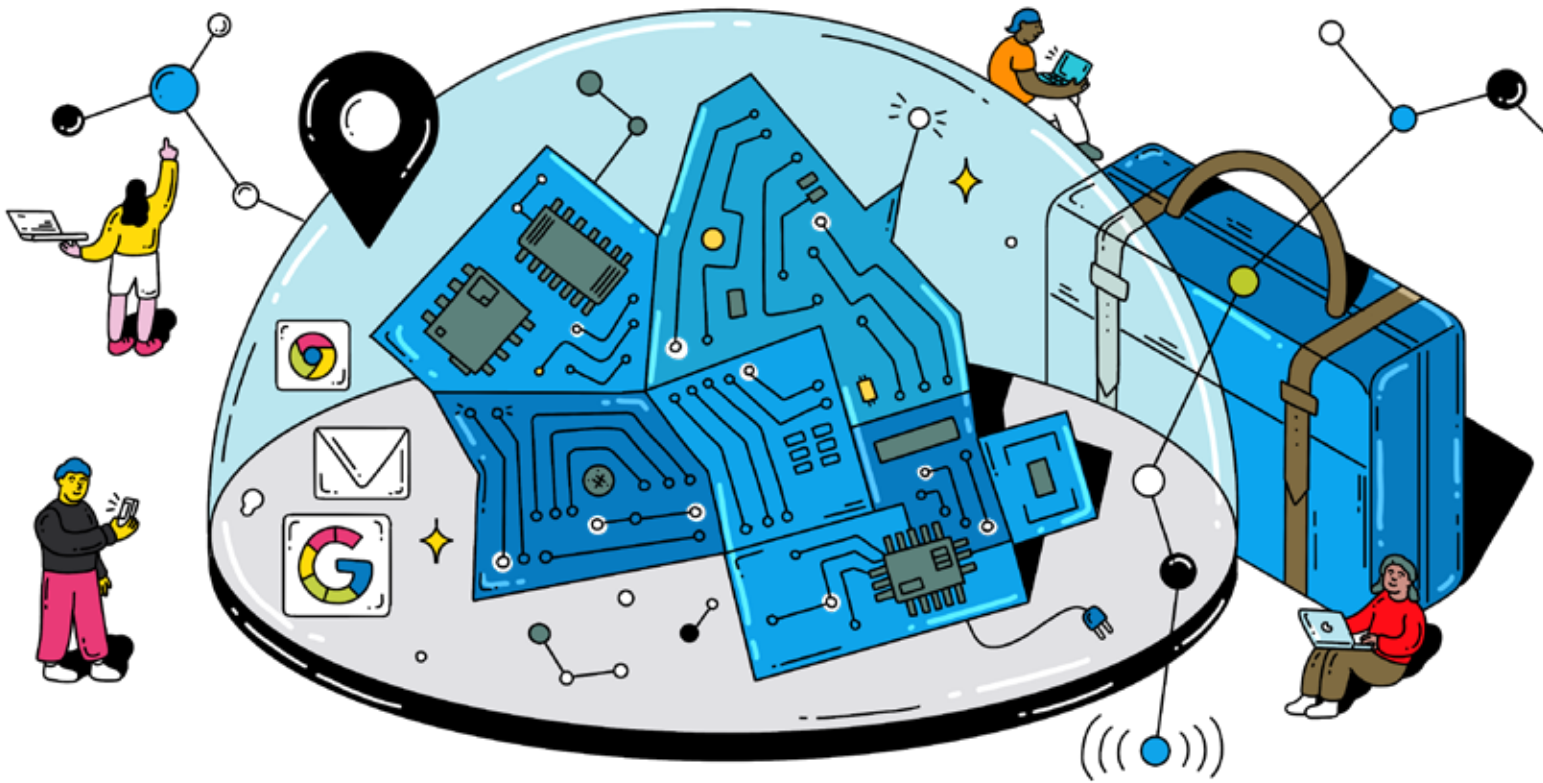
Playoff season begins in February 2023! Stay up to date with Warriors playoff action at gowarriorsgo.ca/tickets or follow along on Instagram @wloowarriors.

Save the Date: Alumni Weekend

On June 3, join us as we honour all alumni celebrating a milestone anniversary – 25, 50, 55 and 60 years – or a class reunion.



→ FIND UPDATES AND EVENTS AT uwaterloo.ca/alumni/events



KEEPING TECH TALENT IN THE REGION

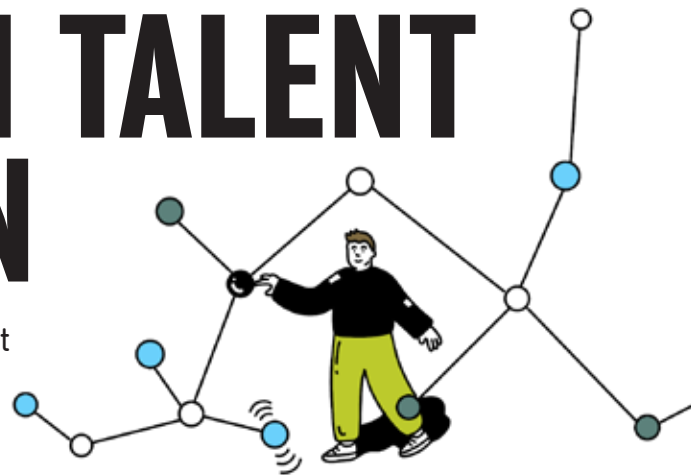
200+ Waterloo co-op work terms have been based at Google in Kitchener

By Namish Modi (BES '12)

Through its reputation and ability to provide impactful work, Google remains a local staple employer for University of Waterloo co-op students and an essential part of a booming downtown tech core.

“Waterloo anchors Canada’s tech corridor,” said Kaitlyn Barnett (BSc ’14), a Google campus outreach program manager. “Being in Kitchener-Waterloo is super valuable. We need to be here to attract and retain talent in Canada. It’s key to Google Waterloo’s success.”

Google’s Waterloo offices are its biggest centre in Canada. Google Waterloo engineers have helped develop notable products like Chrome and Gmail. Since opening in downtown Kitchener, there have been 211 work terms for Waterloo co-op students. Worldwide since 2004, there have been more than 1,000 Waterloo work terms at Google.




Construction is underway for a fourth Google building in Waterloo Region, with an 11-storey building on the corner of Breithaupt Street and Moore Avenue in downtown Kitchener.

The first Google office in the region was located at David Johnston Research & Technology Park at the University of Waterloo’s north campus. In 2011, Google moved to the Tannery in Kitchener and eventually moved to its primary location on Breithaupt Street.

Barnett believes that the University of Waterloo, which houses one of the bigger engineering and computer science programs and with one of the world’s largest co-op programs, makes it a good source of talent.

“Waterloo Region, through its booming startup industry and hubs like Communitech and the Accelerator Centre, makes the area appealing for Google,” Barnett said. She was a Waterloo co-op student herself.



“(Google Waterloo) is a key engineering site for Canada, so it attracts a lot of talent,” Barnett said. “I think having proximity to the University of Waterloo and sourcing talent from the school helps us to build a pipeline of talent.”

Google hosts developmental workshops, alumni panels and interview workshops with Waterloo students that help retain and attract future-ready talent.

“You hear amazing things about Google from literally anybody you talk to anywhere,” Hima Sheth said, a second-year Computer Science student working as a software developer intern in spring 2022 at Google Waterloo. “I think Google’s reputation as such a huge engineering organization is a huge factor when picking a co-op role.”

Speaking from personal experience, Barnett said, “the co-op program is hugely beneficial and gives students an edge when searching for jobs in the workforce post-graduation.”

“There are so many professional development skills that come out of being a co-op student that I attribute immensely to my career trajectory,” Barnett said.

What do Waterloo students bring to Google?

As Google Waterloo offices continue to grow, so do the opportunities for co-op students.

This spring, more than 20 students were working for Google locally. Currently, students are working in a hybrid model, with some days spent in the office and other days remote.

“I think students are happy to be back on site,” said Kerri Kudsia, intern staffing partner at Google Waterloo.

Kudsia found Waterloo students to be adaptive and willing to shift to remote work when it was necessary in 2020 because of the pandemic.

“I think hybrid offers flexibility. We have seen the success of hybrid as a key factor to how the future of the workforce is going,” Barnett said. “Of course, still having that in-person component allows for collaboration and community building.”

Waterloo’s standout students take on several roles at Google Waterloo, including software developers, engineers, UX engineers and technical research interns.

Luna Xiaowan Lu (BCS ’16) worked as a co-op student at multiple Google offices and is now a full-time software developer at the Waterloo Google office.

Lu said: “There are many benefits of working at Google as a co-op student, including learning a

standard way to do things which helped prepare me for a career at the organization.”

Through her work at Google, Lu became a better coder overall while working with more complex servers. The company culture, which is welcoming and helpful, persuaded her to pursue a full-time role at the organization.

“Once I had Google on my resume, it made it a lot easier for me to find future co-op jobs,” said Lu, who also had co-op work terms at research labs and startup organizations. “The environment at Google was supportive and helped me become a much more positive student in general.”

Lu believes having a variety of work projects makes Google appealing. She worked on Cloud infrastructure in one co-op term and on Google ads in another co-op term.

Sheth agreed that working on projects that have a real impact makes co-op terms that much better. In her role, Sheth writes design documents and works on the web side of her product.

“The sheer responsibility they trust you with is pretty amazing,” Sheth said. “I’ve learned to appreciate aspects of development like coding quality and readability, and it has opened my eyes a little bit more about what problems exist in the world and what problems people are trying to solve.”



FUTURE-PROOF YOUR WORKPLACE

Hire a Waterloo co-op student

During her co-op work term, Emma Schuster developed a social media playbook for Habitat for Humanity Ontario Gateway North. The playbook means the organization can continue their successful strategy into the future.

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EMMA SCHUSTER

a Co-op Student of the Year award winner



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FF1810

Beyond the Campus



ALUMNI WEEKEND

Alumni returned to campus in June to celebrate their anniversaries, from five to 55 years!

SAVE THE DATE FOR NEXT YEAR: JUNE 4, 2023



Bob Drimmie (BSc '72, MSc '76) took in the festivities with his wife and fellow alum **Helen Drimmie (BA '95)**.



Planning grads **Anthony Lam (BES '97)** and **Kent Taylor (BES '97)** are all smiles on their 25th anniversary.



Beth Cranmer (BSc '91) and **Stephen Bedford (BES '72)** chatted with friends at the reunion lunch.



James Kile (BSc '85, MSc '88) and **Eric Celentano (BSc '79)** embraced their Waterloo nostalgia as they browsed a historical display from the Library archives.



Electrical Engineering classmates **Doug Joyce (BASC '67)** and **John Hodge (BASC '67)** celebrated their 55th anniversary in style – donning their beloved leather jackets.

FAMILY FUN

In July, alumni gathered at the Toronto Zoo for **Alumni Family Day**. Thanks to everyone who joined us for a wild time of face painting, animals and fun!

For the first time in two years, alumni and their families stormed the PAC for **Fantastic Alumni Day 2022**.



FANTASTIC ALUMNI DAY IS BACK ON JANUARY 28, 2023.



Scan to register now

Fans brought their loudest cheers and brightest signs to for the men's basketball team.



The competition was on for the annual paper airplane toss!



Waterloo's youngest warriors engaged in a fierce inchworm race across the court.



WATERLOO: BUILDING THE FUTURE OF TRANSPORTATION

By Angelica Marie Sanchez (BA '21)

A student-run team is using hyperloop technology to build a pod expected to travel faster than a Boeing 747 aircraft

The University of Waterloo campus is not only home to a new flock of geese every year, but also to a diverse group of student volunteers working together to turn the vision of hyperloop into a reality.

Hyperloop is a form of transportation technology popularized by Elon Musk which features a levitating train in a vacuum tube. Waterloo's mission is to design and build a working, full-sized, scalable hyperloop pod by 2025 to demonstrate the future of a fully sustainable mode of transportation that can cut down travel time across Canada.



President Vivek Goel and Fayaz Noormohamed, Director, Institutional Priorities meet with the Waterloo student team.

Waterloop is a student-run design team made up of different sub-teams – mechanical, electrical, software, infrastructure, and business – allowing more than 80 student volunteers from all faculties to work together.

The latest hatch: Goose V

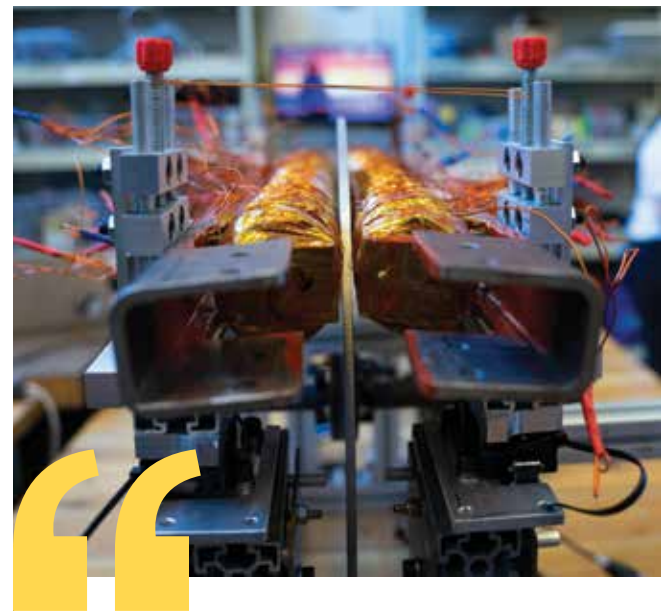
In May 2022, Waterloo hosted the first Canadian Hyperloop Conference and competition – welcoming 10 university teams from across the world to present their hyperloop pod designs as well as hear from industry experts about the future of hyperloop technology in Canada.

“As a team to see how our hard work paid off was truly a unifying experience,” said Amy Darling, Waterloo’s mechanical lead. At the conference, Waterloo showcased their latest development of a hyperloop pod, Goose V, named after five iterations of research and design.

But one of Waterloo’s biggest feats is the construction of the first ever hyperloop test track in Canada. Now located at the Region of Waterloo International Airport, the test track allowed each team to demonstrate their pod’s full operations during the event.

Building the hyperloop pod and working as a team was a truly memorable experience for many students that they will carry with them long after they graduate.

“We have a really cool startup-like environment where we are a united team working towards a singular goal,” Darling said. “Being a part of the team has helped me develop my confidence and my knowledge while learning and growing in a safe space.”



Being part of the team has helped me develop my confidence and my knowledge while learning and growing in a safe space.

AMY DARLING



Decades of “giving a little bit” add up to **BIG IMPACT**

Give back generously and you’ll see “cosmic payback,” said Waterloo alumn and retiree Rose Vogt

By Dani Stock (MA '10, PhD '15)

When Rose Vogt (BES '84) thinks back on her time as a student in the Faculty of Environment, she has many of fond memories. But she also remembers struggling to make ends meet, especially in third year after a parachuting accident left her unable to walk, work or pay tuition.

While she eventually finished her degree and accepted her first full-time job in 1984 at the University, she never forgot the struggles she faced as a student.

From those early days as a Waterloo staff member, Vogt started giving a small portion of her pay cheque every month back to the University. She continued to donate throughout a 34-year career that was entirely dedicated to students, from working at Fed Hall to “saving the Grad House” to supporting student leaders as general manager of the Graduate Students Association (GSA).

While she said the idea of giving can be difficult if you’re struggling, even the smallest donation goes a long way. “I gave a little bit monthly for a long time – almost 30 years. I couldn’t afford much, but it was the spirit of giving,” Vogt said.

Since her retirement in 2019, she’s been actively involved on campus as co-chair of the Faculty Staff and Retiree Giving Program. “As a retiree, I recognize that students are our future. They’re the ones – no matter what they’re studying – that are going to fill the roles that keep our society running.”



As a retiree, I recognize that students are our future. They’re the ones that are going to fill the roles that keep our society running.

ROSE VOGT (BES '84)



Forever is a long time.

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plannedgiving@uwaterloo.ca or 1-800-408-8715

UNIVERSITY OF
WATERLOO



Class notes

1968

Jim Kingham (PhD '68) released *Solutions for a Wounded Planet*, a book about the environment.

1969

Tony Garson (BSc '69) was announced as interim CEO of Battery Metal Royalties Corp.

Betty Ann Keller (BA '69) won the Arts and Culture Award at the 47th annual Oktoberfest Rogers Women of the Year awards.

1970

Over the last two years, **Dr. Jerrold Shapiro (PhD '70)** released three books: *Real World Couple Counselling and Psychotherapy*; *Finding Meaning, Facing Fears: Living Fully Twixt Midlife and Retirement*; and a memoir called *An Acquired Taste: Life-long Optimism, Skepticism and Darn Good Luck*.

1978

Adele Newton (BMath '78) won the Science, Technology, Engineering and Math Award at the 47th annual Oktoberfest Rogers Women of the Year awards.

1982

Tony Makuch (BSc '82) joined the Karora Resources Inc. team as a special advisor to the corporation. He also joined PureGold as a technical advisor.

1983

magniX named aviation veteran **John Saabas (BASC '83, MASc '85)** as chairman.

Marc Séguin (MMath '83) released his book *Advocacy in Aging about health care and estate planning for the living/aging years*.

1985

Dave Revell (BASC '85) was appointed as chair of Zafin's board of directors.

Clear Blue Technologies, co-founded and led by CEO **Miriam Tuerk (BASC '85)**, was named to Corporate Knights' list of 50 fastest-growing green companies in Canada. Mariam was also named to the Globe and Mail's 2022 list of Changemakers, emerging leaders finding pragmatic solutions to the world's problems.

1987

Royal Bank of Canada CEO **Dave McKay (BMath '87, DMath '18)** was named corporate citizen of the year by the Globe and Mail.

1988

Harvey Mitro (BSc '88) released his first book, *Taking Life in Stride*, a collection of stories gained in his 45 years as a runner.

1989

Dave Nanderam (BA '89) joined The Conference Board of Canada as associate director of Total Rewards research. He manages the Compensation Research Centre.

1990

Infront appointed **Mark Baker (BMath '90)** as chief marketing officer.

1991

eSentire, co-founded by chief innovation officer **Eldon Sprickerhoff (BMath '91)**, was named to Communitech's Team True North, a list of Canada's top performing venture-backed tech firms.

Christopher Williams (BA '91) completed his first feature film as solo director with *The Sea Beast*, an animated film that released on Netflix in July.

1992

Seven and a Half Lessons About the Brain, a popular science book by **Lisa Feldman Barrett (PhD '92)**, was named one of the 50 hottest new books by The Guardian.

1993

SOLVE FSHD appointed **Eva Chin (PhD '93)** as executive director.

PwC Canada named **Lana Paton (BMath '93)** vice-chair and managing partner, GTA and Southwestern Ontario.

1994

Karin Schnarr (BSc '94, BA '94) was appointed chair of the Higher Education Quality Council of Ontario for a three-year term. Schnarr is an associate professor at the Lazaridis School of Business and Economics at Wilfrid Laurier University.

Xebec Adsorption, led by President and CEO **Jim Vounassis (BASC '94)** was named to Corporate Knights' list of 50 fastest-growing green companies in Canada.

Martin Wainwright (BMath '94) joined the Massachusetts Institute of Technology (MIT) Faculty of Engineering as a professor.

1996

Dr. Lesley Brown (PhD '96) was appointed president at Yukon University.

Erik Demaine (MMath '96, PhD '02) and his father Martin Demaine, published their latest mathematical proof, establishing that you can take any flat-sided polyhedral that is finite and fold it flat using creases. It's a problem that the pair originally posed in 2001 with Erik's doctoral advisor, **Anna Lubiw (MMath '83)**, in 2001.

1998

CloudBees appointed **Anuj Kapur (BASC '98)** as president and CEO.

The Portrait Gallery of Canada appointed **Robert Steven (BA '98)** as executive director.

1999

SciCorp International, led by President and CEO **Derek Maat (BASC '99, MASc '01)**, won the UK Water Dragon competition.

Maja Neable (BMath '99) was named to the Globe and Mail's 2022 Best Executives list.

Hydrostor, led by President **Jon Norman (BAsc '99)**, was named to Corporate Knights' list of 50 fastest-growing green companies in Canada.

Medical Facilities Corporation appointed **Jason Redman (BA '99, MAcc '99)** as an independent director.

2000

Rebecca Hudson (BA '00, MAcc '00) was appointed to the dynaCERT board of directors.

Carolyn Mills (BA '00) released her second novel, *Sins of the Daughter*.

2001

Marlaina Auger (BAsc '01) was promoted to senior principal at Geosyntec.

PwC Canada named **Kevin Chan (BA '01, MAcc '01)** as its new chief inclusion and diversity officer.

Janis Goldie (BA '01) is the new dean of academic programs at Alberta University of the Arts.

Curai Health, co-founded by **Anitha Kannan (MMath '01)**, was named to CB Insights' AI 100 list.

PwC Canada named **Nadia King (BA '01, MAcc '01)** as its new CFO.

Dr. Jennifer Percival (BMath '01, PhD '04) is the new dean of the Schmidhorst College of Business at Bowling Green State University.

2002

Kelly Kipfer (BA '02) is now CEO of the Waterloo Public Library Board.

Vena Solutions promoted **Le Truong (BA '02)** to senior vice-president, general counsel and corporate secretary.

2003

The Otonabee Region Conservation Authority named **Janette Lovey (BA '03)** as its new CEO and secretary-treasurer.

Jeff Roberts (BSc '03, MSc '08) was promoted to senior principal at Geosyntec.

2004

Brenda Kirkwood (BSc '04) was named to Ottawa's 2022 40 Under 40 list.

Manifest Climate, founded and led by CEO **Laura Zizzo (BES '04)**, was named to Corporate Knights' list of 50 fastest-growing green companies in Canada.

2005

Hussein Fazal (BMath '05), co-founder of Snapcommerce, was recognized as EY Entrepreneurs of the Year 2022 Ontario.

2006

Dianne Charmichael (BA '06) is the new executive chair of NeuPath Health Inc.

Norfolk County, Ontario named **Andrew Grice (BAsc '06)** as GM of public works.

2007

Next Hydrogen Corp., led by President and CEO **Raveel Afzaal (BMath '07, BA '08)** and CFO **Kasia Malz (BMath '07, MAcc '07)**, was named on Corporate Knights' list of 50 fastest-growing green companies in Canada.

WonderFi Technologies Inc. appointed **Adam Garetson (BA '07)** as general counsel and chief legal officer.

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Class notes

79 Resources Ltd. appointed **Christina Kalt (BAS '07, MArch '10)** to its board of directors.

Natalie Schuler (BA '07, MAcc '07) was named to Ottawa's 2022 40 Under 40 list.

2009

Darby McGrath (MES '09, PhD '13) was named head of research and development at the Vineland Research and Innovation Centre.

Rob Stein (BA '09) was named to the Globe and Mail's 2022 list of Changemakers, emerging leaders finding pragmatic solutions to the world's problems.

Joanna Woo (BA '09) was named a top recruiter in tech by FoundersBeta.

2010

Vidyard, founded and led by **Devon Galloway (BAsc '10)** and **Michael Litt (BAsc '11)**, was named to Communitech's Team True North, a list of Canada's top performing venture-backed tech firms.

ASA XL appointed **Alonso Tello (BA '10)** as senior underwriter, Structured Risk Solutions, Americas.

2011

Karalyn Duak (MA '11) is the interim second-in-command for the Middlesex-London Health Unit.

2012

O2Gold appointed **Peter Michel (BAFM '12)** as chief financial officer.

Dhanaja Jayalath (BAsc '12) was appointed to Nurosene's advisory board.

Whisper, co-founded and led by CEO **Andrew Song (BCS '12)** was named to DB Insights' AI 100 list.

2013

Lehlé Baldé (BA '13) was named to Forbes Africa's 30 Under 30 Class of 2022.

Applyboard, founded and led by CEO **Martin Basiri (MAsc '13)**, was named to

Communitech's Team True North, a list of Canada's top performing venture-backed tech firms. Martin was also named to the Globe and Mail's 2022 list of Changemakers, and an EY Entrepreneur of the Year.

Rewind hired **Nolan Beanlands (BAsc '13)** to assume the newly created role of corporate developer.

Lindsay Cline (BES '13) is North Perth municipality's newest clerk.

Dr. Imran Khan (BSc '13, MPH '15) is the new associate medical officer of health for Public Health Sudbury and Districts.

2014

Dr. Mohit Ajmeri (BSc '14) began his family medicine practice at Memorial Care on West Hay in Decatur, Illinois.

Henry Shi (BCS '14), co-founder of Snapcommerce, was recognized as EY Entrepreneurs of the Year 2022 Ontario.

2016

Canada Silver Cobalt appointed **Gerhard Kiessling (BSc '16)** as vice-president exploration.

The New Canadian's TV Network launched *Newcomer Rise Up*, a show about immigrant entrepreneurs created and hosted by **Trishala Pillai (BA '16)**.

Rhea Simms (MDP '16) was named to the Globe and Mail's 2022 list of Changemakers, emerging leaders finding pragmatic solutions to the world's problems.

2017

A new device developed by Vena Medical saw its first surgical deployments, successfully treating stroke victims at Ontario hospitals. Vena Medical was co-founded by **Michael Phillips (BAsc '17)** and **Phillip Cooper (BAsc '17)**.

MGM Resources Corp. appointed **Jerry Wang (BAFM '17)** to its board of directors.

2018

Dr. Matthew Michniewicz (OD '18) is the new owner of Optometrists on Broadway, located in Tillsonburg, Ont.

2019

Hannah Sennik (BAsc '19) was named to the Globe and Mail's 2022 list of Changemakers, emerging leaders finding pragmatic solutions to the world's problems.

2020

Steven Ekvall (BAsc '20) spent his summer biking across Canada, beginning in Victoria and ending in Newfoundland.

Christina Martha Vogiatzis (BAS '20) earned second prize in the Fifth Annual FORM Student Innovation Competition for "Pawd" – her unique multifunctional and stylish furniture design.

2021

Mario Kangeswaren (MPH '21) is the new medical officer of health in Chatham-Kent, Ontario.

Erin Michelle Murray (BES '21) released her second book of poetry, *courageous conversations*.

2022

Tre Ford (BA '22) was drafted as a quarterback by the Edmonton Elk CFL team. His brother **Tyrell (BA in progress)**, a defensive back, was drafted by the Winnipeg Blue Bombers.

Ahmed Hamodi (BSE '22) was named to The Logic's Leading Innovators from the Class of 2022.

Amy Tai (BAsc '22) was named to The Logic's Leading Innovators from the Class of 2022.



Peter Ascherl (BA '75)

Robert Baker (BASC '65, MASC '67)

Wilfred Bean (BA '67)

Jayne Bond (BES '79)

Greta (Anne) Bourne (Hastings) (BMath '92)

Kevin Brewer (BA '89)

William Brimley (BASC '72, MASC '74, PhD '81)

Arthur Calvert (BA '02)

Susan Carr (BA '87)

Graham Carty (BASC '90)

Charles Claxton (BASC '74)

Karyn Dirse (BSc '79)

Bruce Durance (BSc '72)

Barbara Dyer (BA '88)

Renee Ernewein (Kasta) (BA '94)

Kevin Fitzgerald (BES '77)

Ralph Hainer (BA '74, MA '75)

Gregory Hallman (OD '73)

Robert Hammond (OD '75)

Markus Hess (BASC '79)

David Howes (BASC '83)

Wayne Hussey (BA '78, MA '85)

Allen Hutt (BA '75)

Steve Ignatavicius (BA '73)

Arthur Karantjas (BASC '72, MASC '79)

Stephen Kassner (BMath '78)

Michael Levy (BMath '82)

Donald Mader (BA '79)

Harold Marshall (MASC '78)

Terrance Mason (BA '72)

Heidi (Melitta) McCauley (MA '83)

David Milne (BMath '73)

Deborah Moskal (BA '94)

Albert (Jack) Pacey (BASC '73, MASC '76)

Ianthe Patterson (Graham) (BSc '87)

Lucy Pickard (MA '95, BA '00)

Neil Prestwich (BASC '72)

Richard Przbylski (BMath '76)

John Rafferty (BA '78)

Dominic Ricchio (BMath '82)

Richard Rudy (BA '99)

John Rycroft (BSc '72)

Thalai Santisteban Acosta (MES '04)

Michelle Senayah (Smith) (BA '02, MAcc '02)

Nancy Siefker (BA '91)

Walter Szydlowski (BSc '72)

Rosemary Tait (MA '87)

Donald Thede (BMath '70, MMath '71)

Jane Thompson (BA '84)

Aldona Tribinevicius (Katele) (BSc '84)

Michael Vladescu (BASC '93)

Jerry Whetham (BA '71)

Lynne Wight (BA '20)

Shirley Yam (BMath '86)

The last word



The Faculty of Environment said farewell to Dr. Jean Andrey (PhD '89), who retired this year after serving as dean for eight years. Fondly called Dean Jean, Andrey began contributing to the Faculty of Environment in 1983 while pursuing a PhD in geography and was hired as an assistant professor in geography in 1989. The following is an excerpt from her speech at her retirement party.

FAREWELL TO JEAN ANDREY



This is the last time I will publicly get to tell you what a thrill and an honour it has been to be a Waterloo professor for 33 years and to be the dean for eight. And of course, it's not just any dean. I got to be the dean of the Faculty of Environment at the University of Waterloo.

I have been engaged with my head and with my heart and I'm so proud of the Faculty. I'm proud of the leadership roles that our students, staff, faculty and alumni play in sustainability and climate change. I'm proud of the courage that the Faculty had to embrace an inter and transdisciplinary way before it was cool. I'm proud of our long-standing tradition of knowledge translation and mobilization and our readiness, not just willingness, to partner with others, sometimes selflessly, to do good work.

I think the Faculty is amazing.

And I felt so supported by everyone: the Faculty's leadership team, including the student leaders, the deans and presidents past who were my friends and confidants, my bosses and provosts and all the senior leadership at the University. I must say that when I've been impatient and perhaps too direct, I have found the community forgiving. Thank you.

The world needs more forgiveness.

Now, some of you know, I was recently on a holiday on a St. Lawrence River cruise. One of the staff ... who was with us, would share reflections, usually in the evening and in the morning. One of the things she shared, that she learned from an elder, was this: She said, 'The sign of a leader is that people feel more hopeful after working with the individual than they did before.'

So, I hope that I left you with a sense of hope. Thank you so much for being here. ♥

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*BMO CashBack Mastercard applications must be received between September 2, 2022 and July 31, 2023 to receive the 5% cash back welcome bonus offer. The 5% earn rate applies to qualified spend up to \$2,500 (up to \$500 qualified spend on grocery, up to \$500 qualified spend in recurring bill payments, and up to \$1500 qualified spend on all other purchases (less refunds and excluding cash advances, cash-like transactions, interest charges, fees, credit or debit adjustments) in the welcome offer period, with a maximum of \$125 cash back. Please see details as follows:

Grocery purchases: Receive 3% cash back on the first \$500 spent on eligible grocery purchases (classified by Mastercard's "Merchant Category Code" as "grocery stores and supermarkets" MCC 5411) per billing cycle period and an additional 2% bonus cash back up to a maximum of \$500 spent on all combined grocery purchases in the first three (3) billing cycles. In total, you could earn up to \$25 cash back from qualified grocery spend in the welcome offer period.
Recurring Bill Payments: Receive 1% cash back on the first \$500 spent on eligible recurring bill payments (defined as payments made on a monthly or regular basis, and which are automatically billed by the merchant to your BMO CashBack Mastercard per billing cycle and an additional 4% bonus cash back up to a maximum of \$500 spent on all qualified recurring bill payments in the first three (3) billing cycles. You will not earn any bonus cash back on recurring bill payments that are also classified as grocery, transit or gas and electric vehicle charging purchases as described above (classified by Mastercard's "Merchant Category Code") and are subject to the bonus capping rules of eligible grocery, transit or gas and electric vehicle charging purchases. In total, you could earn up to \$25 cash back from qualified recurring bill payments in the welcome offer period. All other purchases: Receive 0.5% cash back on purchases and an additional 4.5% bonus cash back up to a maximum of \$1,500 spent in the first three (3) billing cycles. In total, you could earn up to \$75 cash back from qualified purchases. The 5% bonus cash back offer is limited to new BMO CashBack Mastercard accounts and will not be awarded to current or former cardholders who reinstate a closed account, product transfer, or who open a new account. Limit of one bonus offer per account. If you cancel your card within ninety (90) days from the date your account is opened, all CashBack Rewards earned within that period will be cancelled. This offer may be withdrawn or changed without notice.

²Based on a comparison of the non-promotional grocery rewards earn rate on cash back credit cards with no annual fee as of June 1, 2021.

Is it time to reset the way you protect your loved ones?

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